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Additional information, including a list of public laws, telephone numbers, and finding aids, appears in the Reader Aids section at the end of this issue.

CFR PARTS AFFECTED IN THIS ISSUE

A cumulative list of the parts affected this month can be found in the Reader Aids section at the end of this issue.

Rules and Regulations

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DEPARTMENT OF AGRICULTURE

Animal and Plant Health Inspection Service

7 CFR Part 319

[Docket No. 89-106]

Importation of Apples, Peaches, and Citrus From Sonora, Mexico

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Affirmation of interim rule.

SUMMARY: We are affirming without change an interim rule that amended the Fruits and Vegetables regulations by removing Empalme from the list of definite areas in Sonora, Mexico, determined to be free from certain injurious insect pests and from which apples, grapefruit, oranges, peaches and tangerines may be imported without treatment for these pests. This action is necessary to prevent the introduction into the United States of injurious insects.

EFFECTIVE DATE: July 31, 1989.

FOR FURTHER INFORMATION CONTACT: Frank E. Cooper, Senior Operations Officer, Port Operations Staff, PPQ, APHIS, USDA, Room 632, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, 301-436-8645.

SUPPLEMENTARY INFORMATION:

Background

The Fruits and Vegetables regulations in 7 CFR 319.56 *et seq.* (referred to below as the regulations) impose restrictions on the importation of fruits and vegetables in order to prevent the introduction and dissemination of injurious insects, including fruit and melon flies, that are new to or not widely distributed within and throughout the United States. Section 319.56-2(h) of the regulations allows apples, grapefruit, oranges, peaches and tangerines to be imported from certain municipalities in Sonora, Mexico, without treatment for five fruit flies known to occur in Mexico (*Ceratitis capitata, Anastrepha ludens, A. serpentina, A. obliqua,* and *fraterculus*). Section 319.56-2(f) allows a municipality to be listed in § 319.56-2(h) only if surveys show it to be free from infestations of these insect pests.

In an interim rule effective March 24, 1989, and published in the Federal Register on March 29, 1989 (54 FR 12872-12873, Docket Number 89-028), we removed Empalme, Sonora, Mexico, from the list of municipalities in § 319.56-2(h) of the regulations.

Comments on the interim rule were required to be postmarked or received on or before May 30, 1989. We received two comments, one from a State farm bureau federation and the other from a State agricultural official. Both commenters supported the interim rule as necessary to protect against the introduction of the Mexican fruit fly (*Anastrepha ludens*). The facts in the interim rule still provide a basis for the rule.

Executive Order 12291 and Regulatory Flexibility Act

We are issuing this rule in conformance with Executive Order 12291, and we have determined 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 cause 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.

For this action, the Office of Management and Budget has waived the review process required by Executive Order 12291.

This action will prevent the importation of apples, grapefruit, oranges, peaches, and tangerines from Empalme into the United States, unless they are treated for the five listed fruit flies. Only the movement of oranges and grapefruit will be affected, since these are the only citrus fruits that were shipped from Empalme last year. This change will have little economic effect on small entities because the quantity of fruit moved from Empalme last year is insignificant compared to the total quantity of these fruits produced in Mexico or in the United States.

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

Paperwork Reduction Act

The regulations in this subpart contain no information collection or recordkeeping requirements under the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*).

Executive Order 12372

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

List of Subjects in 7 CFR Part 319)

Agricultural commodities, Fruit, Imports, Plant diseases, Plant pests, Plants (Agriculture), Quarantine, Transportation.

PART 319—FOREIGN QUARANTINE NOTICES

Accordingly, we are adopting as a final rule, without change, the interim rule amending 7 CFR 319.56-2(h) that was published at 54 FR 12872-12873 on March 29, 1989.

Authority: 7 U.S.C. 150dd, 150ee, 150ff, 151-167; 7 CFR 2.17, 2.51, and 371.2(c).

Done in Washington, DC, this 23d day of June 1989.

James W. Glosser,

Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 89-15398 Filed 6-28-89; 8:45 am]
BILLING CODE 3410-34-M

Rural Electrification Administration

7 CFR Part 1715

Criteria for Securing REA Approvals Required Under the Mortgage by Electric Borrowers Relating to Financial and Management Matters

AGENCY: Rural Electrification Administration, USDA.

ACTION: Final rule.

SUMMARY: The Rural Electrification Administration (REA) hereby amends 7 CFR Chapter XVII, by adding a new Part 1715, Criteria for Securing REA Approvals Required Under the Mortgage by Electric Borrowers Relating to Financial and Management Matters consisting of Subpart B, §§ 1715.20–1715.28, Investments, Loans and Guarantees by Electric Borrowers. The new Part establishes REA policies for borrowers of electric loans made or guaranteed under the Rural Electrification Act of 1936, as amended (7 U.S.C. 901–950b) ("RE Act"). The rule also clarifies the effect of new section 312 of the RE Act concerning provisions in existing REA mortgages and bulletins which would otherwise conflict with this recent amendment. Generally, section 312 of the RE Act authorizes a borrower to make investments, loans and guarantees up to 15 percent of its total utility plant.

EFFECTIVE DATE: July 31, 1989.

FOR FURTHER INFORMATION CONTACT: Robert W. Ford, Chief, Loans and Management Branch, Electric Staff Division, U.S. Department of Agriculture, Rural Electrification Administration, Room 1245–S, 14th & Independence Avenue SW., Washington, DC 20250–1500; Telephone: (202) 382–1932. The Final Regulatory Impact Analysis describing the options considered in developing this rule and the impact of implementing the rule is available on request from the above office.

SUPPLEMENTARY INFORMATION: This rule implements the provisions of section 312 of the RE Act which was enacted as section 1402 of the Omnibus Budget Reconciliation Act of 1987 (OBRA) (Pub. L. 100–203).

This action has been reviewed in conformity with Executive Order 12291, Federal Regulations. Since this rule only defines the requirements of OBRA, it does not: (1) Have an annual effect on the economy of $100 million or more; (2) result in a major increase in costs or prices to consumers, individual industries, Federal, State or local government agencies, or geographic regions; (3) result in significant adverse affects on competition, employment, investment or productivity, and therefore, has been determined to be "not major."

REA has concluded that promulgation of this rule does not represent a major Federal action significantly affecting the quality of the human environment under the National Environmental Policy Act of 1969, as amended, (42 U.S.C. 4321 *et seq.*), and therefore, does not require an environmental impact statement or an environmental assessment. This rule is a categorical exclusion under REA's 7 CFR Part 1794, Environmental Policies and Procedures (*i.e.*, 7 CFR 1794.31(b)(17)).

The reporting and/or recordkeeping requirements contained in these rules have been approved by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). The OMB approval numbers for these requirements are 0572–0032 and 0572–0017.

Public reporting burden for this collection of information is estimated to average one hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, Room 404–W, Washington, DC 20250; and to Office of Management and Budget, Paperwork Reduction Project (OMB #0572–0032 and 0572–0017), Washington, DC 20503.

This action does not fall within the scope of the Regulatory Flexibility Act. This program is listed in the Catalog of Federal Domestic Assistance under No. 10.850, Rural Electrification Loans and Loan Guarantees. For the reasons set forth in the Final Rule related Notice to 7 CFR Part 3015, Subpart V in 50 FR 47034, November 14, 1985, this program is excluded from the scope of Executive Order 12372 which requires intergovernmental consultation with State and local officials.

Background

On December 22, 1987, Section 312, Use of Funds, was added to the RE Act. Congress expressed concern that REA borrowers were restricted in their ability to make needed investments in rural community infrastructure projects (such as water and waste systems, garbage collection services, etc.) and in job creation activities (such as providing technical, financial, managerial assistance) and other activities to promote business development in rural communities. By section 312, Congress directed REA to replace its traditional 3 percent policy with a 15 percent limit as a small incremental contribution to rebuilding a more diversified economy in rural communities. The legislative history surrounding the enactment of section 312 is clear that Congress intended that the new permitted level of investments should not in any way put government funds at risk or impair a borrower's ability to repay its indebtedness.

On November 28, 1988, REA published a proposed rule in 53 FR 47820 to amend 7 CFR Chapter XVII by adding a new Part 1715, Criteria for Securing REA Approvals Required Under the Mortgage by Electric Borrowers Relating to Financial and Management Matters consisting of Subpart B, §§ 1715.20–1715.28, Investments, Loans and Guarantees by Electric Borrowers. REA invited interested parties to file comments on or before January 27, 1989.

Comments

REA received 7 written comments from the following:

(1) National Rural Electric Cooperative Association
(2) National Rural Utilities Cooperative Finance Corporation
(3) Oglethorpe Power Corporation
(4) Basin Electric Power Cooperative
(5) Garkane Power Association, Inc.
(6) Tri-State Generation and Transmission Association, Inc.
(7) Blue Ridge Electric Corporation

All received comments were considered in preparing the final rule. These comments are addressed in the following paragraphs, along with REA's position on each comment and/or a discussion of REA's modification to the proposed rule.

Three of the seven organizations responding gave unequivocal support to the rule as written.

One comment suggested that REA take an activist role in offering advice to borrowers in investment activities. REA does not believe that the Rural Electrification Act authorizes the agency to act as an investment adviser to its borrowers and REA does not believe that it is appropriate to act in this role. Consequently, responsibility for making investment decisions will remain with the borrowers. REA encourages its borrowers to obtain competent investment advice by using qualified professional staff and by consulting trained investment advisors.

Three comments suggested revising the general rule in order to clarify its meaning or more closely follow what the commentators considered to be the intent of section 312 of the Act. As written, § 1715.23 is intended to constitute the written consent under existing mortgages of REA which require approval for certain investments in excess of 3 percent of a borrower's total utility plant. Accordingly, REA does not believe that individual written consents from REA are necessary for borrowers to be able to invest their own funds, make loans, or guarantees up to 15 percent of their total utility plant. REA believes that § 1715.23, as originally proposed, clearly states a general rule which is consistent with section 312 of the Act. Thus, REA is making no changes in § 1715.23.

One comment from a financial institution objected to REA's statement of policy because section 312 of the Act did not limit the discretion granted to a borrower to invest, make loans, or guarantees only to instances where the activities are directed toward rural development. REA agrees that the language of section 312 omits such limitation but points out that the legislative history of section 312 clearly evidences a congressional intention that borrowers will use their new latitude primarily to stimulate economic development in their own communities. Accordingly, REA believes that it is both authorized and appropriate to adopt a policy statement encouraging borrowers to exercise their broader latitude under section 312 in this manner. However, § 1715.23 of the rule (the section which operates as the written REA consent called for in REA mortgages) omits any reference to investment purposes.Thus, borrowers are encouraged by REA to invest in rural development, but are not required by the rule to do so.

The above commentator also objected to REA's policy that investment activity "not in any way put government * * * security at risk." This commentator interpreted the policy statement as a restriction which would preclude virtually all investment and guarantee activity since REA's security interest typically includes funds used to make investments or funds that would be used to honor a guarantee. REA disagrees with this interpretation. The mere existence of an REA security interest in a borrower's funds will not preclude investment and guarantee activity that is otherwise permissible under § 1715.23 of this subpart. On the other hand, a borrower's obligation to make timely payments on loans made or guarnateed by REA is not excused because of any financial or liquidity problems associated with activities authorized under § 1715.23. The policy statement makes it clear that although REA considers rural development to be a laudable objective, REA affords timely loan repayment and adequate loan security higher priority. REA believes that the policy as proposed is authorized and appropriate when viewed in the context of the legislative history of section 312 and the rule as an entirety. Nevertheless, REA is revising the language of § 1715.21 to clarify that the statement is one of policy and not a legal restriction.

Four of the comments disagreed with various elements of the definitions (§ 1715.22) either because they thought certain definitions contained ambiguities or were overly restrictive. After considering the comments, REA is revising the definition of "invest" by replacing the broad reference to assets, "which are not expected to be used or useful in furnishing electrical service" with the more precise term "and includes all financial transactions recorded on the borrower's books and records in investment accounts, as those accounts are used in the Uniform System of Accounts for REA Borrowers." This provision makes it clear that section 312 is not intended to authorize a borrower to make extensions to its electric system in contravention of REA limitations by characterizing them as "investments."

One commentator also suggested that this definition be revised by eliminating the reference to earning a financial return. REA believes that the expectation of earning a financial return is an integral part of the meaning of the term "invest," and thus is retaining that element of the definition.

Three comments suggested that the definition of "own funds" be changed, each in a different way. One wanted the definition changed to clarify that loan fund proceeds which have been advanced to a borrower (as reimbursement for plant costs temporarily financed by the borrower with general funds) would be considered to be the borrower's "own funds." REA believes the definition is clear that such funds are the borrower's "own funds." Thus, REA believes that no change is needed. This commentator sought a similar modification for each of the other elements in this definition, apparently for clarification. REA believes that the definition as originally proposed is clear.

One comment suggested that the definition of "own funds" be modified to classify "own funds" as any funds which a borrower may receive from sale proceeds which exceed book value. REA thinks that such a definition would be difficult to administer and would create in every case (where a borrower has sold property) a factual question about whether the funds so invested were attributable to the proceeds in excess of book cost. The suggestion would also be inconsistent with REA's long-standing approach of valuing loan collateral on a system-wide basis, as contrasted with a project-by-project or line-by-line basis. REA does not wish in this rule to abandon its established practice of requiring that proceeds from sales of mortgaged property be applied either towards retirement of debt or to system improvements and extensions. Should REA consider changing its policy in this regard, it will do so in a different rule concerning asset sales.

One comment, while admitting that Congress presumably did not intend for borrowers to otherwise invest funds that would be necessary for timely debt repayments, objected to the exclusion of those funds necessary to make timely payments of principal and interest on loans made, guaranteed, or lien accommodated by REA from the definition of "own funds". If this interpretation were chosen, a borrower could invest cash which is necessary to make timely payments of principal and interest on loans made, guaranteed, or lien accommodated by REA. Also, if this interpretation were chosen, a borrower could invest cash necessary to make timely loan repayments in non-liquid, long-term investments causing it to default on its REA mortgage obligations. In such circumstances. REA would be effectively forced to acquiesce in the default or liquidate mortgage collateral, including these investments, at less than the face amount of the debt. REA anticipates that such a borrower might even assert in defense of its conduct, that REA consented to such activity by section 312 of the Act and § 1715.23 of this rule. In support of its position, the commentator cited a statement in the House Report No. 391(I), 100th Cong. 1st Sess. 20) to the effect that investments less than 15 percent of total utility plant should not in any way put government funds or security interest at risk. Apparently, the commentator views the report language as a conclusion. Since the report contained no basis for such a sweeping conclusion, REA interprets the statement to be a directive. Accordingly, REA sees no conflict between the latitude given to borrowers to invest their own funds and an administrative interpretation that when payment is due, funds needed for debt service are no

longer the borrower's "own funds" as that phrase is used in section 312 of the RE Act.

One comment objected to the definition of "Total Utility Plant" because it is limited to total electric utility plant. Although section 312 uses the term "total utility plant," it does not define the term nor does the legislative history amplify its meaning. However, section 312 is, by its express terms, limited to borrowers of "electric" loans. The overwhelming majority of electric borrowers have no utility plant which is not electric utility plant. Therefore, REA thinks that the reference in section 312 to an electric program borrower's total utility plant means the total electric utility plant of that borrower and has so defined the term. The definition of total utility plant does not restrict borrowers from investing in other utilities if they chose to do so. Thus, for most REA electric progam borrowers, the definition makes no difference. For the limited number of REA program borrowers which operate more than one utility service, this interpretation will preclude such borrowers from leveraging the amount of unrestricted investments they otherwise could make by acquiring controlling interests in other utilities and then including the value of such utilities in the computation of "total utility plant" for the purposes of section 312.

One comment suggested that REA delete the definition of subsidiary and remove the requirement in § 1715.25(b) that subjects the records of borrowers to auditing procedures prescribed in 7 CFR Part 1789. As defined in this rule, a subsidiary is another organization which the borrower controls. Thus, the borrower is in a position to cause its subsidiary to make records available and to comply with REA accounting requirements. REA considers these requirements to be justifiable in furthering its obligations under the Act to see that loans made or guaranteed by it remain adequately secured and that such loans are repaid in accordance with their terms. The commentator conceded that REA might have such authority under other statutory provisions or agreements but objected to REA's inclusion in this rule as a condition for exercising investment and guarantee authority. However, the records and accounting requirements in § 1715.25(b) do not condition the ability of borrowers to make investments or guarantees under section 312. REA inserted these requirements in this rule at § 1715.25(b) because REA is broadening the scope of its financial monitoring in response to the increased level of investment, loan, and guarantee activity generated by section 312.

REA received a few comments objecting to the exclusions in § 1715.24. Generally these objections were based on two grounds. First, a belief that section 321 prevents the Administrator from changing in any way REA's administrative practices concerning investments, loan and guarantee activities except to make them more permissive than they were when section 312 was enacted. While section 312 and its legislative history show an unmistakable intention to raise the level of unclassified investments, loans and guarantees requiring prior REA approval from 3 percent to 15 percent, the language of section 312 does not impose any limitation on the discretion of the Administrator to restrict such activities when they exceed 15 percent of a borrower's total utility plant. Accordingly, REA does not agree with comments suggesting that section 312 precludes the Administrator from reconsidering whether investments, loans and guarantees that were not subject to REA approval under REA's past administrative practices should be restricted when they exceed 15 percent of a borrower's total utility plant. REA believes that section 312 does not address this issue and thus leaves the Administrator's authority under the RE Act unchanged in this respect. Second, some objections noted that the existing REA mortgages were multiparty agreements and thus in proposing to restrict certain investments that had previously been unrestricted, REA was exceeding its authority under the terms of existing legal agreements, i.e. REA mortgages, by in effect amending them unilaterally. In response to this second argument, REA has modified § 1715.24 to permit borrowers to continue to make investments, loans and guarantees without prior REA approval in circumstances where such approval is not required under their existing REA mortgages.

As a result of the above change, paragraphs (a), (b), and (c) in § 1715.24 which proposed specific uniform exclusions have been limited in the final rule to those instances where REA is making a new loan or guarantee and the co-mortgagees, if any, consent to the modification of the REA mortgage. Those paragraphs have been further modified to limit the exclusion of those investments from the computation only in those instances where the borrower pledges those investments under the REA mortgage. In those limited instances where such assets may not be pledged, e.g., restricted stock, borrowers could still make such investments but they would be subject to the 15 percent restriction expressed in the general rule. Paragraph (d) in § 1715.24 excluding certain commitments incurred prior to the original mortgage has been deleted from the final rule since it is unnecessary in the case of existing mortgages which contain a similar provision and unnecessary for future mortgages since the authorization of 15 percent in section 312 of the RE Act provides ample authority of the very limited number of borrowers that have this type of commitment.

The final rule now clearly permits the continuation of borrower investments in securities of CFC, the National Bank for Cooperatives and the Saint Paul Bank for Cooperatives as excluded investments in determining compliance with § 1715.23 of the rule. The rule also clarifies that permitted exclusions in § 1715.24 are the same as those in a borrower's current mortgage.

REA does not agree with comments suggesting that the passage of section 312 in effect statutorily "froze" existing REA mortgage provisions dealing with this subject. Accordingly, a new paragraph (d) has been added to § 1715.24 to make it clear that REA is not adopting this interpretation. REA is reserving in § 1715.24 its historic right to make case by case revisions in REA mortgages in connection with any new REA financial assistance. To clarify the interaction of the currently existing Mortgage provisions with the requirements of this Rule, an Appendix is included with the Rule to set forth a hypothetical example of how §§ 1715.23 and 1715.24 would apply.

One respondent requested REA to be specific in determining the amount available for investing, if a borrower must include the unrecovered investments (losses on investments and guarantees) in determining its future compliance with the rule. REA accepts the request, and has added a new paragraph (d) to § 1715.25, Records, to clarify this determination to assure that: (1) Losses occurring on an investment will not be counted against the 15 percent in future calculations, and (2) an investment which is "rolled over" is not accumulated or counted against the 15 percent in future calculation, but rather treated as only one investment. This is accomplished by requiring the borrower to use the amounts actually reflected on it books and records for the investments.

The final rule will become effective thirty days after its publication.

List of Subjects in 7 CFR Part 1715

Electric power, Loan programs-energy, Reporting and recordkeeping requirements, Rural areas.

In view of the above, REA hereby amends 7 CFR Chapter XVII by adding a new Part 1715 consisting of Subpart B (§§ 1715.20–1715.28) to read as follows:

PART 1715—CRITERIA FOR SECURING REA APPROVALS REQUIRED UNDER THE MORTGAGE BY ELECTRIC BORROWERS RELATING TO FINANCIAL AND MANAGEMENT MATTERS

Subpart A—[Reserved]

Subpart B—Investments, Loans, and Guarantees by Electric Borrowers

Sec.

Authority: 7 U.S.C. 901–950b; Title I, Subtitle D, sec. 1402, Omnibus Budget Reconciliation Act of 1987, Pub. L. 100–203; Delegation of Authority by the Sec'y of Agriculture, 7 CFR 2.23; Delegation of Authority by the Under Sec'y for Small Community and Rural Development, 7 CFR 2.72.

Subpart A—[Reserved]

Subpart B—Investments, Loans, and Guarantees by Electric Borrowers

§ 1715.20 Purpose.

This subpart contains the general regulations of the Rural Electrification Administration (REA) for implementing and interpreting the provisions of the Rural Electrification Act of 1936, as amended, including section 312 (7 U.S.C. 901 *et seq.*) (RE Act), permitting, in certain circumstances, that borrowers of insured or guaranteed electric loans under the RE Act may, without restriction or prior approval of the Administrator of REA, invest their own funds and make loans or guarantees.

§ 1715.21 Policy.

REA electric borrowers are encouraged to utilize their own funds to participate in the economic development of rural areas, provided that such activity does not in any way put government funds at risk or impair a borrower's ability to repay its indebtedness to REA and other lenders. In considering whether to make loans, investments, or guarantees, borrowers are expected to act in accordance with prudent business practices and in conformity with the laws of the jurisdictions in which they serve. REA assumes that borrowers will use the latitude afforded them by section 312 of the RE Act primarily to make needed investments in rural community infrastructure projects (such as water and waste systems, garbage collection services, etc.) and in job creation activities (such as providing technical, financial, managerial assistance) and other activities to promote business development and economic diversification in rural communities. Nonetheless, REA believes that borrowers should continue to give primary consideration to safety and liquidity in the management of their funds.

§ 1715.22 Definitions.

As used in this subpart:

"Borrower" means a corporation or other legal entity engaged, or intending to become engaged, in the generation, transmission or distribution of electricity, and whose outstanding obligations resulting from RE Act loans or guarantees are not in default.

"Cash-Construction Fund-Trustee Account" means the account described in the REA Uniform System of Accounts as one to which funds are deposited for financing the construction or purchase of electric facilities.

"Guarantee" means to undertake collaterally to answer for the payment of another's debt or the performance of another's duty, liability, or obligation, including, without limitation, the obligations of subsidiaries. Some examples of such guarantees would include guarantees of payment or collection on a note or other debt instrument (assuring returns on investments); issuing performance bonds or completion bonds; or cosigning leases or other obligations of third parties.

"Invest" means to commit money in order to earn a financial return on assets, including, without limitation, all financial transactions properly recorded on the borrower's books and records in investment accounts as those accounts are used in the Uniform System of Accounts for REA Borrowers.

"Make loans" means to lend out money for temporary use on condition of repayment with interest.

"Mortgaged Property" means any asset of the borrower which is pledged in the REA mortgage.

"Own Funds" means money belonging to the borrower other than: (i) Proceeds of loans made, guaranteed or lien accommodated by REA; (ii) funds necessary to make timely payments of principal and interest on loans made, guaranteed or lien accommodated by REA; (iii) insurance proceeds from mortgaged property; (iv) damage awards and sale proceeds resulting from eminent domain and similar proceedings involving mortgaged property; (v) sale proceeds from mortgaged property sales requiring specific REA approval; and (vi) funds on deposit in the cash construction trustee account.

"REA Mortgage" means any and all instruments creating a lien on or security interest in the borrower's assets in connection with loans or guarantees under the RE Act.

"Sale Proceeds" means all consideration received from the sale of assets after deducting reasonable transaction expenses, if any, and after deducting, in the case of assets taken by power of eminent domain, the amount, if any, of the damage award paid to the borrower as compensation for lost future revenues.

"Subsidiary" means a corporation the majority stock of which is owned or controlled by a borrower.

"Supplemental Lender" means a lender that has provided a supplemental source of financing that is secured by the REA mortgage.

"Total Utility Plant" means the sum of the borrower's "electric plant accounts" and "construction work in progress—electric accounts," as such terms are used in the REA Uniform System of Accounts, for REA Borrowers.

"Uniform System of Accounts for REA Borrowers" means the system of accounts prescribed in 7 CFR Part 1718.

§ 1715.23 General.

A borrower may, without prior written approval of the Administrator, invest its own funds or make loans or guarantees not in excess of 15 percent of its total utility plant without regard to any provision contained in any REA mortgage to the effect that the borrower must obtain prior approval from REA.

§ 1715.24 Exclusions.

(a) In calculating the amount of investments, loans and guarantees permitted under § 1715.23, there is excluded from the computation any investment, loan or guarantee of the type which by the terms of the borrower's REA mortgage the borrower may make in unlimited amounts without REA approval.

(b) Except in instances where the consent of third parties is required and cannot be obtained, REA will require

that any electric loan made or guaranteed by REA after July 31, 1989, shall be secured by a mortgage restricting investments, loans and guarantees by the Borrower substantially as follows:

(1) The borrower may, to the extent permitted by 7 CFR 1715.23, invest its own funds or make loans or guarantees not in excess of 15 percent of its total utility plant, as those terms are used in 7 CFR Part 1715, Subpart B.

(2) The borrower may also make unlimited investments, without prior approval of the Administrator, in:

(i) Securities or deposits issued, guaranteed or fully insured as to payment by the United States Government or any agency thereof;

(ii) Capital term certificates, bank stock, or other similar securities of the supplemental lender which have been purchased as a condition of membership in the supplemental lender, or as a condition of receiving financial assistance from such lender;

(iii) Patronage capital allocated from a power supply cooperative of which the borrower is a member.

§ 1715.25 Records.

(a) Every borrower shall maintain accurate records concerning all investments, loans and guarantees made by it. Such records shall be kept in a manner that will enable REA to readily determine:

(1) The nature and source of all income, expenses and losses generated from the borrower's loans, guarantees and investments;

(2) The location, identity and lien priority of any loan collateral resulting from activities permitted by this subpart; and

(3) The effects, if any, which such activities may have on the feasibility of loans made, guaranteed or lien accommodated by REA.

(b) The records of borrowers and their subsidiaries shall be subject to the auditing procedures prescribed in Part 1789 of this chapter. REA reserves the right to review the financial records of any subsidiaries of the borrower to ascertain if the debts, Guarantees (as defined herein), or other obligations of the subsidiaries, could adversely affect the ability of the borrower to repay its debts to the Government or to determine if the borrower is in compliance with this subpart.

(c) Every borrower shall report to REA, in the manner and on the form specified by the Administrator, the current status and principal amount of each outstanding loan and guarantee which it has made pursuant to § 1715.23 of this subpart.

(OMB Nos. 0572-0032 and 0572-0017)

(d) In determining the level of investments as a percent of total utility plant (as defined in this subpart) for reporting to REA during any calendar year, the borrower shall use the recorded value of each qualifying investment as reflected on its books and records for the next preceding end-of-month, except for the end-of-year report which shall be based on December 31 information.

§ 1715.26 Effect of this subpart on REA loan contract and mortgage.

(a) Nothing in this subpart shall affect any rights which supplemental lenders have under the REA mortgage to limit investments, loans and guarantees by their borrowers to levels below 15 percent of total utility plant.

(b) Nothing in this subpart shall relieve a borrower of its obligation under the REA mortgage to preserve the lien of the REA mortgage as a first lien on all of the borrower's assets, subject to such limited exceptions as may be provided for therein.

(c) Nothing in this subpart authorizes a borrower to make extensions or improvements to its electric system without prior approval of REA.

(d) REA reserves the right to change the provisions of the REA mortgage, on a case-by-case basis, in connection with providing additional financial assistance to a borrower after July 31, 1989.

§ 1715.27 Restrictions imposed by other lenders.

Nothing in this subpart is intended to prevent a supplemental lender from imposing, enforcing, or modifying restrictions contained in its loan documentation that limit the rights of a borrower to make loans, guarantees or investments.

§ 1715.28 Investments, Loans, and Guarantees in excess of 15 percent of Total Utility Plant.

If a borrower wishes to exceed the aggregate amount of investments, loans, and guarantees permitted under § 1715.23 of this subpart, the borrower must comply with the provisions contained in the REA mortgage to the effect that it must obtain prior approval from REA. Requests of the type described immediately above should be made in writing for consideration by REA on a case-by-case basis.

Dated: June 22, 1989.

Jack Van Mark,

Acting Administrator.

Appendix I—Final Rule 7 CFR Part 1715, Subpart B, §§ 1715.20–1715.28, Investments, Loans and Guarantees by Electric Borrowers.

Note: This Appendix is published for information only and will not be codified in the Code of Federal Regulations.

The following information is presented to illustrate the relationship between the REA-Borrower Mortgage, and the type and level of investments, loans or loan guarantees that borrowers may make and be in compliance with § 1715.23 of this subpart.

Sample Applicable Mortgage Provision—Note that REA-Borrower Mortgages are not uniform. However, the following sample Mortgage provision is representative and is used to illustrate how § 1715.23 would apply in the cases of a borrower that had the most common type of mortgage currently used in the REA program. The following example below is presented here for illustrative purposes only, and does not mean that future mortgages will contain the provisions used in this example.

Sample Article II, Section 22 of the REA Mortgage for Wyngate Electric Cooperative (hypothetical name) reads as follows:

Section 22. The Mortgagor will not, without the written approval of both of the Mortgagees, hereafter make any loan or advance to, or make any investment in, or purchase or make any commitment to purchase any stock, bonds, notes or other securities of, or guaranty, assume or otherwise become obligated or liable with respect to the obligations of, any person, firm or cooperative, except (i) securities or deposits issued, guaranteed or fully insured as to payment by the United States Government or any agency thereof, (ii) Capital Term Certificates or other securities of CFC, (iii) capital credits resulting from the payment for power and energy purchased and actually received from a generating and transmission cooperative of which the Mortgagor is a member, (iv) loans, deposits, advances, investments, securities and obligations which the Mortgagor has, prior to the date hereof, committed itself to make, purchase or undertake, as the case may be, and as to which the Mortgagor has given the Mortgagees notice in writing prior to the date hereof, and (v) such other loans, deposits, advances, investments and obligations as may from time to time be made, purchased or undertaken by the Mortgagor; *provided, however*, That the aggregate cost of investments, plus the total unpaid principal amount of loans, deposits, advances and obligations, permitted under this clause (v) shall not at any time exceed 3 percent of the total utility plant (as such term is defined in the Uniform System of Accounts) of the Mortgagor.

Selected Borrower Financial Data as of 12/31/89:

Total Utility Plant in Service.....$20,000,000

a. Cash Deposits in two FDIC Insured Banks with $100,000 insurance

limits..... 600,000
b. Capital Term and Subscription Term Certificates of the National Rural Utilities Finance Corporation (CFC)..... 200,000
c. CFC Commercial Paper..... 4,000,000
d. Capital Credits accrued with its power supply cooperative..... 250,000
e. Unsecured Loan which preceded the date of this Mortgage and REA had been notified in writing prior to the execution of this Mortgage..... 200,000
f. Investment in Land purchased for an Industrial Park..... 15,000
g. Loan guarantee issued to support Bonds issued by local rural water and sewer system..... 1,000,000

Allowable total investments, loans and guarantees that the borrower may make without the written approval of the Administrator pursuant to § 1715.23

15 percent × Total Utility Plant Level of $20,000,000 = $3,000,000

Shown below are the investments, loans and guarantees which are not excluded per terms of the Mortgage and, therefore, are used to determine compliance with § 1715.23.

Mortgage Related Provision

Uninsured Portion of FDIC Bank Accounts (i)..... $400,000
Investment in land purchased for Industrial Park (v)..... 15,000
Loan Guarantee to support Water and Sewer Bonds (v)..... 1,000,000
Total Nonexempted Investments, Loans and Guarantees..... $1,415,000

All other above described investments, loans and guarantees are exempted by virtue of specific Mortgage Section 22 provisions and are not considered in determining compliance with § 1715.23. Wyngate Electric Cooperative's total nonexempted investments, loans and guarantees of $1,415,000 are lower than the $3,000,000 compliance level and, therefore, the amount is in compliance with § 1715.23.

The Co-op has $250,000 on deposit in a local bank to meet its working capital needs. $100,000 of this amount is covered by FDIC insurance (i). The balance ($150,000) is uninsured. It has invested $100,000 in Capital Term Certificates of The National Rural Utilities Finance Cooperative (CFC) in order to become a member of CFC (ii). It has also purchased "Subscription Term Certificates" (STC's) issued by CFC and bearing interest at 3 percent (ii). The STC's were purchased from CFC in the amount of 5 percent of a $25,000,000 long term loan (i.e. $125,000) pursuant to CFC lending requirements. The Co-op has also invested $10,000,000 in surplus general funds in CFC's commercial paper program and CFC has issued its note to the Co-op to evidence the investment (ii). The Co-op is a member of a generation and transmission cooperative (G&T) from which it purchases electricity for distribution to its members. The G&T routinely allocates a portion of its net margins to the Co-op as one of its members. The G&T has allocated capital credits of $250,000 to the Co-op but has not yet distributed them (iii). In 1971 the Co-op borrowed $200,000 on an unsecured basis from a local lender which is due in full in 1991 and so notified REA in writing prior to the execution of its REA mortgage in May of 1973 (iv). The Co-op has invested $15,000 to purchase land for an industrial park (v). Except for the amount of the Co-op's bank deposit which exceeds FDIC insurance coverage and the investment in the industrial park, all of the foregoing are excluded for purposes of determining compliance with § 1715.23. Thus, if the Co-op had total utility plant amounting to $35,000,000, the aggregate amount of otherwise investments, loans or guarantees it may undertake under this rule would be computed as follows: [$35,000,000 × 15 percent]—[$150,000 + $15,000)] + $100,000 + $125,000 + $10,000,000 + $250,000 + $200,000 = $15,560,000.

[FR Doc. 89–15296 Filed 6–28–89; 8:45 am]
BILLING CODE 3410–15–M

Animal and Plant Health Inspection Service

9 CFR Part 92

[Docket No. 89–107]

Restrictions on Importation of Horses From Czechoslovakia

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Affirmation of interim rule.

SUMMARY: We are affirming without change an interim rule that amended the regulations by adding Czechoslovakia to the list of countries in which contagious equine metritis (CEM) exists. Because Czechoslovakia is no longer free of CEM, we are restricting the importation of certain horses from that country to prevent the livestock of the United States from contracting the disease.

Stallions and mares over 731 days of age from Czechoslovakia are no longer allowed entry into the United States under standard 3-day quarantine and testing procedures. Instead, these horses must be tested and treated in accordance with procedures established to qualify stallions and mares from CEM-affected countries for importation into the United States.

EFFECTIVE DATE: July 31, 1989.

FOR FURTHER INFORMATION CONTACT: Dr. Harvey A. Kryder, Senior Staff Veterinarian, Import-Export Products Staff, VS, APHIS, USDA, Room 753, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, (301) 436–7885.

SUPPLEMENTARY INFORMATION:

Background

The regulations on animal importations in 9 CFR Part 92 (referred to below as the regulations) restrict the importation of horses that could introduce various diseases, including contagious equine metritis (CEM), into the United States. CEM, a venereal disease, affects horses' fertility and breeding.

In an interim rule effective March 24, 1989, and published in the **Federal Register** on March 29, 1989 (54 FR 12897–12898, Docket Number 89–033), we amended § 92.2(i)(1) of the regulations by adding Czechoslovakia to the list of countries in which CEM exists.

Comments on the interim rule were required to be postmarked or received on or before May 30, 1989. This corrected date for receipt of comments was published in the **Federal Register** on April 17, 1989 (54 FR 15302). We did not receive any comments. The facts in the interim rule still provide a basis for the rule.

Executive Order 12291 and Regulatory Flexibility Act

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 cause 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.

For this action, the Office of Management and Budget has waived the review process required by Executive Order 12291.

Stallions and mares from Czechoslovakia that are older than 731 days must undergo testing and treatment in Czechoslovakia and the United States that is more extensive than is standard during a 3-day quarantine. The extra time required for this additional testing and treatment will delay the horses importation into this country and therefore, increase the cost to importers of horses from Czechoslovakia. However, of the approximately 30,000 horses imported into the United States in 1988, only 1 came from Czechoslovakia. We estimate the number of horses affected by this interim rule to be small. We therefore expect this rule to have little or no effect on importers. Those deterred by the cost of testing and quarantining a stallion or mare affected by this rule could, instead, import geldings or, for breeding, horses younger than 731 days. Alternatively, they could import horses from any CEM-free country.

Under these circumstances, the Administrator of the Animal and Plant Health Inspection Service has determined that this action will not have

a significant economic impact on a substantial number of small entities.

Executive Order 12372

The program/activity is listed in the Catalog of Federal Domestic Assistance under No. 10.025 and is subject to 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 92

Animal diseases, Canada, Imports, Livestock, and livestock products, Mexico, Poultry and poultry products, Quarantine, Transportation, Wildlife.

PART 92—IMPORTATION OF CERTAIN ANIMALS AND POULTRY AND CERTAIN ANIMAL AND POULTRY PRODUCTS; INSPECTION AND OTHER REQUIREMENTS FOR CERTAIN MEANS OF CONVEYANCE AND SHIPPING CONTAINERS THEREON

Accordingly, we are adopting as a final rule, without change, the interim rule amending 9 CFR 92.2(i)(1) that was published at 54 FR 12897–12898 on March 29, 1989.

Authority: 7 U.S.C. 1622, 19 U.S.C. 1306; 21 U.S.C. 102–105, 111, 134a, 134b, 134c, 134d, 134f, and 135; 31 U.S.C. 9701; 7 CFR 2.17, 2.51, and 371.2(d).

Done in Washington, DC, this 23rd day of June 1989.

James W. Glosser,

Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 89–15399 Filed 6–28–89; 8:45 am]

BILLING CODE 3410–34–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR Part 510

Animal Drugs, Feeds, and Related Products; Change of Sponsor Name

AGENCY: Food and Drug Administration.

ACTION: Final rule.

SUMMARY: The Food and Drug Administration (FDA) is amending the animal drug regulations to reflect a change of sponsor name from Nutrius, Inc., to Bioproducts, Inc.

EFFECTIVE DATE: June 29, 1989.

FOR FURTHER INFORMATION CONTACT: Benjamin A. Puyot, Center for Veterinary Medicine (HFV–130), Food and Drug Administration, 5600 Fishers Lane, Rockville, MD 20857, 301–443–1414.

SUPPLEMENTARY INFORMATION: Bioproducts, Inc., Two Brecksville Commons, 8221 Brecksville Rd., Brecksville, OH 44141, advised FDA of a change of corporate name from Nutrius, Inc., to Bioproducts, Inc. The agency is amending the regulations in 21 CFR 510.600(c) (1) and (2) to reflect the change.

List of Subjects in 21 CFR Part 510

Administrative practice and procedure, Animal drugs, Labeling, Reporting and recordkeeping requirements.

Therefore, under the Federal Food, Drug, and Cosmetic Act and under authority delegated to the Commissioner of Food and Drugs and redelegated to the Center for Veterinary Medicine, Part 510 is amended as follows:

PART 510—NEW ANIMAL DRUGS

1. The authority citation for 21 CFR Part 510 continues to read as follows:

Authority: Secs. 512, 701(a) (21 U.S.C. 360b, 371(a)); 21 CFR 5.10 and 5.83.

2. Section 510.600 is amended in the table in paragraph (c)(1) by removing the entry "Nutrius, Inc.," and by alphabetically adding a new entry "Bioproducts, Inc.," and in paragraph (c)(2) in the entry "051359" by revising the sponsor name to read as follows:

§ 510.600 Names, addresses, and drug labeler codes of sponsors of approved applications.

* * * * *

(c) * * *

(1)* * *

Firm name and address	Drug labeler code
* * * * *	
Bioproducts, Inc., Two Brecksville Commons, 8221 Brecksville Rd., Brecksville, OH 44141	051359
* * * * *	

(2)* * *

Drug labeler code	Firm name and address
* * * * *	
051359	Bioproducts, Inc., Two Brecksville Commons, 8221 Brecksville Rd., Brecksville, OH 44141.
* * * * *	

Dated: June 23, 1989.

Robert C. Livingston,

Deputy Director, Office of New Animal Drug Evaluation, Center for Veterinary Medicine.

[FR Doc. 89–15354 Filed 6–28–89; 8:45 am]

BILLING CODE 4160–01–M

21 CFR Part 700

[Docket No. 85N–0536]

RIN 0905–AC00

Cosmetics; Ban on the Use of Methylene Chloride as an Ingredient of Cosmetic Products

AGENCY: Food and Drug Administration.

ACTION: Final rule.

SUMMARY: The Food and Drug Administration (FDA) is amending its regulations to ban the use of methylene chloride as an ingredient of cosmetic products. Scientific studies have shown that inhalation of methylene chloride causes cancer in laboratory animals. The available information shows that the continued use of methylene chloride in cosmetic products may pose a significant risk to human health, especially to specific segments of the population that are continually exposed to aerosol cosmetics containing this ingredient. Therefore, the agency has decided to take this action because it has concluded that cosmetic products that contain methylene chloride may be injurious to users under their conditions of use.

EFFECTIVE DATE: August 28, 1989, for products initially introduced or initially delivered for introduction into interstate commerce.

FOR FURTHER INFORMATION CONTACT: Terry C. Troxell, Center for Food Safety and Applied Nutrition (HFF–312), Food and Drug Administration, 200 C St. SW., Washington, DC 20204, 202–485–0229.

SUPPLEMENTARY INFORMATION:

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I. Background

A. Description of Methylene Chloride

Methylene chloride (CAS Reg. No. 75–09–2, dichloromethane) is a colorless, volatile liquid that is used in a variety of consumer and industrial products as a solvent and flame suppressant. The primary cosmetic use of methylene chloride has been in hair sprays. Because of its volatility, it causes quick drying and setting of the applied hair spray resin.

Methylene chloride has also been used in foods as an extraction solvent in the processing of coffee beans, spices, and hops. When used in this manner, methylene chloride is a food additive within the meaning of section 201(s) of the Federal Food, Drug, and Cosmetic Act (the act) (21 U.S.C. 321(s)). Methylene chloride has also been used in the manufacture of food-contact articles. In some of these cases, methylene chloride may be a food additive within the meaning of section 201(s) of the act, while in other cases, methylene chloride may remain as an impurity in the indirect food additive. The food uses of methylene chloride are beyond the scope of this final rule on cosmetic uses.

B. Procedural History

In the **Federal Register** of December 18, 1985 (50 FR 51551), FDA proposed to prohibit the use of methylene chloride as an ingredient of cosmetic products. The agency stated that the data before it revealed that methylene chloride is carcinogenic by inhalation to the liver and lung of male and female mice. It also stated that the data suggested that this substance has a tumorigenic effect on the mammary glands of female rats and produces sarcomas of the salivary gland/integument of rats upon inhalation (50 FR 51551). Therefore, the agency tentatively concluded that methylene chloride is an animal carcinogen by inhalation and may be carcinogenic to humans.

Epidemiology studies and other information that FDA considered at the time of the proposal did not alter the agency's tentative conclusion. The proposal described the agency's assessment of the risk to humans from exposure to methylene chloride used in hair spray-type cosmetics. FDA estimated the upper bound lifetime risk of cancer from the lifetime use of hair sprays containing methylene chloride to be in the range 10^{-3} (1 in 1,000) to 10^{-4} (1 in 10,000) for the consumer and in the range 10^{-2} (1 in 100) to 10^{-3} (1 in 1,000) for the hair care specialist. Therefore, the agency proposed to find that the use of this substance as an ingredient in cosmetics may render those cosmetics injurious to the health of users.

In the proposal, the agency deferred consideration of the food uses of methylene chloride listed in the food and color additive regulations, except for its use in decaffeinating coffee beans, because the agency knew of no indications of a hazard to the public health from these uses. With regard to its use in decaffeinating coffee, the agency stated that even though methylene chloride had been shown to be carcinogenic by inhalation, no action on this use was necessary because any risk from the low exposures resulting from this use would be essentially nonexistent.

On February 24, 1986 (51 FR 6494), the agency extended the comment period on the proposal until April 4, 1986, to provide additional time for comments on the use of methylene chloride as a decaffeinating agent. On October 10, 1986, FDA received four new studies concerning comparative pharmacokinetics, metabolism, and genotoxicity of methylene chloride. These studies were sponsored by the European Council of Chemical Manufacturers' Federation (CEFIC). The agency reopened the comment period for 30 days on December 5, 1986 (51 FR 43935), to allow an opportunity for comment on these new studies. After the close of this comment period, the agency received several additional submissions relevant to the methylene chloride proceeding, including reports of studies extending the pharmacokinetic and metabolism work, two reports on pharmacokinetic (PB–PK) modeling, and an epidemiology study on Canadian General Electric employees. Although FDA has not formally reopened the comment period for this new information, the information has been on display at the Dockets Management Branch (HFA–305), Food and Drug Administration, Rm 4–62, 5200 Fishers Lane, Rockville, MD 20857, in the file on this rulemaking for several months and has been considered by the agency.

C. Description of Comments

About 60 comments were submitted during the comment periods from consumers, consumer groups, industry associations, and manufacturers. Three comments were sent in during the reopened comment period on the CEFIC studies. Some comments included data and reports of studies concerning methylene chloride. Reports of genotoxicity studies, pharmacokinetics and metabolism of methylene chloride in different mammalian species, pharmacokinetic modeling, and new and expanded epidemiology studies were submitted. Information on human exposure to methylene chloride was also submitted.

Twelve of the comments agreed with FDA's proposal to prohibit the use of methylene chloride in cosmetics. Five comments expressed disagreement with the proposed ban and argued for continued use in cosmetics. The majority of the comments that stated a position on the use of methylene chloride in the decaffeination of coffee and wanted the use ended. Many of the comments expressed an opinion only and did not provide supporting data or arguments. The substantive comments relevant to the cosmetic use and FDA's response to each are discussed below.

II. Methylene Chloride—Decaffeination of Coffee

In the proposal, the agency stated that it was not proposing to change the existing regulation (21 CFR 173.255) authorizing the use of methylene chloride for decaffeination of coffee. The agency stated that even though methylene chloride had been shown to cause cancer, the residue limitation for this substance prescribed in § 173.255(c) provided safe conditions of use for this additive. The agency based its position on two factors. First, on evaluating the risk from use of the additive for decaffeinating coffee under the intended conditions of use, the agency determined that the potential carcinogenic risk is negligible. Second, FDA determined that the Delaney anticancer clause of the Food Additives Amendment (section 409(c)(3)(A) of the act (21 U.S.C. 348(c)(3)(A))) does not require a ban in this case because the risk is negligible, and that there would be no significant gain to the public health if this use of methylene chloride were banned.

This determination was based on the principle that the law does not concern itself with trifling or de minimis matters. The agency also applied this principle in listing the color additives D&C Red No. 19 and D&C Orange No. 17, which the agency found to be carcinogenic but to present insignificant risk under their prescribed conditions of use. The agency's decision to list these color additives was reviewed by the U.S. Court of Appeals for the District of

Columbia as a result of a suit filed by the Public Citizen Litigation Group (*Public Citizen* v. *Young*, 831 F.2d 1108 (D.C. Cir. 1987)). In its opinion, dated October 23, 1987, the court held that "* * * the Delaney Clause of the Color Additive Amendments does not contain an implicit de minimis exception for carcinogenic dyes with trivial risks to humans," and that the listing of carcinogenic color additives is contrary to law. The court, however, made no decision about the food additive Delaney clause, stating in the discussion on food additives:

> Moreover, we deal here only with the color additive Delaney clause, not the one for food additives. Although the clauses have almost identical wording, the context is clearly different.

On April 18, 1988, the U.S. Supreme Court denied a petition for a writ of certiorari that had been filed by the Cosmetic, Toiletry and Fragrance Association.

The agency expects that it will take a substantial amount of time for it to consider what effect, if any, the court decision in *Public Citizen* v. *Young* will have on FDA's regulation of food additives, including methylene chloride. Therefore, to avoid further delay in acting on the proposed ban of the use of methylene chloride in cosmetics, the agency has decided to separate the cosmetic and food additive issues and to defer any necessary action on the food additive use of methylene chloride until a future date. FDA will consider the substantive comments that it has received in this rulemaking that pertain to the food additive use of methylene chloride in developing any action on this issue.

III. Introduction—Safety Assessment

In 1985, the Office of Science and Technology Policy (OSTP), in describing how to assess the human cancer risk associated with chemical exposure, captured the essential features of any safety assessment that FDA conducts:

> The first [step], which is often referred to as hazard identification, entails a qualitative evaluation of both the data bearing on an agent's ability to produce carcinogenic effects and the relevance of this information to humans. The second, exposure assessment, is concerned with the number of individuals who are likely to be exposed and with the types, magnitudes, and durations of their anticipated exposures. The third component, hazard or dose-response assessment, uses the information on carcinogenicity from the hazard identification phase together with mathematical modeling techniques to estimate the magnitude or an upper bound on the magnitude of the carcinogenic effect at any given dose level. Finally, one may combine the information from the first three components or steps to characterize the carcinogenic risk associated with the expected human exposure to the compound of interest.
>
> [50 FR 10436 and 10437; March 14, 1985]

The OSTP discussion also provides a convenient structure for this document. FDA will first consider the comments that it has received that bear on the agency's evaluation of the carcinogenic hazard posed by methylene chloride to humans. Second, it will evaluate the comments that bear on the agency's assessment of the extent of exposure to methylene chloride from its use in cosmetics. Third, it will evaluate the comments on the magnitude of the hazard that those who are exposed face. Finally, the agency will consider comments on its tentative determination that the hazard is sufficiently large that use of methylene chloride in cosmetic products will render those products adulterated.

However, before beginning this evaluation, the agency will consider a number of comments that it received that asserted that FDA consideration of the safety of the use of methylene chloride in cosmetics was premature.

(1) Five comments received during the comment period which closed April 4, 1986, stated that the agency should wait for new information from the pharmacokinetic, metabolism, and epidemiology studies that were in progress before reaching any conclusion on methylene chloride. A trade association said it was cooperating with the National Cancer Institute (NCI) to develop a new epidemiology study. It pointed out that relevant information would be presented at meetings and workshops during 1986. Another trade association stated that it was sponsoring comparative metabolic studies on methylene chloride.

Adequate time has elapsed for submission of studies that were in progress when the proposal issued on December 18, 1985. The agency has received and considered in this rulemaking final reports on epidemiology, metabolism, pharmacokinetics, cytotoxicity, and genotoxicity studies that were in progress at the time of the proposal and, in some cases, that were initiated after the proposal was issued.

The new epidemiology study that was to be done in cooperation with NCI has not been undertaken to date. At a June 10, 1987, meeting, NCI's advisory panel on the proposed epidemiology study recommended against proceeding with the study because the methylene chloride exposure levels were too low and the potential size of the cohort too small to achieve the desired goals (Ref. 1). While NCI apparently has not totally abandoned the possibility of further epidemiology work, FDA does not believe that it is appropriate to delay action further for a study that has not been started and may not be done.

(2) Several comments said that the agency had not adequately reviewed the available metabolism, pharmacokinetics, and human epidemiology data on methylene chloride.

FDA did review the available studies on these subjects before publishing the proposal but made only very brief comments on them because the data from these studies were insufficient to affect its decision. The pharmacokinetic and metabolism data available before the proposal was published did not provide convincing evidence to the agency on the mechanism of carcinogenesis of methylene chloride. Therefore, the agency was not able to use this information in risk assessment. Furthermore, the agency could not draw any definitive conclusions from the available epidemiology studies because of study design limitations, such as the small number of workers and the short period of exposure. Additional data on these and other subjects that are related to the toxicity of methylene chloride were submitted to the agency in response to the proposal. FDA has carefully reviewed all of the available information on the metabolism, pharmacokinetics, genotoxicity, cytotoxicity, and human epidemiology of methylene chloride in reaching the decision announced in this final rule. The agency's evaluations of these complex issues are discussed in the following sections on the individual subjects.

IV. Hazard Identification—The Carcinogenicity of Methylene Chloride

A. Introduction

The proposal described several recent chronic studies on methylene chloride, some of which raise questions about the safety of the chemical: (1) the National Toxicology Program (NTP) sponsored inhalation studies in rats and mice; (2) the National Coffee Association (NCA) sponsored drinking water studies in rats and mice; and (3) the three inhalation studies, two in rats and one in hamsters, performed by The Dow Chemical Co. (Dow).

In the proposal, FDA stated its tentative conclusions on the carcinogenicity studies. From the NTP mouse study, the agency concluded that "* * * methylene chloride is carcinogenic to the liver and lung of

male and female mice. This study also demonstrates that methylene chloride induces cancer at a site (the liver) remote from the tissue directly exposed by the inhalation treatment" (50 FR 51551).

The agency also concluded that the results in the NTP rat inhalation study are suggestive of a tumorigenic effect of methylene chloride on the mammary glands of the female rats. FDA concluded that the observations from this NTP rat study and from the high dose rat study conducted by Dow provide suggestive evidence that methylene chloride also induces sarcomas of the salivary gland/integument in rats upon inhalation.

There were no treatment-related neoplastic effects observed in the Dow inhalation study with hamsters or in the NCA drinking water studies with rats and mice.

B. Comments on FDA's Evaluation of the Available Carcinogenicity Studies

(3) In discussing the methylene chloride carcinogenicity studies, one comment said that several experimental studies other than the NTP bioassay have also reported increases in mammary and liver tumors. The comment did not identify any such studies, however.

None of the carcinogenicity studies for which FDA has reports, other than the NTP study on mice, showed significant increases in liver tumors. The NTP and Dow inhalation studies indicated slight increases in the incidence of benign mammary tumors in rats. The agency cannot say conclusively that these increases were treatment-related effects but considers them to be suggestive evidence.

The comment may be referring to studies mentioned in a talk presented by Prof. C. Maltoni, Bologna, Italy, at a 1984 workshop on methylene chloride (Ref. 2). Prof. Maltoni stated in his talk that he had found an increased incidence of mammary tumors and liver nodular hyperplasia in his methylene chloride study with rats. However, despite numerous requests by the organizers of the workshop for a manuscript of his talk to distribute to participants, including FDA toxicologists, no written reports have been received. Consequently, the agency cannot use these studies in its decision.

(4) One comment contended that there is not sufficient evidence to call methylene chloride a carcinogen because positive results from a single study in a single species do not provide sufficient evidence to call a substance a carcinogen except where unusual tumors are found that do not occur spontaneously, or where the tumor incidence can be related to an alkylating agent.

FDA believes that the comment provides an incorrect description of the evidence on methylene chloride. As explained in the proposal, the agency has considered and carefully evaluated seven chronic studies of methylene chloride.

In the NTP 2-year inhalation study in mice, methylene chloride induced significantly increased incidences in alveolar/bronchiolar adenomas, alveolar/bronchiolar carcinomas, and alveolar/bronchiolar adenomas and carcinomas (combined) in male and female mice of both dose groups compared to the controls. Methylene chloride also induced significantly increased incidences of hepatocellular adenomas in high-dose male and female mice, of hepatocellular carcinomas in high-dose males and low- and high-dose females, and of the combined adenomas and carcinomas in all treated groups of both sexes. These increased incidences were distinctly dose related.

In addition, other biological evidence from this study is consistent with the carcinogenic effect of methylene chloride in mice. There were dose-related increases in the incidences of mice bearing multiple tumors of either the lung or liver. None of the control mice with lung tumors had more than one lung tumor, whereas more than 37 percent of lung tumor-bearing mice in both treated groups and in both sexes had multiple lung tumors. Only 9 percent of control males and none of control females had multiple tumors in the liver. In contrast, 46 percent of low-dose males, 48 percent of high-dose males, 19 percent of low-dose females, and 70 percent of high-dose females had multiple liver tumors. The percentage of mice having both lung tumors and liver tumors also increased in a dose-related fashion (Ref. 3).

There is also supporting evidence from studies conducted with rats. There was an increase in incidence of salivary gland sarcomas in the Dow inhalation study with rats that appears to be related to treatment. Two of these same tumors that are rarely observed spontaneously occurred in the high dose treatment groups of the NTP rat study. The agency also found evidence suggestive of a tumorigenic effect of methylene chloride on the mammary glands of female rats in both the NTP and the Dow studies.

Therefore, the agency concludes that there is sufficient evidence that methylene chloride has a carcinogenic effect in $B_6C_3F_1$ mice of both sexes, and that there is supporting evidence in another species, the rat. IARC reached a similar conclusion in its recent evaluation. It concluded that, "There is sufficient evidence for the carcinogenicity of dichloromethane to experimental animals" (Ref. 4). Finally, NTP concluded, with respect to their inhalation study on methylene chloride, that there was clear evidence of carcinogenicity in $B_6C_3F_1$ mice and female F344 rats and some evidence of carcinogenicity in male F344 rats (Ref. 5).

(5) Four comments argued that the mammary gland tumors in the rats exposed to methylene chloride in the NTP study are not evidence of true carcinogenicity. They said that these were benign tumors, and that the tumors did not progress to malignant tumors. Furthermore, the comments characterized the incidences of the mammary tumors at the lower dose levels as within the range of historical controls and the top dose response as barely above the highest incidences in historical controls. The comments noted that IARC considers increases of only malignant tumors as sufficient evidence of carcinogenicity, and that the Past Presidents of the Society of Toxicology have said that when incidence rates in treated groups are within historical control ranges, differences between treated and concurrent control groups are not biologically significant.

The agency has not used the mammary tumorigenic effect in rats as the primary evidence for the carcinogenicity of methylene chloride. Rather, the agency has stated that the evidence of lung and liver tumors in mice provides an appropriate basis to conclude that methylene chloride is carcinogenic in mice of both sexes.

As stated in response to comment 4, however, the agency believes that data from the rat studies provide supporting evidence of the carcinogenicity of methylene chloride. FDA also points out that, as mentioned in the comments, the incidence of mammary tumors in at least the high dose group was above, rather than within, the range of historical controls. The evidence of a dose-response effect in the induction of mammary fibroadenomas in the female F344 rats in the NTP study is suggestive of a tumorigenic effect of methylene chloride. Observations from Dow's studies lend further support to an indication of a tumorigenic effect of this chemical in rat mammary glands.

(6) Four comments urged caution in determining carcinogenicity from the increased incidences of the types of tumors that occur spontaneously at high incidences in untreated groups. The

comments argued that the lung and liver tumors found in mice exposed to methylene chloride in the NTP study are types of tumors that occur spontaneously with high and variable incidence. The comments cited statements made by several expert bodies in support of their argument and quoted IARC as saying: " * * * [T]here are certain neoplasms, including lung tumors and hepatomas in mice, which have been considered of lesser sigificance than neoplasms occurring at other sites for the purpose of evaluating the carcinogenic risk of chemicals to humans." The comments also pointed out that similar statements have been made in documents issued by OSTP and by the Environmental Protection Agency (EPA).

The agency agrees with this concern and is fully aware of the difficulties encountered in the interpretation of a tumor response at a site of high background incidence. Although the male $B_6C_3F_1$ mice have relatively high spontaneous tumor incidences in the liver and lung, the female mice generally have low background rates at these organ sites (Ref. 6). Thus, these comments bear consideration only for the males. Yet, in the NTP inhalation studies, methylene chloride was shown to induce significant increases above the background rate in incidences of lung and liver tumors in both sexes of mice.

These increases were distinctly dose related. In addition, other biological evidence strongly supports the carcinogenicity of methylene chloride in both sexes of mice. This evidence includes the increased incidences of dosed mice bearing multiple lung or liver tumors as compared to control mice, and the increased incidences of dosed mice having both lung and liver tumors in the same animal.

FDA is aware that the relevance of hepatocellular tumors in mice for predicting cancer risk in humans has been debated extensively over the past several years. This debate does not obviate the need for a careful evaluation of each study in which there is a finding of an elevated incidence of hepatocellular tumors and a determination as to whether the finding is valid.

Finally, even though IARC holds the general position cited in the comments, IARC itself concluded in the specific case of methylene chloride that there is sufficient evidence for its carcinogenicity in animals (Ref. 4).

(7) Two comments took issue with a point in the proposal that they understood to be a statement that the salivary gland sarcomas in treated rats in the NTP study provide suggestive evidence of carcinogenicity. One comment argued that these sarcomas lack significance. This comment argued that the agency's apparent position was unwarranted because the NTP draft transcript indicated that there was no evidence of salivary gland anomalies related to treatment, and because one such tumor was found in a control rat in the earlier Dow study. The other comment stated that these sarcomas are not discussed in the draft NTP report.

In the proposal, FDA considered the significance of the Dow and NTP results together. The agency pointed out that there was an increased incidence of male rats with sarcomas in the region of the salivary gland in the high-dose Dow inhalation study, and that there were two sarcomas of the salivary gland/integument in treated rats in the NTP study. The fact that these rare tumors were seen in the NTP study adds some credibility to the results of the Dow study even though by themselves the occurrence of these two tumors would arouse little suspicion. Therefore, FDA does not find any significance in the fact that NTP did not discuss these tumors.

FDA pathologists have had the opportunity to review the morphologic characteristics of the salivary gland sarcomas seen in Dow's inhalation study in Sprague-Dawley rats (Ref. 7) and of the two salivary gland sarcomas in the NTP study with F344 rats. The morphologic pattern of the latter tumors is unusual but similar to that of the salivary gland sarcomas found in the Dow study. The agency considers the presence of two unusual salivary gland tumors in the NTP study and the occurrence of a larger number of salivary gland sarcomas in the Dow study to be suggestive evidence of a treatment related effect.

(8) One comment stated a belief that the agency used data for calculating potency different from those data given in the draft NTP report for the female mice treated by inhalation of 2,000 parts per million (ppm) methylene chloride. The comment stated that this belief was based on a calculation using the cancer potency of 4.4×10^{-4} $(mg/kg/day)^{-1}$ (i.e., 4.4×10^{-4} per milligram per kilogram of body weight per day) stated by the agency in the proposal.

The agency did use the dose and tumor incidence data that were presented in the draft NTP report in calculating the carcinogenic potency of methylene chloride. However, the agency described the calculations only in general terms in the proposal. The following discussion provides further details.

FDA computed the carcinogenic potency as the risk (the probability that an animal will develop a tumor) divided by the dose that produced that risk (Ref. 8). To estimate the risk, the agency considered the lung and liver neoplasia of the 2,000 ppm-treated female mice to be independent and added them together. Therefore, the sum of the tumor incidences in this group of mice becomes approximately 100 percent (33 percent for liver neoplasms plus 63 percent for the lung neoplasms, as reported in the NTP report). To calculate the dose, the ageney converted dose expressed in air concentration (ppm) to a body weight (bw) basis. For methylene chloride, 1 ppm=0.0035 milligram per liter (mg/L). Thus, 2,000 ppm=7 mg/L. The mice were dosed 6 hours per day for 5 days out of 7. Using an inhalation rate of 0.025 liter per minute (L/minute) for the mouse, the time weighted average dose is 7 mg/L×0.025 L/minute×60 minutes/hour×6 hours/day×5 out of 7 days=45 mg/day. For a 20-gram-mouse, the dose thus becomes 45 mg/day/0.020 kg=2250 mg/kg bw/day. Therefore, the carcinogenic potency=1/2250=4.4×10^{-4} $(mg/kg\ bw/day)^{-1}$.

C. Cytotoxicity Data and Evaluation

(9) Some comments declared that the lung tumors in the mouse could be explained by the cytotoxicity of methylene chloride to the nonciliated bronchiolar epithelial (Clara) cells in the lungs. They said that the Clara cell had been shown to be the cell of origin of lung tumors for several chemicals. They suggested that the sensitivity of the Clara cells to methylene chloride seen in the mouse was not likely to occur in humans. The comments submitted evidence to support the point that there is Clara cell injury in mice, but not in rats, when exposed to methylene chloride and argued that this finding correlated with the occurrence of lung tumors in mice but not in rats.

The comments also submitted evidence that they believed demonstrated that the cytotoxicity of methylene chloride resulted in the loss of the ability of Clara cells to metabolize methylene chloride by one (the mixed function oxidase (MFO) pathway, also referred to as the cytochrome P-450 pathway) of the two known metabolic pathways (a sequence of enzyme-catalyzed reactions by which a cell metabolizes a compound) for methylene chloride. They argued that the loss of this pathway would result in greater metabolism by the second metabolic pathway (the glutathione-S-transferase (GST) pathway) and "have a significant impact on the risk of those cells becoming malignant" because, these comments believe, the GST metabolism

is responsible for the lung and liver tumors. One comment pointed out that the number, distribution, and ultrastructural morphology of Clara cells in mouse lungs are different from those in humans and other animals.

In support of these comments, reports entitled "Methylene Chloride (Dichloromethane): 10-Day Inhalation Toxicity Study to Investigate the Effeets on Rat and Mouse Liver and Lungs" and "Methylene Chloride (Dichloromethane): The Effects of Exposure to 4000 ppm on Mouse Lung Enzymes," conducted by Imperial Chemical Industries, were submitted (Refs. 9 and 10).

The agency has evaluated both of these studies. While the results of these studies on the cytotoxicity of methylene chloride may be relevant to the observed lung cancer induction in mice, the agency finds that at best they provide, as stated by the investigators, only circumstantial evidence that the Clara cell is the cell of origin of the lung tumors in the case of methylene chloride. The reported cytotoxicity to the Clara cells was observed in 10-day studies. Cytotoxicity studies of this duration are not adequate to explain the mechanism by which mice get lung tumors after 2 years of treatment.

Scientific debate persists on the cells of origin of chemically-induced lung tumors in mice. Some investigators believe that the lung tumors in mice are derived solely from alveolar type II cells. Some assume that they arise from Clara cells. Others believe that lung tumors in mice may arise from either alveolar type II or Clara cells (Refs. 11 and 12). NTP, in the report on the bioassay of methylene chloride, did not identify the cell of origin of the mouse lung tumors. It classified the tumors only as alveolar/bronchiolar adenomas or carcinomas (Ref. 5).

Consequently, the agency concludes that the evidence submitted with the comment does not support the claim that the lung tumors arise from cytotoxic effects on the Clara cells, or that the Clara cells are necessarily the cell of origin of the lung tumors. The relationship, if any, among the cytotoxic effects in the Clara cells observed during subacute exposure to methylene chloride; the lung cancer, a chronic effect found in the NTP study on mice; and potential carcinogenesis in humans, is not clear.

D. Genotoxicity Studies and Findings

(10) Three comments argued that methylene chloride is not carcinogenic for humans. In support of this argument, the comments asserted that methylene chloride is not genotoxic because it does not act directly on mammalian deoxyribonucleic acid (DNA). They pointed out that the available experiments did not show alkylation of DNA, or unscheduled DNA synthesis (UDS), by methylene chloride in rats or mice. One comment discussed a number of mutagenicity studies and concluded that, although there were some positive genotoxic responses to methylene chloride in some bacteria, yeasts, and plants, the effects in these simpler systems do not necessarily bear on animal cells. The comments asserted that the genotoxicity testing that has been done in animal cells, including a micronucleus test, yielded doubtful or negative results.

The comments argued that this information should be used in evaluating the mechanism of cancer induction because it suggests that methylene chloride causes only a secondary effect on DNA, and that this secondary effect should have a threshold below which no carcinogenic effect would be expected.

A consumer organization argued that the micronucleus test for genetic damage sheds little light on the potential for methylene chloride to be hazardous to humans.

The agency has evaluated the relevant studies on the genotoxicity of methylene chloride, including new studies that were submitted with the comments. The agency does not agree that methylene chloride has been shown to be nongenotoxic. After evaluating all the available data (Ref. 13), including the above mentioned studies, the agency concludes that the evidence on the genotoxicity of methylene chloride is inconclusive.

Methylene chloride was positive in several types of tests (Ref. 13). The agency finds that methylene chloride induces mutation in *Salmonella typhimurium*, *Escherichia coli*, and mouse lymphoma cells; gene conversion and mitotic recombination in *Saccharomyces cerevisiae*; chromosomal aberrations in Chinese hamster ovary cells; DNA damage in *E. coli*; and transformation in SA7 adenovirus-infected Syrian hamster embryo cells, mouse BALB/3T3 cells, and Fischer 344 rat cells infected with C-type virus. The results on induction of sister chromatid exchange were positive in one study and negative in another study, although the reasons for this discrepancy are not clear. The agency places greater weight on the positive result because the effect was reproduced in different tests performed within the study.

Methylene chloride was negative in other tests (Ref. 13). It did not induce sex-linked recessive lethal mutations in *Drosophila melanogaster*; micronuclei in mouse bone marrow; or UDS in rat hepatocytes, primary human fibroblasts, and hamster V79 cells. The results of the in vivo DNA binding study with rat and mouse liver and lung also were negative under the experimental conditions employed.

The agency believes that the results in some studies that were reported to be negative are questionable (Ref. 13). The negative results of the in vitro and in vivo/in vitro studies for UDS with mouse hepatocytes are questionable because of the lack of cytotoxicity information on mouse hepatocytes exposed to methylene chloride in vitro or in vivo and because of the slight but significant increases in the percentage of cells in repair which suggests that a higher concentration might induce a positive response. The results of the tests for chromosomal aberrations in rat bone marrow are also questionable because, in addition to the more commonly observed chromatid and chromosomal breaks, an exchange figure and rings, which are significant chromosomal aberrations, were observed at the two highest doses tested. Finally, although no actual data were included in the report on a micronucleus test in *Tradescantia paludosa*, the summary table in the report indicates that the response was borderline.

The agency does not agree that the genotoxic effects observed in the assays on methylene chloride are not relevant to animal cells. A simple demarcation between different kinds of cells cannot be made. Although there were both positive and negative results with methylene chloride, positive responses were obtained with various types of cells, including animal cells, and these findings indicate that this chemical is potentially genotoxic to animal cells. Data obtained in the cell transformation assays together with that from the genetic assays appear to signal the potential oncogenicity of methylene chloride.

The agency also cannot agree with the hypothesis that methylene chloride acts through a secondary mechanism rather than a direct effect on DNA. Although the genetic toxicology assay results are not conclusive, given these results, the agency cannot exclude the possibility that methylene chloride has a direct genotoxic effect on animal DNA.

Therefore, the agency concludes that the genotoxicity studies do not provide a basis on which to conclude that methylene chloride is not carcinogenic for humans.

V. Exposure Assessment

(11) One comment agreed broadly with FDA's findings on human exposure levels from the use of methylene chloride in cosmetics and submitted a review of available information on exposure from consumer and professional use of hair spray containing methylene chloride to assist the agency in this rulemaking. The review included studies involving fluorocarbons and dimethyl ether and two reports on methylene chloride that the agency had not evaluated earlier.

FDA has evaluated the information submitted concerning exposure to methylene chloride from aerosol cosmetics. The new data do not differ substantially from the data that FDA previously used. The agency concludes that its tentative findings are appropriate (Ref. 14).

(12) One comment discussed the calculation of 8-hour time-weighted average exposure estimates for humans through hair spray use. The comment stated that FDA prorated the mouse inhalation exposure to a 24-hour time-weighted average without similarly prorating the human exposure to the same basis and said that this procedure is incorrect.

The comment is incorrect. In calculating the risks discussed in the proposal, the agency used two different dose-scaling methods for comparing the exposure of the mice in the NTP inhalation study to the probable exposure of humans (Ref. 8). These methods employ 24-hour time-weighted average concentrations of methylene chloride, one expressed in parts per million in air and one in milligrams of methylene chloride per kilogram body weight per day. In each case, the agency used the same 24-hour time-weighted basis for humans as for mice. The risks that were discussed in the proposal do not change if an 8-hour time-weighted average exposure is used for both species rather than a 24-hour time-weighted average exposure.

VI. Dose Response Assessment

A. Introduction

In the proposal, the agency estimated the risk from the use of methylene chloride in cosmetics by extrapolating from the incidence of benign and malignant neoplasms in female mice exposed to 2,000 ppm methylene chloride in the NTP study to average human exposure from use of the aerosol cosmetics. For the extrapolation, the agency assumed a linear dose-response model. By this procedure, FDA estimated the upper bound lifetime risk of cancer from the use of hair sprays containing methylene chloride to be in the range 10^{-3} (1 in 1,000) to 10^{-4} (1 in 10,000) for the consumer and in the range 10^{-2} (1 in 100) to 10^{-3} (1 in 1,000) for the hair care specialist.

B. How to Estimate Risk

(13) Some comments stated that FDA should use the principles outlined in the OSTP document "Chemical Carcinogens: A Review of the Science and Its Associated Principles, February 1985" as guidelines for doing risk assessment (50 FR 10372; March 14, 1985).

The agency has adopted the principles for doing risk assessment of chemicals that are set out in the OSTP review and has applied them in the risk assessment for methylene chloride. For example, the agency has used low dose linearity in its risk extrapolation for methylene chloride as recommended in the OSTP document for cases, like methylene chloride, where there is uncertainty about the mechanism of carcinogenicity.

(14) Two comments stated that the agency should incorporate all available data into its risk evaluation process and should make a best estimate of true risk for methylene chloride, not just a worst-case analysis.

The agency incorporates all the available data into its risk assessment process to the extent that it is appropriate to do so based on considerations such as validation of studies and uncertainties in the data. The agency uses upper bound estimates of risk to account for the uncertainties in the data and in the risk assessment procedures. Because of these uncertainties, attempts to develop "best" estimates of true risk may underestimate true risk in specific instances. Therefore, to avoid underestimating risk, the agency relies upon upper bound estimates in making regulatory decisions that involve the public health.

(15) Two comments said that the agency's quantitative risk estimates are highly exaggerated because of many conservative assumptions. They suggested that the agency use a more realistic risk assessment model. They contended that the risks from the use of methylene chloride in hair spray are not significant. One of these comments referred to a similar comment it had sent to FDA earlier complaining that FDA's Sensitivity of the Method (SOM) Carcinogen Policy [50 FR 45530; October 31, 1985] also exaggerated risk estimation in the context of carcinogenesis in certain animal drugs.

The agency agrees that the risk estimates from exposure to methylene chloride discussed in the proposal may be exaggerated. In fact, the agency characterized its risk estimates as being an upper bound. To assure public health protection, however, FDA believes that risk assessment procedures should include upper bound estimates. FDA, in its risk assessment for methylene chloride, used conservative assumptions where data relating to any particular element of the assessment were either absent or inconclusive. On the other hand, FDA agrees that the best available information should be used to avoid unnecessarily conservative estimates.

As discussed elsewhere in this document, the agency has now incorporated into its risk assessment every valid piece of information available to it. Having used this information, the agency finds that the estimated upper bound risks from the use of aerosol cosmetics that contain methylene chloride are high enough that it is appropriate to conclude that the use of these cosmetics may be injurious to the health of consumers and of hair care professionals.

The SOM rulemaking resulted in the promulgation of regulations to deal with cancer-causing residues in edible products of food-producing animals as the result of administration of drugs, food additives, or color additives and, therefore, is not directly relevant to this rulemaking on methylene chloride in cosmetics. Although the principles underlying the SOM approach are similar to those used here to estimate the risk, the estimation of risk under the SOM approach is more complex because of the need to assess two exposures, exposure of the animal to the drug or additive and exposure of the human to the carcinogenic residue remaining in the animal. All issues relating to exaggeration in the SOM risk estimation were addressed in that rulemaking.

(16) A few comments said that the agency should not use a nonthreshold model for risk extrapolation for methylene chloride but should consider that the situation may have a threshold. They claimed that methylene chloride is not a genotoxic carcinogen.

The selection of the appropriate model for estimating cancer risks at low doses is often extremely difficult because of the lack of information on the mechanism of carcinogenesis and on the dose response for the chemical. In most cases, the models require many theoretical assumptions about the mathematical form of the dose-response relationship and the mechanisms underlying the cancer induction.

A great deal of uncertainty still remains about the mechanism of action

of methylene chloride. Questions about the genotoxicity of methylene chloride, and about how metabolism of this substance affects its carcinogenicity, have not been convincingly resolved. Therefore, the agency does not believe that the available evidence is sufficient to show that a threshold exists for tumor induction by methylene chloride or to show how to determine that threshold, if one does exist. In the absence of convincing evidence for a threshold or of knowledge of the mechanism of carcinogenesis, as an agency charged with protection of the public health, FDA will continue to rely on a nonthreshold procedure to estimate risk for exposures below the measured dose response.

C. Metabolic and Pharmacokinetic Data

1. Comments

(17) FDA received three comments in response to the proposal that, based on how methylene chloride is metabolized in certain animals, advocated the use of a physiologically-based pharmacokinetic (PB–PK) model approach for estimating the risk from methylene chloride. In May 1986, the agency received a preprint of a paper by Andersen et al. on the PB–PK model and risk assessment for methylene chloride (Ref. 15). (The agency had received preliminary drafts of this paper from Dr. Richard Reitz of Dow before publication of the December 1985 proposal.) In October 1986, CEFIC submitted papers on in vivo inhalation pharmacokinetics and metabolism of methylene chloride in rats and mice (Ref. 18) and on in vitro metabolism of methylene chloride in rat, mouse, and hamster liver and lung fractions and in human liver fractions (Ref. 19).

On December 5, 1986, FDA reopened the comment period for public comment on these studies, as well as on two studies concerning the genotoxicity of methylene chloride that were also submitted by CEFIC in October 1986 (51 FR 43935).

FDA received three comments during the reopened comment period. Two comments simply stated that the studies were of excellent quality and should be accepted by the agency. The third comment was from a consumer organization. It stated that the four CEFIC studies do not support CEFIC's contention that methylene chloride is not carcinogenic to humans. The comment pointed out that no correlations between a metabolic pathway and lung cancer in humans can be made because human lung tissue has not been tested. The comment questioned the relevance of in vitro studies to in vivo conditions because species may differ in various ways that affect the reactions in intact organisms. In addition, the comment noted that the metabolic studies do not explain the bioassay evidence for carcinogenicity in rats. It also emphasized that different species may differ in the organ site affected and in sensitivity to a carcinogen.

After the close of the December 1986 comment period several more reports were submitted by CEFIC and Dr. Reitz. In July 1987, Dr. Reitz submitted a report on in vitro studies on GST metabolism of methylene chloride in preparations from mouse, rat, and hamster lung and liver tissues and human liver tissues and on the implications of the results of these studies for PB–PK based risk estimation (Ref. 20). In November 1987, CEFIC submitted three additional reports on methylene chloride: (1) A report on in vivo inhalation pharmacokinetics in mice and rats (Ref. 21), (2) a report on in vitro GST metabolism in rat, mouse, hamster, and human liver cytosol fractions (Ref. 22), and (3) a report on the effects of exposure to 4,000 ppm methylene chloride on mouse lung enzymes (Ref. 10). In early 1988, Dr. Reitz submitted a preprint of a scientific paper on in vitro metabolism studies of methylene chloride, incorporation of these data into the PB–PK model for methylene chloride, and risk estimation (Ref. 16). In June 1988, CEFIC submitted a report on human risk assessment of methylene chloride based on PB–PK modeling that incorporated CEFIC's recent pharmacokinetic and metabolism results and on two risk extrapolation procedures (Ref. 17).

2. The Metabolic Hypothesis

The comments from CEFIC, Dr. Reitz, and colleagues argued that the evidence submitted in response to the proposal, as well as the considerable body of research existing before the proposal, support the following hypothesis:

Methylene chloride is metabolized via two metabolic pathways in mammals (Ref. 23). These pathways (according to this hypothesis) account for virtually all of the metabolism of methylene chloride. One pathway is the mixed function oxidase (MFO) pathway, also referred to as the cytochrome P450 pathway. This oxidative pathway is located in the smooth endoplasmic reticulum of cells and is present in the human, rat, hamster, and mouse. It saturates (i.e., higher dose levels of methylene chloride do not significantly increase the amount of this substance that is metabolized by this pathway) at about 500 ppm inhalation exposure in rats and mice.

The second pathway is referred to as the GST pathway. This pathway is located in the soluble fraction of the cytoplasm and produces carbon dioxide as the end product (Ref. 24). This pathway does not saturate at high doses and is more active in its metabolism of methylene chloride in the mouse than in humans or in other mammals.

The comments hypothesized that reactive intermediates produced during the metabolism of methylene chloride by the GST pathway cause changes that lead ultimately to the formation of tumors found in the NTP bioassay on the mouse. The comments postulated further that neither methylene chloride itself nor the intermediates or products of the MFO pathway contribute to this carcinogenic effect.

The theory presented in these comments uses a PB–PK model for assessing and comparing the internal exposure of tissues to toxic chemicals and their metabolites in mammalian species. The PB–PK model mathematically simulates the absorption, distribution, metabolism, and elimination of methylene chloride in different species. These comments argued that with the use of the proper anatomical, physiological, and metabolic parameters, the PB–PK model approach allows the use of the "internal dose" to the target organ in the quantitative assessment of risk. The comments argued that use of this internal dose is more appropriate than use of the external dose of the parent compound and permits more realistic high dose to low dose and interspecies extrapolations in the quantitative assessment of risk.

The comments stated that the metabolic data and PB–PK modeling correlate well with the bioassay data and thus support the hypothesis that the GST pathway produces the carcinogenic metabolite. They pointed to the relatively high levels of GST metabolites in mouse lung and liver, where tumors were produced, as compared to the levels calculated with the PB–PK model for the respective organs in the rat and hamster, in which no increased incidences of liver or lung tumors were observed.

The comments also argued that, in contrast, the metabolic data for the MFO pathway do not correlate well with the bioassay findings for the lung and liver. The comments pointed out that the metabolism studies by Green et al., Reitz et al., and others have shown that MFO metabolism approaches saturation at exposure levels lower than those used in the inhalation bioassay on the mouse. Once saturation is reached,

concentration of MFO metabolic products would not increase with increasing dose levels of methylene chloride. If an MFO metabolite were responsible for the cancer, the comments argued, then cancer incidence also should not increase at dose levels above the saturation dose. Yet, there is a dose-related increase in cancer incidence with methylene chloride at doses above MFO pathway saturation in the mouse study. In addition, the hamster bioassay was negative even though the MFO metabolic rates in the liver preparations were comparable to the rates in the mouse preparations. For these reasons, the comments concluded that the MFO pathway does not produce a carcinogenic metabolite during metabolism of methylene chloride.

In support of their claim that the parent, unmetabolized methylene chloride is not responsible for the cancer induction in the NTP inhalation bioassay, the comments contended that methylene chloride has a very low level of chemical reactivity. They argued that therefore it is unlikely that this substance can directly react with DNA, and that, if it could, methylene chloride would be expected to be an extremely weak alkylating agent.

The comments stated that the pharmacokinetic data of Green et al. (Ref. 18) show higher blood, and presumably lung and liver, concentrations of methylene chloride in rats than in mice inhaling 2,000 ppm or 4,000 ppm of methylene chloride. They stated that the induction by methylene chloride of liver and lung tumors only in mice and not in rats supports their postulate that unmetabolized methylene chloride is not responsible for inducing tumors.

The comments included data on in vitro metabolism of preparations made from a limited number of human liver and 2 human lung autopsy samples. The comments stated that the evidence shows that the activity of the GST pathway is at least 10 times lower in human liver and lung than in the respective tissues in the mouse. Furthermore, because of the relatively weak affinity of methylene chloride to the GST enzyme, the MFO pathway would metabolize a greater proportion of the methylene chloride than the GST pathway at the very low exposures typically encountered by humans as compared to the high dose levels used in the mouse bioassay, where the MFO pathway became saturated. Based on the hypothesized carcinogenic metabolic pathway, the metabolism data, PB–PK modeling, and several quantitative risk extrapolation procedures, the comments concluded that the "internal dose" of GST metabolites in lung and liver is small for humans exposed to methylene chloride from hair sprays, and that the carcinogenic risk to the lung and the liver presented by this use is insignificant.

The crucial postulates for the mechanism of methylene chloride carcinogenicity proposed by the comments are: (1) The metabolism of methylene chloride in mice, rats, hamsters, and humans by two and only two significant pathways, (2) the lack of direct carcinogenic activity of methylene chloride itself at all doses, (3) the lack of carcinogenic activity of MFO metabolites at all doses and the saturation of this pathway at higher doses, and (4) the carcinogenicity of GST metabolites and their increased importance at higher doses as the metabolism of methylene chloride is increasingly shifted to the GST pathway. The evidence bearing on these propositions is discussed below. In brief, the agency believes that the evidence appears to support postulates (1) and (3), but it has significant reservations about the validity of postulates (2) and (4).

3. FDA's Response

The agency did not use either metabolic data or pharmacokinetic models in the risk assessment that it published in the proposal of December 18, 1985, although it did consider them. At the time of publication of the proposal, the agency did not believe that the available pharmacokinetic information on methylene chloride was sufficiently complete for it to accept the hypothesized mechanism and the model based on this mechanism, or for it to adjust the estimated risk for either the lung or liver tumors on the basis of this mechanism.

In developing this final rule, the agency has evaluated all studies relevant to the pharmacokinetics and metabolism of methylene chloride, particularly the new information submitted in response to the proposal, and considered their impact on the risk assessment that FDA has done for this chemical (Ref. 25).

Based on the available evidence, the agency agrees that the MFO and GST pathways appear to be the principal metabolic routes of elimination of methylene chloride.

The agency also agrees that the submitted in vivo and in vitro metabolic data support the postulated saturation of the MFO pathway at high doses. The agency believes that the observed correlation between the PB–PK model predictions of MFO metabolite levels in the target organs and the bioassay results in rodents is consistent with the postulated lack of carcinogenic activity for the MFO metabolites.

Moreover, the agency believes that the results of the pharmacokinetics and metabolism studies, as well as of the PB–PK modeling, show a correlation between GST metabolism data and certain bioassay results. In vitro GST metabolic activity is high in the mouse liver, where methylene chloride caused cancer in the NTP bioassay, and in vitro GST activity is lower or not detected in rat and hamster lung and liver, where no increase in incidence of cancer was observed.

However, there is an apparent contradiction of the hypothesis from the data reported for GST metabolism in mouse lung tissue. The contradiction is that in vitro GST metabolic activity in lung tissue is only a small fraction of the activity in mouse liver tissue. Nevertheless, lung tumors were induced at approximately the same level as liver tumors. Moreover, in rat liver tissue the in vitro GST metabolic activity was greater than in mouse lung tissue. However, liver tumors were not induced in the rat.

To explain this apparent contradiction, CEFIC hypothesized that the Clara cell is the cell of origin of pulmonary tumors, and that most of the metabolism takes place in these cells. CEFIC postulated that, because Clara cells make up only about 5 percent of lung tissue, and presumably the amount of GST metabolism is proportionately higher in these cells than in the other cells of the lung, the Clara cells may be exposed to considerably higher levels of GST metabolites than other pulmonary cells. CEFIC argued that this could explain the contradiction because the Clara cells would be exposed to comparable levels of GST metabolites as mouse liver tissue.

As discussed in comment 9, the cell of origin of the lung cancer in the mouse was not identified by NTP or anyone else. Furthermore, the comment's postulate on the cellular origin of the lung tumors is based in part on the assumption that the GST metabolic activity of Clara cells is high as compared to the GST metabolic activity of other types of lung cells in the mouse. No data on relative GST pathway metabolic activity with methylene chloride in different lung cells were presented to support this assertion. The agency concludes that the submitted evidence does not demonstrate that the Clara cell is the cell of origin of the lung tumors in the mouse, or that GST pathway metabolism of methylene

chloride is elevated in these cells. Thus, the contradiction described above remains unexplained.

A further problem in accepting the hypothesis that methylene chloride induces cancer in animals through the production of GST metabolites is that proponents have not provided a clear and self-consistent picture of this mechanism. On the one hand, they argued that the GST pathway produces a genotoxic intermediate that was responsible for the cancer observed in the NTP study with mice (Ref. 26). On the other hand, they argued that methylene chloride produces its effects by a nongenotoxic mechanism and asserted that a threshold model would be most appropriate for risk extrapolation of the PB–PK calculated "internal" dose of the GST metabolites presumably because these metabolites are nongenotoxic (Refs. 15 and 26). Such inconsistencies with respect to the mechanism make it more difficult for the agency to credit the hypothesis.

Another problem relates to the role of the parent, unmetabolized methylene chloride in carcinogenesis. The arguments presented in the comments that parent, unmetabolized methylene chloride plays no direct role in the induction of cancer by inhalation have some merit. However, in the mouse bioassay, the cells lining the lung in particular are continuously exposed to high concentrations of the parent, unmetabolized methylene chloride upon inhalation. The comments have not demonstrated that the parent methylene chloride plays no role in the carcinogenicity, especially in the lung. That methylene chloride has not been found to interact with DNA in rodent liver and lung may be the result of inadequate sensitivity of current methods. It is known that methylene chloride is mutagenic in some tests with microorganisms where there is no metabolic activation through added microsomal preparations. Also, it is possible that the parent methylene chloride may induce tumors by a mechanism that does not involve DNA alkylation.

The evidence cited by the comments does not differentiate between the case for unmetabolized methylene chloride and the case for some metabolite from the GST pathway being responsible for tumor induction. The exposure of the lung to both unmetabolized methylene chloride and metabolites from the GST pathway increases with increasing external dose of methylene chloride as does the incidence of lung tumors. The evidence only appears to rule out any substantial role for metabolites from the MFO pathway. (This pathway is saturated at high doses, and the amount of MFO metabolites do not increase with increasing dose. Thus, this saturation is inconsistent with the observed tumor incidence in the mouse which does increase with increasing dose.)

Moreover, not only is it possible that unmetabolized methylene chloride is solely responsible for inducing the lung tumors in the mouse, but more than one chemical species, methylene chloride and one or more of its metabolic derivatives, could be responsible. If unmetabolized methylene chloride is involved in the induction of lung tumors, either alone or in combination with metabolites, the PB–PK model predicts that there will be no significant alteration of risk by using "internal" dose from that presented in the proposal using external dose.

Furthermore, the agency believes that the lack of lung and liver tumors in the rats, which were exposed to high levels of methylene chloride, could have resulted from factors other than difference in metabolism, such as a difference in intrinsic sensitivity between mouse and rat.

In addition, as discussed in the proposal and comments 4, 5, and 7, there is suggestive evidence of a tumorigenic effect of methylene chloride on mammary glands and salivary glands in rats for which no mechanistic or pharmacokinetic information is available.

The comments have not met their burden of demonstrating that the adjustments in the risk assessment that they have suggested are appropriate. Therefore, the agency concludes that the estimated risk to humans should not be changed from the estimates in the proposal based on the pharmacokinetic and metabolic data and hypothesized GST metabolic mechanism of carcinogenicity.

D. Epidemiology in Risk Assessment

1. The Kodak Study

(18) Seven comments contended that the agency should use the data from human epidemiology studies in the evaluation of methylene chloride. Some of these comments said that the new information in an expanded study on Kodak employees exposed to methylene chloride is now adequate to be used, instead of animal testing data, to analyze the risks from methylene chloride use. They also stated that the epidemiology data do not indicate a risk of cancer for humans from use of methylene chloride.

On the other hand, one comment stated that epidemiological studies on methylene chloride are inadequate to determine carcinogenicity in humans because of design limitations, such as small sample size, ill-defined exposure levels, and insufficient latency periods.

A cohort of employees chronically exposed to methylene chloride at the Eastman Kodak facility in Rochester, NY, has been followed since 1964, and its mortality experience has been examined (Refs. 27, 28, and 29). The agency has reviewed the reports on this epidemiology study as completely as possible (Refs. 30, 31, and 32).

The agency finds that the most recent update on the Eastman Kodak study on the chronic health effects of methylene chloride contains improvements over the original report on this study (Ref. 27) and the 1980 update (Ref. 28), including a larger sample of workers, improved exposure estimates, and an effective average latency period. The agency also finds, however, that because the average levels at which the Kodak employees were exposed to methylene chloride were very low, the study has only a limited ability to detect an increase in cancer risk.

Hearne et al. in the most recent update of this study (Ref. 29), draw two major conclusions from their analysis: (1) That the epidemiology data show no adverse health effects associated with exposure to methylene chloride through 1984, and (2) that predictions of risk of neoplasia to humans based upon extrapolation from methylene chloride animal studies are "clearly inconsistent" with human experience. FDA agrees that the study did not detect an increased risk of cancer among employees exposed to methylene chloride. However, FDA's analysis of the available data shows that the upper bound potency (unit risk) implied by the human epidemiology study is consistent with the risk estimated from animal data (Ref. 31).

To compare the results of the epidemiology study with the animal bioassay evidence on the carcinogenicity of methylene chloride, the Kodak investigators used the cancer incidence of the NTP mouse study to calculate the excess number of methylene chloride-exposed workers (that is, the number above the background rate) predicted to die through 1984 from lung or liver cancer. The upper bound on the excess lung and liver cancer deaths that might occur in humans through 1984 that the investigators calculated based on the animal data was larger than the number of such deaths actually found by the

epidemiology study. For this reason, the Kodak investigators concluded that the animal data are inappropriate for estimating the risk of methylene chloride to humans.

However, in extrapolating from the animal data to estimate this upper bound on the excess worker deaths expected, the Kodak investigators used a number of assumptions and adjustment factors that FDA does not believe are valid (Ref. 31). Using what FDA believes to be more realistic interspecies comparative assumptions and lifetime adjustment factors, the agency calculated that far fewer excess lung and liver cancer deaths would be expected through 1984 among the methylene chloride-exposed workers than were predicted by the Kodak investigators (Ref. 31).

The Kodak investigators concluded only that the potential upper bound human risk of methylene chloride, calculated using linear-at-low-dose extrapolation from the animal data, is clearly inconsistent with the epidemiology results. This conclusion is hardly surprising, however, since it is of course unlikely that the actual risk of dying from lung or liver cancer is as high as the conservatively estimated upper bound risk. The actual risk can be anywhere from zero to the upper bound estimate.

FDA has found that the Kodak epidemiology study is marginally adequate to detect excess deaths from lung and liver cancer if the risk of these cancers for the exposed workers is 160 percent that of the unexposed workers, but that the study is not able to reliably detect lower risks (Ref. 31). FDA calculations show that the highest risk predicted by the animal data would be no more than 140 percent that of unexposed workers at the exposure levels experienced by the Kodak cohort (Ref. 31), a level of risk that is thus not detectable by the Kodak epidemiology study.

Therefore, FDA does not believe that the data from the Eastman Kodak human epidemiology study refute the animal evidence of the carcinogenicity of methylene chloride or the upper bound human risk calculated from the most sensitive species tested (mouse).

2. The General Electric Study

(19) The agency received two documents, including a preprint of a paper submitted for publication in a scientific journal (Ref. 33), that describe an epidemiology study on women employees in the coiling and wire drawing area of the lamp manufacturing department at the Canadian General Electric plant in Toronto, ON, Canada. The study investigators reported a higher than normal occurrence of breast and gynecological cancers among these employees. The submitters of this study believe that the study implicates methylene chloride as the causative agent.

The agency disagrees that this study shows an association between methylene chloride and the reported excess breast and gynecological cancers found in women employees (Ref. 34). No exposure assessment was done, either qualitatively or quantitatively, for methylene chloride. Although methylene chloride is on a list of chemicals purchased for use in the coiling and wire drawing area in 1984, there is no indication as to how much was actually used in 1984 or other years; as to the methylene chloride levels present in the coiling and wire drawing area; and as to the methylene chloride levels present in other areas of the plant. Finally, the study investigators themselves state that no conclusions can be drawn about the relationship between the use of methylene chloride and the reported increase in cancer.

In addition, the agency believes that the finding of a significant excess of breast and gynecological cancers in this study is of questionable validity. This result was obtained by grouping increases in breast cancer and gynecological cancer incidence that were individually insignificant, without increasing the criterion for statistical significance to allow for a greater number of comparisons. In fact, if the appropriate adjustment for multiple comparisons is made, the study does not show a significant increase in the incidence of breast and gynecological cancer among these employees.

VII. Characterizing the Risks

(20) One comment suggested that there is only weak evidence that methylene chloride is a carcinogen. The comment pointed out that the International Working Party of Experts had developed a set of categories for classifying carcinogens. The comment argued that methylene chloride should be placed in the fourth of these categories, which includes substances that have only potential relevance to humans and that do not require an automatic regulatory response.

The agency does not agree with the comment's conclusion on evidence of carcinogenicity. As explained above, the agency has determined that the evidence of carcinogenicity for methylene chloride is sufficient to conclude that this substance is an animal carcinogen. An International Agency for Research on Cancer (IARC) working group also reviewed the carcinogenicity data on methylene chloride and concluded that "There is sufficient evidence for the carcinogenicity of dichloromethane to experimental animals" (Ref. 4.). Furthermore, NTP concluded, with respect to their inhalation study on methylene chloride, that there was clear evidence of carcinogenicity in $B_6C_3F_1$ mice and female F344 rats and some evidence of carcinogenicity in male F344 rats (Ref. 5).

(21) Some comments objected to the agency's proposal on the basis that it called methylene chloride a probable human carcinogen.

In the proposal of December 18, 1985, FDA did not state that methylene chloride was a probable human carcinogen, but rather that methylene chloride "* * * may be carcinogenic to humans." FDA based this statement on the findings from animal bioassays. It is the agency's policy that substances that are carcinogenic to animals, as methylene chloride has been found to be, should be considered potential human carcinogens unless there is evidence to the contrary.

Rodent species such as rats and mice have been accepted by the scientific community as appropriate surrogates for humans in toxicity testing, including carcinogenesis testing. Experimental evidence has established a high correlation between the ability of a substance to induce cancer in rodents and its ability to induce cancer in humans (Refs. 35, 36, and 37). The agency concluded, based on the NTP inhalation studies on rodents and other relevant information, that methylene chloride is an animal carcinogen by inhalation. Because methylene chloride induces cancer in rodents, it may also do so in humans. This view is shared by IARC, which stated that "in the absence of adequate data on humans, it is reasonable, for practical purposes, to regard chemicals for which there is sufficient evidence for carcinogenicity in animals as if they presented a carcinogenic risk to humans" (Ref. 38). To ensure protection of the public health, the agency will treat positive results from well-conducted carcinogenicity studies in animals as strong evidence that the compound considered represents a carcinogenic hazard to humans and will characterize the risk using these studies unless evidence from studies on humans indicates otherwise.

(22) One comment stated: "According to the FDA, 1 in every 100 hairdressers will die from continued use of aerosol hair sprays that contain methylene

chloride. This is clearly an unacceptable risk."

The agency did not state that a number of hairdressers will die from this use. The proposal said that for hair care specialists, the upper bound of lifetime risk of contracting cancer (not the risk of dying) is in the range of 1 in 100 to 1 in 1,000. This estimate is not an actuarial risk. Moreover, it does not refer to every hairdresser but only to those that use aerosol cosmetic products that contain methylene chloride consistently over a prolonged period. Nonetheless, the agency does believe, based on the available data, that there is a significant potential risk to users. Therefore, the agency is prohibiting the use of methylene chloride in aerosol cosmetics.

VIII. Other Comments

A. Halogenated Solvents Industry Petition

(23) The Halogenated Solvents Industry Alliance (HSIA) submitted a petition (Docket No. 86P-0443) requesting that FDA terminate its rulemaking to ban the use of methylene chloride as an ingredient in cosmetic products. HSIA argued that there are apparently acceptable substitutes for methylene chloride in cosmetics, and that, to their knowledge, "all or virtually all manufacturers or formulators have now switched to other ingredients for cosmetic uses in which methylene chloride was previously employed." Thus, HSIA concluded that actual consumer exposure is truly de minimis, and that no benefits would result from regulating the use of methylene chloride in cosmetics. HSIA stated further that, because consumer exposure to methylene chloride from cosmetics is negligible, it is unnecessary and inappropriate for FDA to continue devoting resources to resolving scientific uncertainties inherent in what would now be only a hypothetical situation. HSIA cited as its basis regulatory policy guideline number 4 from the August 11, 1983, Report of the Presidential Task Force on Regulatory Relief, "Reagan Administration Regulatory Achievements," which is referenced in section 1(d) of Executive Order 12498. Guideline number 4 states that regulations should address risks that are real and significant rather than hypothetical or remote. HSIA further requested that FDA reopen the comment period for submission of comments on the issue of actual use and consumer exposure if FDA believes that additional data are needed to show the absence of any use of methylene chloride in cosmetics.

The agency does not agree that a regulation prohibiting use of methylene chloride as an ingredient in cosmetics is no longer necessary. The agency is concerned that in the absence of a regulation prohibiting such use, firms could subject the public to methylene chloride exposure from aerosol cosmetic products at any time. Until recently, the information available to the agency was consistent with HSIA's claim that methylene chloride is not being used as an ingredient in cosmetic products. However, the agency received a letter dated November 30, 1988, from a law firm stating that its client uses methylene chloride in certain aerosol cosmetic products. This letter explained that this company had removed methylene chloride from its products after FDA published its proposal, but that the company decided to resume use of methylene chloride because company officials believed that (1) more favorable information had appeared to support the safety of methylene chloride, (2) FDA had stayed the final action (which it had not), and (3) consumers of their products preferred them formulated with methylene chloride.

The company's actions demonstrate why this regulation is needed to avoid ambiguity about both the legal status of methylene chloride and the risk associated with its use. Although the agency could take enforcement action under section 601 of the act (21 U.S.C. 361) in cases involving the use of methylene chloride in a cosmetic product when the agency becomes aware of such a product, the agency believes that a prohibitive regulation is a more effective way of protecting the public health. This regulation provides notice to future as well as current manufacturers of cosmetic products that methylene chloride should not be used because of the significant potential risk.

With respect to application of regulatory policy guideline number 4, the agency has concluded that methylene chloride may be a human carcinogen, and that the potential risk from the use of this substance in cosmetics is not hypothetical or remote. Furthermore, a primary concern of guideline 4 is cost-benefit assessment. If, as HSIA argued, manufacturers were no longer using methylene chloride in cosmetics, and if, as HSIA presumably believed, a prohibitive regulation is not necessary to preclude the use of methylene chloride in cosmetics, this action would have no or negligible costs. The resumption of use of methylene chloride by one manufacturer that has methylene chloride-free formulations available does not change the conclusion that the costs of this action will be negligible.

B. Other Agencies' Regulation of Methylene Chloride

(24) Two comments pointed out that the Environmental Protection Agency (EPA), the Consumer Product Safety Commission (CPSC), and the Occupational Safety and Health Administration (OSHA), as well as FDA, are evaluating the data on methylene chloride. The comments argued that these other agencies are not proposing any regulatory action at this time and urged FDA not to be precipitous in acting on methylene chloride. These comments urged FDA to be consistent with the other agencies.

FDA is aware of the consideration of methylene chloride by other agencies. However, each agency administers different statutes, and its regulatory response must meet the requirements of the applicable statute.

FDA's findings are consistent with the conclusions of the CPSC on methylene chloride. On August 20, 1986 (51 FR 29778), CPSC proposed to find that methylene chloride may be a human carcinogen by inhalation and may be considered a hazardous substance under the Federal Hazardous Substances Act (FHSA). Without withdrawing the proposed rule, CPSC published a notice of interpretation and enforcement policy on September 14, 1987 (52 FR 34698). This notice concluded that "* * * the Commission believes that household products that present a significant exposure to methylene chloride vapor are hazardous substances due to a potential hazard of human carcinogenicity." CPSC stated its intention to bring enforcement actions under FHSA for products that do not comply with the labeling required by FHSA for hazardous substances. Full compliance of labels for these products was required by September 14, 1988.

FDA also notes that OSHA published an advance notice of proposed rulemaking on methylene chloride (51 FR 42257; November 24, 1986) in which it concluded that there is sufficient evidence of carcinogenicity in two species and positive indications of mutations in three organisms, but that the human epidemiology data are inconclusive. In addition, EPA has initiated a regulatory investigation [50 FR 42037; October 17, 1985].

Concerning the timing of FDA's action relative to actions by other agencies, FDA believes that, when faced with a public health hazard such as the hazard from methylene chloride in aerosol cosmetics, it is obligated to act when it

has a sound basis for a decision. FDA has completed its evaluation of the comments and other relevant information and has determined that it has a sound basis for this action. Therefore, FDA is taking this action even though other agencies may not have reached the same point in their rulemaking.

C. Effective Date

(25) Three comments requested that any final regulation to prohibit the use of methylene chloride in cosmetics provide more time than that provided in the proposal for distribution of products already manufactured and for development of replacement products. One comment requested a 6-month period and a second comment requested at least a 1-year period between publication of the final order and its effective date to allow reformulation of products and testing for stability.

The agency proposed that a regulation in this proceeding would take effect 60 days after the date of publication of the final rule and would be applicable only to products initially introduced or initially delivered for introduction into interstate commerce after that time. This final rule affirms the 60-day period between publication and the effective date. Thus, the ban applies only to products initially introduced or initially delivered for introduction into interstate commerce on or after August 28, 1989. Products introduced into interstate commerce before that date will not be affected.

FDA concludes that a 6-month or a 1-year delay in the effectiveness of this regulation is not necessary. The 60-day period following the publication of this final rule is sufficient for cosmetic manufacturers to comply with the requirements of this regulation.

Information submitted by a trade association and a law firm and the results of a survey of firms participating in the voluntary filing of cosmetic product ingredient statements (under 21 CFR Part 720) demonstrate that the manufacturers of hair sprays generally reformulated their products to replace methylene chloride either before or shortly after the publication on December 18, 1985, of the proposal to ban its use as a cosmetic ingredient. Furthermore, firms have had more than 3 years' notice of this action and, therefore, have had ample time to refine methylene chloride-free formulations and to develop contingency plans to deal with the proposed 60-day effective date. Accordingly, the agency believes that the 60-day period is sufficient for the manufacturers and the marketers of aerosol cosmetics to resolve whatever matters may be pending with respect to the manufacture and distribution of their methylene chloride-free formulations.

D. Request to Reopen Record

(26) One comment in a letter dated November 30, 1988, requested that FDA reopen the record to reconsider the need to ban the use of methylene chloride in aerosol cosmetics based on new risk assessment data submitted to FDA in June 1988. The comment also stated that, if FDA still chooses to ban methylene chloride, the agency should inform consumers in the preamble to any final rule as to the lack of any proof that methylene chloride presents a risk to humans when used in aerosol cosmetic products.

The agency disagrees that the record should be reopened. Even though the report submitted in June 1988 (Ref. 18) was submitted to the agency well after the close of the last official comment period (January 5, 1987), the agency reviewed it, as well as other reports that were submitted late, and found nothing in these reports that would affect FDA's decision to prohibit the use of methylene chloride as an ingredient in cosmetics. Furthermore, the new information has been on display at the Dockets Management Branch in the file on this rulemaking for a number of months. Therefore, the agency believes interested persons have had ample opportunity to comment on it.

FDA also disagrees that it should inform consumers that there is no proof that methylene chloride presents a risk to humans when used in aerosol cosmetic products. It is because of the evidence that risks to consumers may be high that the agency is concluding that methylene chloride as an ingredient in cosmetics may render these cosmetics injurious to users. If FDA were convinced that there was no evidence that this use of methylene chloride presented a significant public health hazard, the agency would not issue this rule prohibiting this use of methylene chloride.

IX. Summary and Conclusions

After evaluating all available data the agency concludes that methylene chloride is carcinogenic by inhalation in mice, and that there is suggestive evidence of a tumorigenic effect of methylene chloride in rats.

Epidemiological data on workers exposed to methylene chloride do not indicate any carcinogenic effect in humans. However, FDA finds that the sensitivity of the study is insufficient to rule out the possibility that methylene chloride can cause cancer in humans, as inferred from the rodent studies.

Substantial new information on the metabolism and mechanism of action of methylene chloride was submitted to the agency. Several comments argued that these metabolic data should be incorporated into the carcinogenic risk assessment process through the use of a physiologically-based pharmacokinetic model approach.

The postulated metabolic mechanism is that the carcinogenicity of methylene chloride in rodents, and any potential carcinogenicity in humans, is caused solely by the formation of active GST metabolites. FDA concludes that this postulated mechanism is scientifically plausible but has not been adequately supported. The available evidence is insufficient to explain how lung or liver tumors were caused in the mouse by the postulated mechanism and to rule out that inhaled methylene chloride directly causes lung tumors in mice, and that it may have the same effect in humans. Therefore, the agency has not used the physiologically-based pharmacokinetic model approach to reduce the estimated risk of cancer for users of aerosol cosmetics containing methylene chloride. Consequently, the agency affirms that the estimated risks presented in the proposal are appropriate upper bound estimates of risk for humans exposed to methylene chloride from aerosol cosmetics.

Because the exposure to methylene chloride from hair spray use can be high, the potential cancer risk from this use may be high. Therefore, the agency concludes that methylene chloride is a poisonous or deleterious substance that may render cosmetic products injurious to users.

X. Impact Analyses

In the proposed rule, the agency explained that the effects of this action had been considered in accordance with the Regulatory Flexibility Act and with Executive Order 12291.

(27) One comment said that the proposal violated Executive Orders 12498 and 12291 because the agency did not make the best estimates of the risks from methylene chloride uses, only extremely conservative estimates. The comment argued that without the best estimates of risks, it is not possible to know what value to put on the costs of the action or what degree of protection the public received from the action.

The agency disagrees with the comment and finds that it is possible to estimate the cost of the proposed ban without a best estimate of risk. The agency estimated the cost of the proposed ban in its threshold assessment in 1985 by calculating the

amount of methylene chloride then used in cosmetics, the changes required by a ban, and the costs of these changes. The agency found that the proposed action did not meet the criteria for a major rule described in Executive Order 12291.

In addition, since the proposal was published, the Halogenated Solvents Industry Alliance has submitted a citizen petition that states that manufacturers of cosmetics in the United States have already reformulated their hair sprays to remove methylene chloride on their own initiative, and that there is practically no use of methylene chloride in cosmetics in this country. In a letter dated November 30, 1988, FDA has been told that one firm has resumed using methylene chloride in certain aerosol cosmetics. Notwithstanding the cost to this firm of converting production back to its methylene chloride-free formulations, the agency finds that the costs of prohibiting the use of methylene chloride in hair spray are essentially negligible. The agency has received no other relevant information on the economic impact of this action.

The agency has previously considered the environmental effects of this rule as announced in the proposed rule (50 FR 51551). No new information or comments have been received that would affect the agency's previous determination that there is no significant impact on the human environment and that an environmental impact statement is not required. The information that use of methylene chloride in cosmetics has essentially ceased serves to reinforce this finding of no significant impact.

XI. References

The following references have been placed on display in the Dockets Management Branch, Food and Drug Administration, Rm. 4–62, 5600 Fishers Lane, Rockville, MD and may be seen by interested persons between 9 a.m. and 4 p.m., Monday through Friday.

1. Memorandum of Meeting of Advisory Panel to the National Cancer Institute on the proposed methylene chloride epidemiology study, June 10, 1987.

2. Maltoni, C., Food Solvents Workshop I: Methylene Chloride, Nutrition Foundation, Bethesda, MD., pp. 67–75 and 92–95, March 8 and 9, 1984.

3. Memorandum of August 22, 1985, by C. Lin, Division of Toxicology, FDA.

4. International Agency for Research on Cancer, "Dichloromethane," IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, 41:43–85, 1986.

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6. Haseman, J.K., et al., "Neoplasms Observed in Untreated and Corn Oil Gavage Control Groups of F344/N Rats and (C57BL/6N X C3H/Hen) F1 ($B_6C_3F_1$) Mice," *Journal of the National Cancer Institute*, 75:975–984, 1985.

7. Cancer Assessment Committee, Memorandum of Conferences, "Methylene Chloride," January 20, 1983, August 8, 1984, and June 13, 1985.

8. Memorandum of April 23, 1985, by the Quantitative Risk Assessment Committee, FDA.

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16. Reitz, R.H., et al., "Incorporation of In Vitro Enzyme Data into the PB–PK Model for Methylene Chloride (CH_2CL_2): Implications for Risk Assessment," preprint, dated 4/18/88. (Since published in *Toxicology Letters*, 43:97–116, 1988.)

17. Green, T., et al., "Methylene Chloride (Dichloromethane): Human Risk Assessment Using Experimental Animal Data," May 1988.

18. Green, T., et al., "Methylene Chloride (Dichloromethane): *In Vivo* Inhalation Pharmacokinetics and Metabolism in F344 Rats and $B_6C_3F_1$ Mice," September 1986.

19. Green, T., J.A. Nash, and G. Mainwaring, "Methylene Chloride (Dichloromethane): *In Vitro* Metabolism in Rat, Mouse and Hamster Liver and Lung Fractions and in Human Liver Fractions," September 1986.

20. Reitz, R.H., A.L. Mendrala, and A.M. Schumann, "Methylene Chloride-Glutathione S-Transferase Studies: *In Vitro* Experiments in Humans, Mice, Rats, and Hamsters," July 1987.

21. Green, T., W.M. Provan, and N. Gowans, "Methylene Chloride (Dichloromethane): *In Vivo* Inhalation Pharmacokinetics in $B_6C_3F_1$ Mice (Using Stable Isotopes) and F344 Rats," October 1987.

22. Green, T., J.A. Nash, and S.J. Hill, "Methylene Chloride (Dichloromethane): Glutathione-S-Transferase Metabolism In Vitro in Rat, Mouse, Hamster and Human Liver Cytosol Fractions," October 1987.

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34. Memorandum of July 22, 1987, by L. Tollefson, Epidemiology and Clinical Toxicology Staff, FDA.

35. Wilbourn, J.D., et al., "Response of Experimental Animals to Human Carcinogens: An Analysis Based upon the IARC Monographs Programme," *Carcinogenesis*, 7:1853–1863, 1986.

36. Wilbourn, J.D., et al., "Identification of Chemicals Carcinogenic to Man," *Toxicologic Pathology*, 12:397–399, 1984.

37. Tomatis, L., "The Predictive Value of Rodent Carcinogenicity Tests in the Evaluation of Human Risks," *Annual Review of Pharmacology and Toxicology*, 19:511–530, 1979.

38. International Agency for Research on Cancer, IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, 41:13–32 (preamble), 1986.

XII. Agency Action

FDA has evaluated the comments on the proposal of December 18, 1985, the new information submitted with the comments, and the information already in the agency's files.

FDA believes that the evidence establishes that methylene chloride is a poisonous or deleterious substance, and that its use in cosmetic products may render those products injurious to users.

Under section 601(a) of the act (21 U.S.C. 361(a)), a cosmetic is deemed to be adulterated "(i)f it bears or contains any poisonous or deleterious substance which may render it injurious to users under the conditions of use prescribed in the labeling thereof, or, under such conditions of use as are customary or usual * * *." Therefore, FDA concludes that cosmetics that contain methylene chloride are adulterated under section 601(a) of the act, and the agency is consequently prohibiting the use of methylene chloride in cosmetic products.

FDA has been informed that, except for one firm that has resumed use of methylene chloride in aerosol cosmetics, the use of methylene chloride in manufacturing hair sprays has virtually ceased in the United States. The agency believes, however, that a regulation is necessary to ensure that all hair spray manufacturers cease using methylene chloride, that hair sprays containing methylene chloride are not imported into this country, and that no new hair sprays or other cosmetics using methylene chloride as an ingredient are introduced into the market.

This prohibition of the use of methylene chloride in cosmetics is effective August 28, 1989. This effective date applies to the initial introduction of products, and the initial delivery of products for introduction, into interstate commerce.

List of Subjects in 21 CFR Part 700

Cosmetics, Packaging and containers.

Therefore, under the Federal Food, Drug, and Cosmetic Act and under authority delegated to the Commissioner of Food and Drugs, Part 700 is amended as follows:

PART 700—GENERAL

1. The authority citation for 21 CFR Part 700 is revised to read as follows:

Authority: Secs. 601, 602, 701(a), 704, 52 Stat. 1054 as amended, 1055, 67 Stat. 477 as amended (21 U.S.C. 361, 362, 371(a), 374); 21 CFR 5.10, 5.11.

2. A new § 700.19 is added to Subpart B to read as follows:

§ 700.19 Use of methylene chloride as an ingredient of cosmetic products.

(a) Methylene chloride has been used as an ingredient of aerosol cosmetic products, principally hair sprays, at concentrations generally ranging from 10 to 25 percent. In a 2-year animal inhalation study sponsored by the National Toxicology Program, methylene chloride produced a significant increase in benign and malignant tumors of the lung and liver of male and female mice. Based on these findings and on estimates of human exposure from the customary use of hair sprays, the Food and Drug Administration concludes that the use of methylene chloride in cosmetic products poses a significant cancer risk to consumers, and that the use of this ingredient in cosmetic products may render these products injurious to health.

(b) Any cosmetic product that contains methylene chloride as an ingredient is deemed adulterated and is subject to regulatory action under sections 301 and 601(a) of the Federal Food, Drug, and Cosmetic Act.

Dated: January 12, 1989.

Frank E. Young,

Commissioner of Food and Drugs.

[FR Doc. 89-15355 Filed 6-28-89; 8:45 am]

BILLING CODE 4160-01-M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 81

[FRL-3607-6]

Designation of Areas for Air Quality Planning Purposes: Various States

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: By this rule, EPA is amending the Title 40, Chapter I, Part 81 of the Code of Federal Regulations for the states of Alaska, Idaho, Oregon, and Washington in order to clarify that the attainment and unclassifiable areas are designated on the basis of air quality control regions (AQCRs), or portions thereof, rather than the "entire state" or "remainder of state" as currently listed in some cases. No changes to the attainment status of any area are made by this rule. This action is being taken to ensure that the attainment and unclassifiable area designations for these four states conform with the requirements of section 107(d) of the Clean Air Act.

EFFECTIVE DATE: June 29, 1989.

ADDRESSES: Copies of the materials submitted to EPA may be examined during normal business hours at: Air Programs Branch, Docket 10A-89-7, Environmental Protection Agency, 1200 Sixth Avenue, AT-082, Seattle, Washington 98101.

FOR FURTHER INFORMATION CONTACT: David C. Bray, Air Programs Branch, Environmental Protection Agency, 1200 Sixth Avenue, AT-082, Seattle, Washington 98101. Telephone: 206-442-4253 FTS: 399-4253.

SUPPLEMENTARY INFORMATION:

I. Introduction

Under section 107(d) of the Clean Air Act, each air quality control region (AQCR), or portion thereof, is to be identified as to whether it meets or does not meet each national primary and secondary ambient air quality standard, or whether there is insufficient data to be so classified. Each state submitted a list of areas to EPA in late 1977 or early 1978, and EPA published a compilation of these "attainment," "nonattainment," and "unclassifiable" areas in the Federal Register on March 3, 1978 (43 FR 8962).

In general, the March 3, 1978 Federal Register listed areas by AQCRs or portions of AQCRs (e.g., counties or cities). However, for the attainment or unclassifiable listings, EPA sometimes condensed the listing, indicating only that the "entire state," or the "remainder of state," was "attainment" or "unclassifiable" for a specific pollutant. EPA expected that, for Clean Air Act purposes, it would be understood that each AQCR represented a separate "attainment" or "unclassifiable" area in accordance with section 107(d).

The "attainment" or "unclassifiable" areas are important to the prevention of significant deterioration (PSD) program under Part C of the Clean Air Act, because they define the "baseline areas" within which the PSD "increments" are applicable. In recent years, some confusion has arisen with regard to the PSD "baseline areas" in states for which the "attainment" and "unclassifiable" areas are listed as the "entire state" or the "remainder of state."

In order to clearly specify the "attainment" and "unclassifiable" areas in accordance with the requirements of section 107(d), EPA is today amending portions of Title 40, Chapter I, Part 81 of the Code of Federal Regulations (Designations of Areas for Air Quality Planning Purposes) for the states of Alaska, Idaho, Oregon, and Washington. Specifically, EPA is replacing each "entire state" or "remainder of state" entry with AQCR-specific listings in order to clarify that the "attainment" and "unclassifiable areas" are designated on the basis of air quality control regions (AQCRs), or portions thereof. This action does not change the

current attainment status of any area—it only reformats the listings by identifying each AQCR.

II. Administrative Review

The Office of Management and Budget has exempted this rule from the requirements of Section 3 of the Executive Order 12291.

Under section 307(b)(1) of the Act, petitions for judicial review of this action must be filed in the United States Courts of Appeals for the appropriate circuit by August 28, 1989. This action may not be challenged later in proceedings to enforce its requirement (See 307(b)(2)).

List of Subjects in 40 CFR Part 81

Air pollution control, National parks, Wilderness areas.

Date: June 15, 1989.

Robert S. Burd,

Acting Regional Administrator.

Part 81 of Chapter I, Title 40 of the Code of Federal Regulations is amended as follows:

PART 81—[AMENDED]

Subpart C—Section 107 Attainment Status Designations

1. The authority citation for Part 81 is as follows:

Authority: 42 U.S.C. 7401–7642.

2. Section 81.302 is revised to read as follows:

§ 81.302

Alaska.

ALASKA—TSP

Designated area	Does not meet primary standards	Does not meet secondary standards	Cannot be classified	Better than national standards
Cook Inlet Intrastate AQCR 8				X
Northern Alaska Intrastate AQCR 9				X
South Central Alaska Intrastate AQCR 10				X
Southeastern Alaska Intrastate AQCR 11				X

ALASKA—SO_2

Designated area	Does not meet primary standards	Does not meet secondary standards	Cannot be classified	Better than national standards
Cook Inlet Intrastate AQCR 8				X
Northern Alaska Intrastate AQCR 9				X
South Central Alaska Intrastate AQCR 10				X
Southeastern Alaska Intrastate AQCR 11				X

ALASKA—O_3

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Cook Inlet Intrastate AQCR 8		X
Northern Alaska Intrastate AQCR 9		X
South Central Alaska Intrastate AQCR 10		X
Southeastern Alaska Intrastate AQCR 11		X

ALASKA—CO

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Cook Inlet Intrastate AQCR 8		X
Northern Alaska Intrastate AQCR 9:		
Fairbanks	X	
Remainder of AQCR 9		X
South Central Alaska Intrastate AQCR 10:		
Anchorage	X	
Remainder of AQCR 10		X
Southeastern Alaska Intrastate AQCR 11		X

ALASKA—NO_2

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Cook Inlet Intrastate AQCR 8		X
Northern Alaska Intrastate AQCR 9		X
South Central Alaska Intrastate AQCR 10		X
Southeastern Alaska Intrastate AQCR 11		X

3. Section 81.313 is revised to read as follows:

§ 81.313 Idaho.

IDAHO—TSP

Designated area	Does not meet primary standards	Does not meet secondary standards	Cannot be classified	Better than national standards
Eastern Idaho Intrastate AQCR 61:				
Pocatello—12 square mile industrial area northwest of Pocatello	X			
Pocatello—336 square mile area from Schiller at the northwest to Inkom at southeast, including Pocatello.		X		
Soda Springs—4½ square mile area encompassing Conda and the surrounding industrial area	X			
Soda Springs—96 square mile area encompassing Soda Springs, Conda and the industrial area in between.		X		
Remainder of AQCR 61				X
Eastern Washington-Northern Idaho Interstate AQCR 62 (Idaho Portion):				
Silver Valley (Shoshone County)			X	
Lewiston		X		
Remainder of AQCR 62 (Idaho Portion)				X
Idaho Intrastate AQCR 63				X
Metropolitan Boise Intrastate AQCR 64				X

IDAHO—SO_2

Designated area	Does not meet primary standards	Does not meet secondary standards	Cannot be classified	Better than national standards
Eastern Idaho Intrastate AQCR 61:				
Pocatello				X
Remainder of AQCR 61				X
Eastern Washington-Northern Idaho Interstate AQCR 62 (Idaho Portion):				
Silver Valley (Shoshone County)			X	
Remainder of AQCR 62 (Idaho Portion)				X
Idaho Intrastate AQCR 63				X
Metropolitan Boise Intrastate AQCR 64				X

IDAHO—O_3

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Eastern Idaho Intrastate AQCR 61		X
Eastern Washington-Northern Idaho Interstate AQCR 62 (Idaho Portion)		X
Idaho Intrastate AQCR 63		X
Metropolitan Boise Intrastate AQCR 64		X

IDAHO—CO

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Eastern Idaho Intrastate AQCR 61		X
Eastern Washington-Northern Idaho Interstate AQCR 62 (Idaho Portion)		X
Idaho Intrastate AQCR 63:		

IDAHO—CO—Continued

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Boise	X	
Remainder of AQCR 63		X
Metropolitan Boise Intrastate AQCR 64		X

IDAHO—NO_2

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Eastern Idaho Intrastate AQCR 61		X
Eastern Washington-Northern Idaho Interstate AQCR 62 (Idaho Portion)		X
Idaho Intrastate AQCR 63		X
Metropolitan Boise Intrastate AQCR 64		X

4. Section 81.338 is revised to read as follows:

§ 81.338 Oregon.

OREGON—TSP

Designated area	Does not meet primary standards	Does not meet secondary standards	Cannot be classified	Better than national standards
Central Oregon Intrastate AQCR 190				X
Eastern Oregon Intrastate AQCR 1191				X
Northwest Oregon Intrastate AQCR 192				X
Portland Interstate AQCR 193 (Oregon Portion):				
Portland-Vancouver AQMA (portion of the Oregon portion)		X		
Eugene-Springfield AQMA		X		
Remainder of AQCR 193 (Oregon portion)				X
Southwest Oregon Intrastate AQCR 194:				
Medford-Ashland AQMA	X			
Reminder of AQMA 194				X

OREGON—SO_2

Designated area	Does not meet primary standards	Does not meet secondary standards	Cannot be classified	Better than national standards
Central Oregon Intrastate AQCR 190				X
Eastern Oregon Intrastate AQCR 191				X
Northwest Oregon Intrastate AQCR 192				X
Portland Interstate AQCR 193 (Oregon Portion)				X
Southwest Oregon Intrastate AQCR 194				X

OREGON—O_3

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Central Oregon Intrastate AQCR 190		X
Eastern Oregon Intrastate AQCR 191		X
Northwest Oregon Intrastate AQCR 192		X
Portland Interstate AQCR 193 (Oregon Portion):		
Portland-Vancouver AQMA (portions of the Oregon portion)	X	
Salem	X	
Eugene-Springfield AQMA		X
Remainder of AQCR 193 (Oregon Portion)		X
Southwest Oregon Intrastate AQCR 194		X
Medford-Ashland AMQMA		X

OREGON—O_3—Continued

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Remainder of AQCR 193		X

OREGON—CO

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Central Oregon Intrastate AQCR 190		X
Eastern Oregon Intrastate AQCR 191		X
Northwest Oregon Intrastate AQCR 192		X
Portland Interstate AQCR 193 (Oregon Portion):		X
Portland-Vancouver AQMA (portions of the Oregon Portion)	X	
Eugene-Springfield AQMA	X	
Remainder of AQCR 193 (Oregon Portion)		X
Southwest Oregon Intrastate AQCR 194:		
Medford (an area contained within the central commercial area of city)	X	
Grants Pass	X	
City of Salem	X	
Remainder of AQCR 194		X

OREGON—NO_2

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Central Oregon Intrastate AQCR 190		X
Eastern Oregon Intrastate AQCR 191		X
Northwest Oregon Intrastate AQCR 192		X
Portland Interstate AQCR 193 (Oregon Portion)		X
Southwest Oregon Intrastate AQCR 194		X

5. Section 81.348 is revised to read as follows:

§ 81.348 Washington.

WASHINGTON—TSP

Designated area	Does not meet primary standards	Does not meet secondary standards	Cannot be classified	Better than national standards
Eastern Washington-Northern Idaho Interstate AQCR 62 (Washington Portion):				
Spokane	X			
Clarkston		X		
Remainder of AQCR 62 (Washington Portion)				X
Portland Interstate AQCR 193 (Washington Portion):				
Longview—industrial area		X		
Vancouver—small portions of the industrial port area	X			
Remainder of AQCR 193 (Washington Portion)				X
Northern Washington Intrastate AQCR 227				X
Olympic-Northwest Washington Intrastate AQCR 228:				
Port Angeles—small area of the CBD				X
Remainder of AQCR 228				X
Puget Sound Intrastate AQCR 229 Seattle—that area including the north portion of the Duwamish industrial area, and extending to the southern boundary of the CBD.	X			
Seattle—an area of the Duwamish extending approximately 2½ miles further south than the above area.		X		
Renton		X		
Kent		X		
Tacoma—that area, including the Tide Flats industrial area, east end of the CBD and the north end of the South Tacoma Way corridor.	X			
Remainder of AQCR 229				X
South Central Washington Intrastate AQCR 230				X

WASHINGTON—SO_2

Designated area	Does not meet primary standards	Does not meet secondary standards	Cannot be classified	Better than national standards
Eastern Washington-Northern Idaho Interstate AQCR 62 (Washington Portion)				X
Portland Interstate AQCR 193 (Washington Portion)				X
Northern Washington Intrastate AQCR 227				X
Olympic-Northwest Washington Intrastate AQCR 228				X
Puget Sound Intrastate AQCR 229:				
Tacoma—a parabolic shaped area extending approximately 3½ miles SSW from the ASARCO copper smelter.			X	
Remainder of AQCR 229				X
South Central Washington Intrastate AQCR 230				X

WASHINGTON—O_3

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Eastern Washington-Northern Idaho, Interstate AQCR 62 (Washington Portion):		
Spokane		X [1]
Remainder of AQCR 62 (Washington Portion)		X
Portland Interstate AQCR 193 (Washington Portion):		
Portland-Vancouver AQMA Washington Portion)	X [1]	
Remainder of AQCR 193 (Washington Portion)		X
Northern Washington Intrastate AQCR 227		X
Olympic-Northwest Washington Intrastate AQCR 228		X
Puget Sound Intrastate AQCR 229:		
Greater Seattle-Tacoma Area—in general, from Puget Sound at the west to North Bend at the east, from Puyallup at the south to Edmonds at the north.		X
Remainder of AQCR 229		X
South Central Washington Intrastate AQCR 230		X

[1] EPA designation replaced State designation.

WASHINGTON—CO

Designated area	Does not meet primary standards	Cannot be classified	Better than national standards
Eastern Washington-Northern Idaho, Interstate AQCR 62 (Washington Portion):			
City of Spokane	X [1]		
Remainder of AQCR 62 (Washington Portion)			X
Portland Interstate AQCR 193 (Washington Portion)			X
Northern Washington Interstate AQCR 227			X
Olympic-Northwest Washington, Interstate AQCR 228			X
Puget Sound Intrastate AQCR 229:			
Seattle—Central Business District (CBD)	X		
Seattle—Dearborn Street and Rainier Avenue Corridor	X		
Seattle—University District	X		
Remainder of Seattle		X	
Bellevue-Central Business District (CBD)	X		
Remainder of Bellevue		X	
Tacoma-Central Business District (CBD)	X		
Remainder of Tacoma		X	
Everett		X	
Puyallup		X	
Auburn		X	
Remainder of AQCR 229			X
South Central Washington Intrastate AQCR 230:			
Yakima-portion of the Central Business District	X		
Remainder of AQCR 230			X

[1] EPA designation replaced State designation.

WASHINGTON—NO_2

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Eastern Washington-Northern Idaho, Interstate AQCR 62 (Washington Portion)		X
Portland Interstate AQCR 193 (Washington Portion)		X
Northern Washington Intrastate AQCR 227		X

WASHINGTON—NO_2—Continued

Designated area	Does not meet primary standards	Cannot be classified or better than national standards
Olympic-Northwest Washington, Intrastate AQCR 228		X
Puget Sound Intrastate AQCR 229		X
South Central Washington Intrastate AQCR 230		X

[FR Doc. 89–15056 Filed 6–28–89; 8:45 am]
BILLING CODE 6560–50–M

40 CFR Part 180

[OPP–300201; FRL–3609–6]

Updating of Definitions; Technical Amendments

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; technical amendments.

SUMMARY: This document updates two definitions listed in 40 CFR Part 180 to reflect the current citations in the references to the United States Code (U.S.C.) and the Code of Federal Regulations (CFR). These are merely technical amendments that impose no new regulatory requirements; therefore, advance notice and public comment are unnecessary.

EFFECTIVE DATE: June 29, 1989.

FOR FURTHER INFORMATION CONTACT:
Patricia Critchlow, Registration Division (H7505C), Environmental Protection Agency, 401 M Street SW., Washington, DC 20460
Office location and telephone number: Registration Support Branch, Room 716, CM #2, 1921 Jefferson Davis Highway, Arlington, VA, (703)–557–1806.

SUPPLEMENTARY INFORMATION: This document updates two definitions currently included in 40 CFR 180.1.

The definition of the term "pesticide chemical" in 40 CFR 180.1(k) is being amended to reflect current statutory language and to update the included citations referencing various statutory instruments. The definitive term "economic poison" and the citations "7 U.S.C. 135–135k," "§ 362.2," and "7 CFR 362.2" are being replaced by the definitive term "pesticide" and the citations "7 U.S.C. 136(u)," "§ 152.3," and "40 CFR 152.3."

EPA published in the **Federal Register** on December 29, 1986 (51 FR 46858), a final rule which amended 40 CFR 180.1 by adding new paragraph (n) to define the term "tolerance with regional registration." An included reference to certain sections of 40 CFR Part 180 was cited incorrectly as "40 CFR 189.101 through 180.999" but should have been cited as "40 CFR 180.101 through 180.999."

List of Subjects in 40 CFR Part 180

Administrat ve practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: June 19, 1989.

Franklin D. Gee,

Acting Director, Registration Division, Office of Pesticide Programs.

Therefore, the following technical amendments are made to 40 CFR Part 180:

PART 180—[AMENDED]

1. The authority citation for Part 180 continues to read as follows:

Authority: 21 U.S.C. 346a.

2. Section 180.1 is amended by revising paragraph (k) and by amending paragraph (n) in the third sentence by changing "40 CFR 189.101" to read "40 CFR 180.101" as follows:

§ 180.1 Definitions and interpretations.

* * * * *

(k) The term "pesticide chemical," as defined in section 201(q) of the act, means any substance which, alone, in chemical combination, or in formulation with one or more other substances, is a "pesticide" within the meaning of the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136(u)) and as defined in § 152.3 of regulations for its enforcement (40 CFR 152.3), as now in force or as hereafter amended, and which is used in the production, storage, or transportation of raw agricultural commodities.

* * * * *

[FR Doc. 89–15410 Filed 6–28–89; 8:45 am]
BILLING CODE 6560–50–M

40 CFR Part 180

[PP 8F3573/R1021; FRL 3609–7]

Pesticide Tolerances for Fluazifop-Butyl

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This rule establishes tolerances for residues of the resolved isomer of the herbicide fluazifop in or on pecans and stone fruits. This regulation to establish the maximum permissible level for residues of the herbicide in or on the raw agricultural commodities (RACs) was requested by ICI Americas, Inc.

EFFECTIVE DATE: June 16, 1989.

ADDRESS: Written objections may be submitted to the: Hearing Clerk (A–110), Environmental Protection Agency, Rm. 3708, 401 M St., SW., Washington, DC 20460.

FOR FURTHER INFORMATION CONTACT:
By mail: Lawrence J. Schnaubelt, Acting Product Manager (PM) 23, Registration Division (H–7505C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460.

Office location and telephone number: Rm. 237, Crystal Mall #2, 1921 Jefferson Davis Highway, Arlington, VA 22202, (703)–557–1830.

SUPPLEMENTARY INFORMATION: EPA issued a notice in the **Federal Register** of December 16, 1987 (52 FR 47754), that ICI Americas, Inc., Agricultural Products, Concord Pike & New Murphy Rd., Wilmington, DE 19897, had filed a pesticide petition (8F3573) with EPA. The petition proposed amending 40 CFR 180.411 by establishing a regulation to permit the residues of the herbicide [R]-2[4-[[5-(trifluoromethyl)-2-pyridinyl]oxy]phenoxy] propanoic acid (fluazifop), both free and conjugated, and of butyl [R]-2-[4-[[5-(trifluoromethyl)-2-pyridinyl]oxy]-phenoxy]propanoate (fluazifop-p-butyl), all expressed as fluazifop, in or on apples, grapes, pecans, and stone fruits at 0.03 part per million (ppm). The petitioner subsequently amended the

petition in the **Federal Register** of August 24,1988 (53 FR 32276), by increasing proposed levels for pecans, stone fruits, apples, and grapes to 0.05. The petitioner has since withdrawn the request for tolerances for apples and grapes.

There were no comments received in response to the initial or amended notice of filing.

The data submitted in the petition and other relevant material have been evaluated. The pesticide is considered useful for the purposes for which the tolerances are sought. The data submitted in support of the tolerances include:

1. Plant and animal metabolism studies.
2. A rat oral lethal dose (LD_{50}) with an LD_{50} of 3,300 milligrams (mg) per kilogram (kg) of body weight (bwt)
3. A rabbit subchronic dermal study (3-week) with a no-observed-effect level (NOEL) of 100 g/kg/day.
4. A 90-day rat feeding study with a NOEL of 0.5 mg/kg/day.
5. A 90-day dog feeding study with a NOEL of 25 mg/kg/day.
6. A rat teratology study with a teratogenic and maternal toxicity NOEL of 10 mg/kg/day (the teratogenic and maternal toxic level is 200 mg/kg/day (highest dose) with diaphragmatic hernia) and the fetotoxic NOEL of 1 mg/kg/day (Margin of Safety values are based on the developmental toxicity NOEL of 1 mg/kg/day).
7. A rabbit teratology study with no terata at 90 mg/kg/day (highest dose) and a fetotoxic NOEL of 10 mg/kg/day.
8. A two-generation rat reproduction study with a NOEL of 80 ppm (4 mg/kg/day).
9. A 2-year chronic feeding/oncogenicity study in rats with no observed oncogenic potential under conditions of the study up to and including 3.0 mg/kg/day (highest dose) and a systemic toxicity NOEL of 1 mg/kg/day.
10. An 18-month mouse chronic feeding/oncogenicity study with no observed oncogenic potential up to and including 3.0 mg/kg/day (highest dose) and a systemic toxicity NOEL of 1.0 mg/kg/day.
11. An Ames test (negative).
12. A rat cytogenetic study (negative).
13. An *in vitro* cell transformation assay (negative).
14. An acute delayed neurotoxicity study in hens (negative).
15. A 1-year dog feeding study with a NOEL of 5 mg/kg/day.

Based on a NOEL of 1.0 mg/kg/day in the 2-year rat feeding study and a hundredfold safety factor, the acceptable daily intake (ADI) has been set at 0.01 mg/kg bwt/day. The theoretical maximum residue contribution (TMRC) from existing tolerances is 0.002100 mg/kg bwt/day. The current action will increase the TMRC by 0.000012 mg/kg/day (an increase of 0.57 percent). Published tolerances utilize 20.993 percent of the ADI; the current action will utilize an additional 0.111 percent.

The nature of the residues is adequately understood, and an adequate analytical method, high-pressure liquid chromatography using an ultraviolet detector, is available in the Pesticide Analytical Manual, Vol. II (PAM–II), for enforcement purposes.

There are no regulatory actions pending against the registration of fluazifop-p-butyl. Based on the above information, the Agency concludes that the tolerances established by amending 40 CFR 180.411 will protect the public health. Established tolerances for meat, milk, poultry, and eggs are adequate to cover any secondary residues transferring to animal tissues as a result of the proposed use.

Any person adversely affected by this regulation may, within 30 days after publication of this document in the **Federal Register**, file written objections with the Hearing Clerk, at the address given above. Such objections should specify the provisions of the regulation deemed objectionable and the grounds for the objections. If a hearing is requested, the objections must state the issues for the hearing and the grounds for the objections. A hearing will be granted if the objections are supported by grounds legally sufficient to justify the relief sought.

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. 601–612), 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 (40 FR 24950).

List of Subjects in 40 CFR Part 180

Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: June 16, 1989.

Douglas D. Campt,

Director, Office of Pesticide Programs.

Therefore, 40 CFR Part 180 is 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 180.411(c) is amended by adding and alphabetically inserting the additional commodities, to read as follows:

§ 180.411 Fluazifop-butyl; tolerances for residues.

* * * * *

(c) * * *

Commodities	Part per million
* * * * *	
Pecans	0.05
* * * * *	
Stone fruits	0.05
* * * * *	

[FR Doc. 89–15412 Filed 6–28–89; 8:45 am]

BILLING CODE 6560–50–M

40 CFR Part 180

[PP 8F3694/R1031; FRL–3609–8]

Pesticide Tolerance for Chlorimuron Ethyl

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This rule establishes a tolerance for residues of the herbicide chlorimuron ethyl in or on the raw agricultural commodities (RACs) peanuts at 0.02 part per million (ppm) and peanut hulls at 0.05 ppm. This regulation was requested by E.I. du Pont de Nemours & Co., Inc., and establishes the maximum permissible level for residues of the herbicide on these RACs.

EFFECTIVE DATE: June 29, 1989.

ADDRESS: Written objections may be submitted to the: Hearing Clerk (A–110), Environmental Protection Agency, Rm. 2708, 401 M St., SW., Washington, DC 20460.

FOR FURTHER INFORMATION CONTACT:

By mail: Robert J. Taylor, Product Manager (PM) 25, Registration Division (H7505C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460.

Office location and telephone number: Rm. 243, CM #2, 1921 Jefferson Davis Highway, Arlington, VA 22202, (703)–557–1800.

SUPPLEMENTARY INFORMATION: EPA issued a notice, published in the **Federal Register** of February 22, 1989 (54 FR 7596), which announced that E.I. du Pont de Nemours & Co., had submitted pesticide petition 8F3694 proposing to amend 40 CFR Part 180 by establishing a regulation to permit the residues of the herbicide chlorimuron ethyl, ethyl 2-[[[[(4-chloro-6-methoxypyrimidin-2yl)amino]carbonyl] amino]sulfonyl]benzoate in or on peanut nutmeats at 0.05 ppm and peanut hulls at 0.1 ppm.

There were no comments received in response to the notice of filing.

The petitioner subsequently submitted a revised section F proposing establishment of tolerances for residues of chlorimuron ethyl in or on peanut nutmeats at 0.02 ppm and peanut hulls at 0.05 ppm. Because these tolerances do not result in any increased risk to humans over those previously filed, a period of public comment is not necessary.

The data submitted in the petition and other relevant material have been evaluated. The data considered in the petition include several acute studies, a 90-day feeding study in mice fed dosages of 0, 3.75, 18.75, 187.5, and 750 milligrams/kilogram/day (mg/kg/day) with a no-observable-effect level (NOEL) of 18.75 mg/kg/day; a 90-day feeding study in dogs fed dosages of 0, 2.5, 37.5, and 187.5 mg/kg/day with a NOEL of 2.5 mg/kg/day; a 1-year feeding study in dogs fed dosages of 0, 0.625, 6.25, and 37.5 mg/kg/day with a NOEL of 6.25 mg/kg/day; an 18-month chronic feeding study in mice fed dosages of 0, 1.875, 18.75, and 187.5 mg/kg/day with a NOEL of 18.75 mg/kg/day and no oncogenic effects observed under the conditions of the study at doses up to and including 187.5 mg/kg/day (highest dosage tested (HDT)); a chronic feeding (oncogenicity) study in rats fed 0, 1.25, 12.5, and 125 mg/kg/day with a NOEL of 12.5 mg/kg/day and no oncogenic effects observed under the conditions of the study at doses up to and including 125 mg/kg/day (HDT); a two-generation reproduction study in rats fed dosages of 0, 1.25, 12.5, and 125 mg/kg/day with a maternal NOEL of 12.5 mg/kg/day and a fetotoxic NOEL of 1.25 mg/kg/day; a teratology study in rats fed dosages of 0, 30, 150, and 600 mg/kg/day with a teratogenic NOEL of 150 mg/kg/day, a fetotoxic NOEL of 30 mg/kg/day, and a maternal toxicity NOEL of 30 mg/kg/day; a teratology study in rabbits fed dosages of 0, 15, 60, and 300 mg/kg/day with a maternal toxicity NOEL of 60 mg/kg/day, a fetotoxic NOEL of 15 mg/kg/day, and no teratogenic effects at 300 mg/kg/day (HDT); and a battery of mutagenicity testing (Ames test, *in vivo* bone marrow assay, and unscheduled DNA synthesis assay), all negative.

The acceptable daily intake (ADI) based on the two-generation rat reproduction study (NOEL of 1.25 mg/kg/day) and using a hundredfold safety factor is calculated to be 0.013 mg/kg/day. The theoretical maximum residue contribution (TMRC) for this tolerance for a 1.5-kg diet is calculated to be 0.000001 mg/day and will utilize 0.01 percent of the ADI. Published tolerances utilize 0.01 percent of the ADI.

No desirable data are lacking.

The nature of the residue is adequately understood, and an adequate analytical method (high-pressure liquid chromatography using a photoconductivity detector) is available for enforcement purposes.

Because of the long lead time from establishing this tolerance to publication of the enforcement methodology in the Pesticide Analytical Manual II, an interim analytical methods package is being made available to State pesticide enforcement chemists when requested from:

By mail: Calvin Furlow, Public Information Branch, Field Operations Division (H7506C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. *Office location and telephone number:* Rm. 242, CM#2, 1921 Jefferson Davis Highway, Arlington, VA 22202, (703)–557–4432.

There are currently no actions pending against registration of this chemical. Negligible secondary residues are expected to occur in meat, milk, poultry, or eggs from this use.

Based on the information considered by the Agency, it is concluded that the tolerance will protect the public health and is established as set forth below.

Any person adversely affected by this regulation may, within 30 days after the date of publication in the **Federal Register**, file written objections with the Hearing Clerk, Environmental Protection Agency, Rm. M–3708 (A–110), 401 M St., SW., Washington, DC 20460. Such objections should be submitted in quintuplicate and specify the provisions of the regulation deemed objectionable and the grounds for the objections. If a hearing is requested, the objections must state the issues for the hearing. A hearing will be granted if the objections are legally sufficient to justify the relief sought.

The Office of Management and Budget (OMB) has exempted this regulation from OMB requirements of Executive Order 12291 pursuant to section 8(b) of that Order.

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 significant economic impact on substantial number of small entities. A certification statement to this effect was published in the **Federal Register** of May 4, 1981 (46 FR 24950).

(Sec. 408(d)(2), 68 Stat. 512 (21 U.S.C. 346a(d)(2)).)

List of Subjects in 40 CFR Part 180

Administrative practice and procedure, Agricultural commodities, Pesticides and pests.

Dated: June 16, 1989.

Douglas D. Campt,

Director, Office of Pesticide Programs.

PART 180—[AMENDED]

Therefore, 40 CFR Part 180 is amended as follows:

1. The authority citation continues to read as follows:

Authority: 21 U.S.C. 346a and 371.

2. By revising § 180.429, to read as follows:

§ 180.429 Chlorimuron ethyl; tolerance for residues.

A tolerance is established for the residues of the herbicide chlorimuron ethyl [ethyl 2-[[[[(4-chloro-6-methoxypyrimidin-2yl) amino]carbonyl]amino]s ulfonyl]benzoate] in or on the following raw agricultural commodities:

Commodities	Parts per million
Peanuts	0.02
Peanut, hulls	0.05
Soybeans	0.05

[FR Doc. 89–15411 Filed 6–28–89; 8:45 am]

BILLING CODE 6560–50–M

40 CFR Part 414

[FRL 3577-9]

Organic Chemicals, Plastics and Synthetic Fibers Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule; technical amendments and revocation of regulations.

SUMMARY: EPA is amending 40 CFR Part 414 to correct errors in the effluent limitations guidelines, pretreatment standards, and new source performance standards for the organic chemicals, plastics and synthetic fibers (OCPSF) manufacturing point source category; and to revoke limitations for bis (2-chloroisopropyl) ether in accordance with an order issued by the U.S. Court of Appeals for the Fifth Circuit.

EFFECTIVE DATE: This amendment is effective June 29, 1989.

FOR FURTHER INFORMATION CONTACT: Elwood H. Forsht, Project Officer, Chemicals Industry Branch, Industrial Technology Division (WH-552), Environmental Protection Agency, 401 M Street, SW., Washington, DC 20406; (202) 382-7190.

SUPPLEMENTARY INFORMATION: On November 5, 1987, EPA promulgated regulations for the organic chemicals, plastics, and synthetic fibers (OCPSF) manufacturing point source category (52 FR 42522).

I. Correction of Technical Errors

Today's amendments to the July 1, 1988 Code of Federal Regulations correct typographical errors and delete misleading language regarding the applicability of the OCPSF regulations in Appendices A and B to Part 414.

The effluent limitations listed in § 414.91 include duplicate entries for two pollutants. The second entry for 1,2-dichloroethane is corrected to read 1,1-dichloroethane; the second entry for 1,1,1-trichloroethane is corrected to read 1,1,2-trichloroethane.

The final regulations apply to wastewater discharges from the manufacture of OCPSF product/processes. See 40 CFR 414.11(a). OCPSF manufacture consists of chemical syntheses such as esterification, hydroacetylation, and oxidation and chemical engineering processes such as distillation and extraction. See Industry Description—Section III of the October 1987 "Development Document for Effluent Limitations and Standards for the Organic Chemicals, Plastics, and Synthetic Fibers Point Source Category," (EPA 440/1-87/009). In contrast, the regulations do not apply to the formulation of chemical products through blending and mixing operations. See page 102478, Vol. I-30 of the 1987 OCPSF Public Record. Therefore, since the OCPSF regulations do not apply to production consisting exclusively of blending, mixing and formulation of purchased raw materials, several references purporting to include or exclude blending and mixing operations in Appendices A and B were erroneous and hence are being deleted.

II. Revocation of Bis (2-chloroisopropyl) ether Limitations

In accordance with an order issued by the United States Court of Appeals for the Fifth Circuit on June 27, 1988, the Environmental Protection Agency today revokes the bis (2-chloroisopropyl) ether limitations of 40 CFR Part 414 promulgated on November 5, 1987 (52 FR 42522).

As a result of the Agency's review of the data base occasioned by the petitions for review filed in the Fifth Circuit Court of Appeals (No. 87-4849, *et al.*), the Agency has determined that it has committed procedural errors in promulgating the effluent limitations guidelines and standards for bis (2-chloroisopropyl) ether. Upon consideration of these errors, EPA has concluded that reconsideration of the effluent limitations guidelines and standards for this pollutant is warranted.

EPA will either decide to re-promulgate effluent limitations guidelines and standards for this pollutant (after notice and comment), or alternatively, determine that national regulation of this pollutant is unwarranted. Until any new effluent limitations guidelines and standards are promulgated, any decision as to whether and how to regulate this pollutant at a particular direct discharging plant would be made by a permit-issuing authority on a case-by-case basis, as provided by section 402 of the Clean Water Act, 33 U.S.C. 1342.

The order issued by the United States Court of Appeals for the Fifth Circuit requires EPA to revoke the bis (2-chloroisopropyl) ether limitations. Therefore, the Agency finds that public participation in this revocation is unnecessary and contrary to the public interest. The amendment set forth below is to be effective June 29, 1989.

III. Executive Order 12291

Executive Order 12291 requires EPA and other agencies to perform regulatory analyses of major regulations. Major rules are those which impose a cost on the economy of $100 million or more annually or have certain other economic impacts. This action is not a major rule because it merely corrects errors and revokes a portion of an existing regulation and imposes no new requirements; thus, it meets none of the criteria of a major rule as set forth in section 1(b) of the Executive order. This rule was submitted to the Office of Management and Budget for review.

IV. Regulatory Flexibility Analysis

The Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.*, requires EPA and other agencies to prepare an initial regulatory flexibility analysis for all proposed regulations that have a significant impact on a substantial number of small entities. No regulatory flexibility analysis is required, however, where the head of the Agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Based on the reasons discussed in the preceding paragraph, I hereby certify, pursuant to 5 U.S.C. 605(b), that this regulation will not have a significant impact on a substantial number of small entities.

V. Paperwork Reduction Act

In accordance with the Paperwork Reduction Act of 1980, 44 U.S.C. 3500 *et seq.*, EPA must submit a copy of any rule that contains a collection of information requirement to the Director of the Office of Management and Budget for review and approval. This correction and revocation notice contains no additional information collection requirements, and therefore the Paperwork Reduction Act is not applicable.

VI. List of Subjects in 40 CFR Part 414

Organic chemicals manufacturing, Plastics manufacturing, Synthetic fibers manufacturing, Water pollution control, Water treatment and disposal.

Dated: June 26, 1989.

William K. Reilly,

Administrator.

For the reasons set out in the Preamble, 40 CFR Part 414 is amended as set forth below.

PART 414—ORGANIC CHEMICALS, PLASTICS, AND SYNTHETIC FIBERS

40 CFR Part 414 is amended as follows:

§ 414.91 [Amended]

1. In § 414.91, rows 11 and 12 in the table for "Effluent characteristics, Maximum for any one day," and

"Maximum for monthly average," which read,

"1,2-Dichloroethane—59—22
1,1,1-Trichloroethane—54—21"

are revised to read as follows:

"1,1-Dichloroethane—59—22
1,1,2-Trichloroethane—54—21."

Appendix A to Part 414 [Amended]

2. In Part 414 Appendix A, the third item under "Lead" which reads, "Anti-knock fuel additive/Blending purchased tetraethyl lead & tetramethyl lead additives" is removed.

Appendix B to Part 414 [Amended]

3. In Part 414 Appendix B, the second item under "Chromium" which reads, "Vat Dyes/Mixing purchased dyestuffs (Anthraquinones, polycyclic Quinones and Indigoids)" is revised to read as follows: "Vat dyes."

4. In Part 414 Appendix B, the second item under "Copper" which reads, "Vat Dyes/Mixing purchased dyestuffs (Anthraquinones, polycyclic Quinones and Indigoids)" is removed.

§ 414.91 [Amended]

5. In § 414.91, row 29 in the table for "Effluent characteristics, Maximum for any one day," and "Maximum for monthly average," which reads, "Bis (2-chloroisopropyl) ether—757—301," is removed.

§ 414.101 [Amended]

6. In § 414.101, row 25 in the table for "Effluent characteristics, Maximum for any one day," and "Maximum for monthly average," which reads, "Bis (2-chloroisopropyl) ether—794—196," is removed.

[FR Doc. 89-15418 Filed 6-28-89; 8:45 am]
BILLING CODE 6560-50-M

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40 CFR Part 799

[OPTS-42113; FRL-3609-2]

Technical Amendments to Test Rules and Consent Orders

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Pursuant to 40 CFR 790.55 and 790.68, EPA has approved by letter certain modifications to test standards and schedules for chemical testing programs under section 4 of the Toxic Substances Control Act (TSCA). These modifications, requested by test sponsors, will be incorporated and codified in the respective test regulation or consent order. Because these modifications do not significantly alter the scope of a test or significantly change the schedule for its completion, EPA approved these requests without seeking notice and comment. EPA will annually publish a notice describing all of the modifications granted by letter for the previous year. This is the first such annual notice.

EFFECTIVE DATE: This rule is effective on June 29, 1989.

FOR FURTHER INFORMATION CONTACT: Michael M. Stahl, Director, TSCA Assistance Office (TS-799), Office of Toxic Substances, Rm. EB-44, 401 M St., SW., Washington, DC 20460, (202) 554-1404, TDD (202) 554-0551.

SUPPLEMENTARY INFORMATION: EPA issued an interim final rule published in the **Federal Register** of September 30, 1987 (52 FR 36569), amending procedures for modifying test standards and schedules for test rules and testing consent orders under section 4 of TSCA. The amended procedures allow EPA to approve requested modifications which do not alter the scope of a test or significantly change the schedule for its completion. These modifications were approved by letter without the need for public comment. The rule also requires immediate placement of these letters in EPA's public files and publication of these modifications in the **Federal Register.** This document includes modifications approved through October 1, 1988. For a detailed description of the rationale for these modifications, refer to the submitters' letters and EPA's responses in the public record for this rulemaking.

I. Discussion of Modifications

Each chemical discussed in this rule is identified by a specific docket number. Copies of correspondence relating to these modifications may be found in docket number (OPTS-42113) or the chemical-specific docket established for this rule. The chemicals and docket numbers are:

Anthraquinone (CAS No. 84-65-1)	[OPTS-42113/42076B]
Biphenyl (CAS No. 92-52-4)	[OPTS-42113/42031D]
1,2,4,5-Tetrachlorobenzene (CAS No. 95-94-3	[OPTS-42113/47002I]
Cresols (CAS Nos. 95-48-7, 108-39-4, and 106-44-5)	[OPTS-42113/42033E]
1,2-Dichloropropane (CAS No. 78-87-5)	[OPTS-42113/42043D]
Diethylenetriamine (CAS No. 111-40-0)	[OPTS-42113/42012F]
Diethylene glycol butyl ether and diethylene glycol butyl ether acetate (CAS Nos. 112-34-5 and 124-17-4)	[OPTS-42113/42085C]
Fluoroalkenes (vinyl fluoride, vinylidene fluoride, tetrafluoroethene, and hexafluoropropene, CAS Nos. 75-02-5, 75-38-7, 116-14-3, and 116-15-4)	[OPTS-42113/42002I]
C9 Aromatic hydrocarbon fraction	[OPTS-42113/42034E]
Hydroquinone (CAS No. 123-31-9)	[OPTS-42113/42048E]
Tetrabromobisphenol A (CAS No. 79-94-7)	[OPTS-42113/42083B]
3,4-Dichlorobenzotrifluoride (CAS No. 328-84-7)	[OPTS-42113/42089A]
Methyl tertiary butyl ether (CAS No. 1634-04-4)	[OPTS-42113/42098B]

A. Anthraquinone

EPA approved a modification to the test rule in 40 CFR 799.500 for anthraquinone. The modification granted a 3-month extension of reporting deadlines for three Tier I tests. The deadline for final reports for water solubility, fish acute toxicity, and invertebrate acute toxicity tests was extended to October 21, 1988.

B. Biphenyl

EPA approved modifications to the test rule in 40 CFR 799.925 for biphenyl. Modifications to the study plans "Biphenyl: Flow-Through Chronic Toxicity Test with *Daphnia magna* Straus," and "Biphenyl: Embryo-Larval Toxicity Test with Rainbow Trout, *Salmo gairdneri* Richardson," include additions of dates and signatures, changes in personnel, and updated purity data on the test substance and trout diet. An additional modification to these study plans clarified the procedures for using acetone as a carrier for biphenyl in both tests.

EPA also approved modifications to the final study plan for the partitioning water/sediment testing and biodegradation testing of biphenyl. These included changes in personnel and minor clarifications describing the core-sampling equipment and solvent extraction procedures. Additional modifications to this study plan regarding coring equipment and chemicals used to perform the testing were approved. EPA approved the sponsor's request to divide the reporting phases for these studies differently; from partitioning, aerobic, and anaerobic studies, to river partitioning and aerobic studies, lake partitioning and aerobic studies, and anaerobic studies.

EPA approved changes in test schedules. The deadline for submission of the final report for anaerobic biodegradation testing was extended 8 weeks to October 7, 1988. The deadline

for submission of the final report from the river partitioning test was extended from April 15, 1988, to June 1, 1988. The deadline for submission of the final report for the lake partitioning test was extended from April 15, 1988, to July 15, 1988.

C. 1,2,4,5-Tetrachlorobenzene

EPA approved a modification to the test rule in 40 CFR 799.1054 for 1,2,4,5-tetrachlorobenzene. The modification allows a 3-month extension of the reporting deadline for submission of the final report for the reproductive effects and fertility study. The deadline was extended from January 21, 1989, to April 21, 1989.

D. Cresols

EPA approved modifications to the test rule in 40 CFR 799.1250 for cresols. Two extensions to the in vivo mammalian bone marrow cytogenetics test were granted. The first extended the reporting deadline 3 months, the second extended it an additional 2 months. The deadline for the final report was extended to February 1, 1989.

A 5-month extension of the reporting schedule for the morphologic transformation of mammalian cells in culture assay was granted. The deadline for the final report was extended to November 28, 1988.

E. 1,2-Dichloropropane

EPA approved modifications to the test rule in 40 CFR 799.1550 for 1,2-dichloropropane (1,2-DCP). The modifications to the oral/inhalation pharmacokinetics test included the following: Allow the use of a test substance that is slightly less than 99 percent pure; allow the use of prior repeated dosing studies in the selection of high dose gavage and inhalation concentrations, and state that overt toxicity need not be elicited by the single exposure given in the pharmacokinetics study; make intervals used for collection of excreta as described in the test guideline consistent with one another; allow determination of parent compound concentration in blood used in kinetic studies to be obtained from test animal groups F through H instead of groups C through E; and allow pooling of samples from each animal per time point for the analytical determination of parent compound and metabolite identification when determining biotransformation after oral and inhalation exposure. The deadline for submission of the final pharmacokinetics report was extended 5 months to April 19, 1989.

The modifications to the algal acute toxicity tests included the following: Allow the use of a 5-day test; require monitoring of algal growth on days 2, 3, 4 and 5; eliminate the requirement to measure the 1,2-DCP concentration associated with algae; eliminate the 30-minute transition period between light and dark cycles; allow hand shaking of culture flasks; and require reporting of the 5-day EC10, EC50 and EC90 and 95 percent confidence limits and, if they can be determined, the 2, 3, and 4 day EC50,s and confidence limits.

The modification to the dominant lethal assay extends the deadline for submission of the final report 6 months to May 19, 1989.

F. Diethylenetriamine

EPA approved modifications to the test rule in 40 CFR 799.1575 for diethylenetriamine (DETA). Modifications included changes in personnel, changes in instrumentation for tests, a modification to the purity of the test substance used in chemical fate testing and dermal absorption study plans, non-substantive technical modifications to the study plan for the 90-day subchronic dietary toxicity study, and substitution of test lots of DETA used in dermal absorption, in vitro cytogenetics, in vivo cytogenetics and the sex-linked recessive lethal test in *Drosophila melanogaster*.

EPA also approved modifications to test schedules for the DETA test rule. The deadline for submission of the dermal absorption final study was extended 6 months to May 19, 1989. The deadline for submission of the chemical fate test final reports was extended 6 months to March 20, 1989.

G. Diethylene Glycol Butyl Ether and Diethylene Glycol Butyl Ether Acetate

EPA approved modifications to the test rule in 40 CFR 799.1560 for diethylene glycol butyl ether and its acetate (DGBE and DGBA). The modifications permit use of test animals of both sexes in the dermal pharmacokinetics test, and require that four animals per sex per dose group shall be used in the determination of absorption, biotransformation and excretion.

H. Fluoroalkenes

EPA approved modifications to the test rule in 40 CFR 799.1700 for fluoroalkenes. In the CHO/HPRT gene mutation assay, EPA approved use of nitrogen as the negative control and diluting gas, a 10 L/min flow rate, and an 18- to 19-hour treatment time for the non-activated portion of the test. A modification to the test schedule, extending the deadline for submission of final reports from January 22, 1988, to May 16, 1988, was also approved.

In the sex-linked recessive lethal tests with vinyl fluoride and vinylidene fluoride, EPA approved two extensions of the deadline for submission of final reports. The deadline was extended to August 15, 1988.

In the dominant lethal assay, EPA approved two 3-month extensions of the deadline for submission of final reports for hexafluoropropene and vinyl fluoride. The deadline was extended to October 22, 1988.

In the mouse micronucleus cytogenetics assay, EPA approved the use of a single exposure of 6 hours with three sampling times in the testing regimen for tetrafluoroethene and vinylidene fluoride. Two modifications to the test schedule for vinylidene fluoride, extending the date for submission of the final report 1 month and 5 months respectively, were approved. The deadline was extended to November 22, 1988.

I. C9 Aromatic Hydrocarbon Fraction

EPA approved a modification to the test rule in 40 CFR 799.2175 for the C9 aromatic hydrocarbon fraction. The modification extends the required reproductive effects test from a two-generation to a three-generation study.

J. Hydroquinone

EPA approved modifications to the test rule in 40 CFR 799.2200 for hydroquinone. Standards for developmental toxicity testing and reproductive effects testing were modified to require the use of TSCA test guidelines, published on May 20, 1987 (52 FR 19056), instead of the previously specified protocols included as part of study plans submitted by industry on June 15, 1983.

Other modifications include: (1) Changes in housing of animals in the toxicokinetic test; (2) changes in examination of tissues in neuropathology designed to increase sensitivity of the test; (3) the use of special staining and tissue sections in the neuropathologic examination; (4) the addition of two animals per treatment group and the measurement of whole-brain weight on perfused tissue without requiring whole-brain length and width measurements; and (5) alterations in the procedures for fixation of tissues in the neuropathology studies. EPA also approved modifications to the neurotoxicity test schedules. A 120-day extension was approved. The deadline for submission of final reports was extended to November 11, 1988.

K. Tetrabromobisphenol A

EPA approved modifications to the test rule in 40 CFR 799.4000 for tetrabromobisphenol A. Deadlines for the biodegradation test in sediment/water, inherent biodegradation in soil tests, and bioconcentration in fish tests were extended 6 months to February 19, 1989.

The deadline for the acute algal toxicity test and the acute fish toxicity test was extended 3 months to November 19, 1988.

Modifications were made to the fish early life stage toxicity test. These included a change in feeding of test animals, a change in the concentration of dissolved oxygen in the dilution water, and changes in the photoperiod for the trout early life stage test.

L. 3,4-Dichlorobenzotrifluoride

EPA approved modifications to test schedules for 3,4-dichlorobenzotrifluoride (DCBTF); these schedules were specified in the consent order signed on June 10, 1987. This chemical is listed in the table of consent orders at 40 CFR 799.5000.

The modifications extended reporting deadlines for algal acute and ready biodegradability tests 3 months to June 9, 1988. They extended reporting deadlines for acute gammarid, fathead minnow, and rainbow trout tests 4 months to July 9, 1988.

M. Methyl Tertiary Butyl Ether

EPA approved modifications to the test standards for methyl tertiary butyl ether; these standards were specified in the consent order signed on March 16, 1988. This chemical is listed in the table of consent orders at 40 CFR 799.5000. The changes clarify when radioactive or non-radioactive test compounds may be used, and how and when the radioactive material should be measured after administration to the test animals.

II. Public Record

EPA has established a public record for this rulemaking (docket number OPTS–42113). The record includes the information considered by EPA in evaluating the requested modifications.

The record is available for inspection from 8 a.m. to 4 p.m., Monday through Friday, except legal holidays, in Rm. G–004, NE Mall, 401 M St., SW., Washington, DC 20460.

III. Other Regulatory Requirements

A. Executive Order 12291

Under Executive Order 12291, EPA must judge whether a rule is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. This rule, listing modifications of test standards and schedules for tests required under test rules and testing consent agreements under the authority of section 4 of TSCA, is not major because it does not meet any of the criteria set forth in section 1(b) of the Order.

This rule was submitted to the Office of Management and Budget (OMB) for review as required by Executive Order 12291. Any written comments from OMB to EPA, and any EPA response to those comments, are included in the rulemaking record.

B. Regulatory Flexibility Act

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, Pub. L. 96–354, September 19, 1980), EPA is certifying that this rule will not have a significant impact on a substantial number of small businesses because the modifications listed in this rule have been made to expedite the development of test data and to reduce certain paperwork burdens associated with current regulations.

C. Paperwork Reduction Act

The information collection requirements associated with this rule have been approved by OMB under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* and have been assigned OMB control number 2070–0033.

EPA has determined that this rule does not change existing recordkeeping or reporting requirements nor does it impose any additional recordkeeping or reporting requirements on the public.

Send comments regarding this rule to Chief, Information Policy Branch, PM–223, U.S. Environmental Protection Agency, 401 M St., SW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

List of Subjects in 40 CFR Part 799

Testing, Environmental protection, Hazardous substances, Chemicals, Recordkeeping and reporting requirements, Incorporation by reference.

Dated: June 19, 1989.

Victor J. Kimm,

Acting Assistant Administrator for Pesticides and Toxic Substances.

PART 799—[AMENDED]

Therefore, 40 CFR Part 799 is amended as follows:

1. The authority citation for Part 799 continues to read as follows:

Authority: 15 U.S.C. 2603, 2611, 2625.

2. In § 799.500, by revising paragraphs (c) (1)(ii)(A), (2)(ii)(A), and (3)(ii)(A) to read as follows:

§ 799.500 Anthraquinone.

* * * * *

(c) * * *

(1) * * *

(ii) * * *

(A) The water solubility tests shall be completed and the final results submitted to EPA within 15 months of the effective date of the final rule.

* * * * *

(2) * * *

(ii) * * *

(A) The fish acute toxicity tests shall be completed and the final results submitted to EPA within 15 months of the effective date of the final rule.

* * * * *

(3) * * *

(ii) * * *

(A) The invertebrate acute toxicity tests shall be completed and the final results submitted to EPA within 15 months of the effective date of the final rule.

* * * * *

3. In § 799.925, by revising paragraphs (c) (1)(ii), (2)(ii), (d) (1)(ii), (2) (ii) and (iii), (3) (ii) and (iii) to read as follows:

§ 799.925 Biphenyl.

* * * * *

(c) * * *

(1) * * *

(ii) *Test standard.* The test shall be conducted in accordance with the revised EPA-approved modified study plan submitted to EPA by the Biphenyl Work Group: "Embryo-Larval Toxicity Test with Rainbow Trout, *Salmo gairdneri* Richardson." This revised EPA-approved modified study plan, with modifications approved by EPA on August 7, 1987, and October 16, 1987, is available for inspection in EPA's OPTS Reading Room, Rm. NE G–004, 401 M St. SW., Washington, DC 20460. Copies of this study plan are available to the public in the OPTS reading room.

* * * * *

(2) * * *

(ii) *Test standard.* The test shall be conducted in accordance with the revised EPA-approved modified study plan submitted to EPA by the Biphenyl Work Group: "Flow-Through Chronic Toxicity Test with *Daphnia magna* Straus." This revised EPA-approved modified study plan, with modifications approved by EPA on August 7, 1987, and October 16, 1987, is available for inspection in EPA's OPTS Reading Room, Rm. NE G–004, 401 M St. SW., Washington, DC 20460. Copies of this

study plan are available to the public in the OPTS reading room.

* * * * *

(d) * * *

(1) * * *

(ii) *Test standard.* The testing shall be conducted in accordance with the revised EPA-approved modified study plan submitted to EPA by the Biphenyl Work Group: "Aerobic Biodegradation Study." This revised EPA-approved modified study plan, with modifications approved by EPA on October 13, 1987, is available for inspection in EPA's OPTS Reading Room, Rm. NE G–004, 401 M St. SW., Washington, DC 20460. Copies of this study plan are available to the public in the OPTS reading room.

* * * * *

(2) * * *

(ii) *Test standard.* The testing shall be conducted in accordance with the revised EPA-approved modified study plan submitted to EPA by the Biphenyl Work Group: "Anaerobic Biodegradation Study." This revised EPA-approved modified study plan, with modifications approved by EPA on October 13, 1987, is available for inspection in EPA's OPTS Reading Room, Rm. NE G–004, 401 M St. SW., Washington, DC 20460. Copies of this study plan are available to the public in the OPTS reading room.

(iii) *Reporting requirements.* The anaerobic biodegradation study with biphenyl shall be completed and a final report submitted to EPA within 64 weeks of the effective date of the final Phase II rule. Progress reports shall be submitted at 6-month intervals beginning 6 months after the effective date of the final Phase II rule.

(3) * * *

(ii) *Test standard.* The testing shall be conducted in accordance with the revised EPA-approved modified study plan submitted to EPA by the Biphenyl Work Group: "Partitioning Water/Sediment Study." This revised EPA-approved modified study plan, with modifications approved by EPA on October 13, 1987, is available for inspection in EPA's OPTS Reading Room, Rm. NE G–004, 401 M St., SW., Washington, DC 20460. Copies of this study plan are available to the public in the OPTS reading room.

(iii) *Reporting requirements.* The partitioning water/sediment testing shall be completed and a final report submitted to EPA BY June 1, 1988, for the river test, and by July 15, 1988, for the lake test. Progress reports shall be submitted to EPA at 6-month intervals beginning 6 months after the effective date of the final Phase II rule.

* * * * *

4. In § 799.1054, by revising paragraph (c)(1)(ii)(A) to read as follows:

§ 799.1054 1,2,4,5-Tetrachlorobenzene.

* * * * *

(c) * * *

(1) * * *

(ii) * * *

(A) The reproduction and fertility test shall be completed and the final results submitted to EPA within 32 months of the effective date of this final rule.

* * * * *

5. In § 799.1250, by revising paragraphs (c) (1)(iii)(A)(*1*) and (3)(iii)(A) to read as follows:

§ 799.1250 Cresols.

* * * * *

(c) * * *

(1) * * *

(iii) * * *

(A) * * *

(*1*) The *in vitro* and *in vivo* (conditional) tests shall be completed and the final results submitted to EPA within 12 and 19 months, respectively, of the effective date of the final Phase II test rule.

* * * * *

(3) * * *

(iii) * * *

(A) The morphologic transformation of mammalian cells in culture assay shall be completed and final results submitted to EPA within 17 months of the effective date of the final Phase II test rule.

* * * * *

6. In § 799.1550, by revising paragraphs (c) (2)(iii)(A), (5) (ii) and (iii)(A), and (d)(2)(ii) to read as follows:

§ 799.1550 1,2-Dichloropropane.

* * * * *

(c) * * *

(2) * * *

(iii) * * *

(A) The dominant lethal assay shall be completed and the final report submitted to EPA within 18 months of the effective date of the final Phase II rule.

* * * * *

(5) * * *

(ii) *Test standard.* (A) The oral and inhalation pharmacokinetic testing with 1,2-dichloropropane shall be conducted in accordance with § 795.230 of this chapter, except for the provisions in paragraphs (c)(2) (i), (ii) (A) and (B), (iii) (C) and (D), and (3)(ii) of § 795.230.

(B) For the purpose of this section, the following provisions also apply:

(*1*) *Test Substance.* The studies require the use of both non-radioactive and ^{14}C-labeled test substance. The non-radioactive test substance shall be at least 99 percent pure, while the radiochemical purity of the ^{14}C-labeled test substance may be slightly less than 99 percent. Both preparations are needed to investigate the provisions of paragraph (a)(2) of this section. The use of ^{14}C-test substance is recommended for the provisions in paragraph (a)(1), (2), and (3) of this section in order to facilitate the work, improve the reliability of quantitative determinations, and increase the probability of observing previously unidentified metabolites.

(*2*) *Oral study.* At least two doses shall be used in the study, a "low" and "high" dose. When administered orally, the "high" doses should induce some overt toxicity such as weight loss. If data from prior repeated dosing studies is utilized to select the "high" dose, overt toxicity need not be elicited in this exposure group. The "low" dose shall not induce observable effects attributable to the test substance. Oral dosing shall be performed by gavage using an appropriate vehicle.

(*3*) *Inhalation study.* Three concentrations shall be used in the study. Upon exposure, two higher concentrations should ideally induce some overt symptoms of toxicity, although the intermediate concentration may be excluded from this condition. If data from prior repeated dosing studies is utilized to select the high dose, overt toxicity need not be elicited in this exposure group. The lowest concentration shall not induce observable effects attributable to the test substance.

(*4*) *Collection of excreta.* After oral administration (Groups A and B) and inhalation exposure (Groups F through H) the rats shall be placed in individual metabolic cages and excreta (urine, feces and expired air) shall be collected from 0 to 24 hours and from 24 to 48 hours after dosing and, if necessary, daily thereafter until at least 90 percent of the dose has been excreted or until 7 days after dosing, whichever occurs first.

(*5*) *Kinetic studies.* Groups C through E should be used to determine the concentration of the test substance in blood at 0, 5, 10, 15, and 30 minutes, and at 1, 2, 4, 8, 16, 24, and 48 hours after initiation of inhalation exposure. If experimentally feasible, blood obtained from the ^{14}C-exposed rats from Groups F through H may be used to determine the test substance concentrations.

(*6*) *Biotransformation after oral and inhalation exposure.* Appropriate qualitative and quantitative methods shall be used to assay urine specimens collected from each rat in Groups A and

B and F through H. The radiometric analyses of urine, feces and expired air should be conducted individually for each rat, but samples from each rat per time point may be pooled for analytical determination of parent compound and metabolite identification. Metabolite identification shall be attempted for those routes of excretion which contain greater than 10 percent of the oral dose or, in the inhalation study, greater, than 10 percent of the body burden at the end of exposure.

(iii) * * *

(A) The pharmacokinetic test shall be completed and the final report submitted to EPA within 17 months of the effective date of the final single-phase pharmacokinetics rule.

* * * * *

(d) * * *

(2) * * *

(ii) *Test standard.*

(A) The algal acute toxicity tests with 1, 2-dichloropropane shall be conducted with marine and freshwater algae using systems that control for 1,2-dichloropropane evaporation in accordance with § 797.1050 of this chapter, except for the provisions in paragraph (c)(1)(ii), (3)(iii), (4)(iv), (6)(i)(B), (d)(3)(ii) and (iii), (e)(4) and (5) of § 797.1050.

(B) For the purpose of this section, the following provisions shall also apply to the algal acute toxicity tests:

(*1*) At 48, 72, 96, and 120 hours, enumerate the algal cells in all containers to determine the inhibition or stimulation of growth in test containers compared to controls. Use data to define the concentration-response curve, and calculate the EC_{10}, EC_{50}, and EC_{90} values.

(*2*) The test is performed once for each of the recommended algal species or selected alternates. Test chambers should contain equal volumes of test solution and approximately 1×10^4 *Selenastrum* cells/ml or 7.7×10^4 *Skeletonema* cells/ml of test solution. The algae should be exposed to each concentration of test chemical for up to 120 hours. The exposure period may be shortened if data suitable for the purposes of the range-finding tests can be obtained in less time.

(*3*) The test begins when algae from 7 to 10-day-old stock cultures are placed in the test chambers containing test solutions having the appropriate concentrations of the test substance. At the end of 120 hours, the algal growth response (number or weight of algal cells/ml) in all test containers and controls should be determined by an indirect (spectrophotometry, electronic cell counters, dry weight, etc.) or a direct (actual microscopic cell count) method. Indirect methods should be calibrated by a direct microscopic count. The percentage inhibition of stimulation of growth for each concentration, EC_{10}, EC_{50}, EC_{90}, and the concentration-response curves are determined from these counts.

(*4*) At the end of the test and after aliquots have been removed for algal growth-response determinations, microscopic examination, mortal staining, or subculturing, the replicate test containers for each chemical concentration may be pooled into one sample. An aliquot of the pooled sample may then be taken and the concentration of test chemical determined. In addition, the concentration of test chemical associated with the algae alone should be determined. Separate and concentrate the algal cells from the test solution by centrifuging or filtering the remaining pooled sample and measure the test substance concentration in the algal-cell concentrate. The concentrations associated with the algae do not have to be measured if data are provided that demonstrate that substantive amounts of the test substance are lost during transfer of algae to centrifuge tubes or during centrifugation.

(*5*) Test chambers containing *Selenastrum* shall be illuminated continuously and those containing *Skeletonema* shall be provided a 14-hour light and 10-hour dark photoperiod under fluorescent lamps providing 300 ± 25uEin/m^2 sec (approximately 400 ft-c) measured adjacent to the test chambers at the level of test solution.

(*6*) Stock algal cultures should be shaken twice daily by hand. Test containers may be shaken by hand or placed on a rotary shaking apparatus and oscillated at approximately 100 cycles/minute for *Selenastrum* and at approximately 60 cycles/minute for *Skeletonema* during the test. The rate of oscillation should be determined at least once daily during testing.

(*7*) The number of algal cells per milliliter in each treatment and control and the method used to derive these values at the beginning, 48, 72, and 96 hours, and end of the test; the percentage of inhibition or stimulation of growth relative to controls; and other adverse effects in the control and in each treatment.

(*8*) The 120-hour EC_{10}, EC_{50}, and EC_{90}, values, and when sufficient data have been generated, the 48, 72, and 96 hour LC_{50}'s and 95 percent confidence limits, the methods used to derive these values, the data used to define the shape of the concentration-response curve and the goodness-of-fit determination.

* * * * *

7. In § 799.1575, by revising paragraphs (c)(1)(ii), (2)(ii), (3)(ii), (4)(ii), and (d)(2) to read as follows:

§ 799.1575 Diethylenetriamine (DETA).

* * * * *

(c) * * *

(1) * * *

(ii) *Test standards.* (A) The testing for the sex-linked recessive lethal assay shall be conducted in accordance with the following revised EPA-approved modified study plan (June 19, 1986) originally submitted by the Diethylenetriamine Producers/Importers Alliance (DPIA): "Sex-linked recessive lethal test in *Drosophila melanogaster*," with modifications as approved by EPA on March 9, 1987, and May 21, 1987.

(B) The testing for the mouse visible specific locus assay shall be conducted in accordance with the following revised EPA-approved modified study plan (June 19, 1986) originally submitted by the Diethylenetriamine Producers/Importers Alliance (DPIA): "Mouse specific locus test for visible markers."

(C) These revised EPA-approved modified study plans are available for inspection in EPA's OPTS Reading Room, Rm. NE–G004, 401 M St., SW., Washington, DC 20460.

* * * * *

(2) * * *

(ii) *Test standards.* (A) The testing for cytogenetic effects shall be conducted in accordance with the following revised EPA-approved modified study plan (June 19, 1986) originally submitted by the Diethylenetriamine Producers/Importers Alliance (DPIA): "*In vitro* cytogenetics test" and "*In vivo* cytogenetics test," with modifications as approved by EPA on March 9, 1987, and May 21, 1987.

(B) Other testing for cytogenetic effects shall be conducted in accordance with the following revised EPA-approved modified study plans (June 19, 1986) originally submitted by the Diethylenetriamine Producers/Importers Alliance (DPIA): "Dominant lethal assay of diethylenetriamine in CD rats," and "Heritable translocation of diethylenetriamine in CD–1 mice."

(C) These revised EPA-approved modified study plans are available for inspection in EPA's OPTS Reading Room, Rm. NE–G004, 401 M St., SW., Washington, DC 20460.

* * * * *

(3) * * *

(ii) *Test Standard.* The testing shall be conducted in accordance with the following revised EPA-approved

modified study plans (June 19, 1986) originally submitted by the Diethylenetriamine Producers/Importers Alliance (DPIA): "Ninety-Day (subchronic) dietary toxicity study with diethylenetriamine in albino rats," with modifications approved by EPA on March 9, 1987, and May 21, 1987. This revised EPA-approved modified study plan is available for inspection in EPA's OPTS Reading Room, Rm. NE–G004, 401 M St., SW., Washington, DC 20460.

* * * * *

(4) * * *

(ii) *Test standard.* The testing shall be conducted in accordance with the following revised EPA-approved modified study plan (June 19, 1986) originally submitted by the Diethylenetriamine Producers/Importers Alliance (DPIA): "Dermal absorption," with modifications approved by EPA on March 9, 1987, May 21, 1987, and December 16, 1987. This revised EPA-approved modified study plan is available for inspection in EPA's OPTS Reading Room, Rm. NE–G004, 401 M St., SW., Washington, DC 20460.

* * * * *

(d) * * *

(2) *Test standard.* The testing shall be conducted in accordance with the following revised EPA-approved modified study plan (June 19, 1986) originally submitted by the Diethylenetriamine Producers/Importers Alliance (DPIA): "Chemical fate," with modifications approved by EPA on March 9, 1987, May 21, 1987, July 9, 1987, and December 16, 1987. This revised EPA-approved modified study plan is available for inspection in EPA's OPTS Reading Room, Rm. NE–G004, 401 M St., SW., Washington, DC 20460.

* * * * *

8. In § 799.1560, by revising paragraph (c)(4)(i) to read as follows:

§ 799.1560 Diethylene glycol butyl ether and diethylene glycol butyl ether acetate.

* * * * *

(c) * * *

(4) * * *

(i) *Required testing.* (A) Pharmacokinetics testing of DGBE and DGBA will be conducted in rats by the dermal route of administration in accordance with § 795.225 of this chapter, except for the provisions in paragraphs (b) (1)(ii) and (3)(i) of § 795.225.

(B) For the purpose of this section, the following provisions also apply:

(*1*) *Animals.* Adult male and female Sprague Dawley rats shall be used. The rats shall be 7 to 8 weeks old and weigh 180 to 220 grams. Prior to testing, the animals shall be selected at random for each group. Animals showing signs of ill health shall not be used.

(*2*) *Observation of animals—Urinary and fecal excretion.* The quantities of ^{14}C excreted in urine and feces by rats dosed as specified in paragraph (b)(2)(iv) of § 795.225 shall be determined at 8, 24, 48, 72, and 96 hours after dosing, and if necessary, daily thereafter until at least 90 percent of the dose has been excreted or until 7 days after dosing (whichever occurs first). Four animals per sex per dose group shall be used for this purpose.

* * * * *

9. In § 799.1700, by revising paragraphs (c) (1) (i)(A)(*2*) (*iv*) and (*vi*), (ii)(A), (2) (i)(A)(*2*)(*iii*) and (ii)(A) to read as follows:

§ 799.1700 Fluoroalkenes.

* * * * *

(c) * * *

(1) * * *

(i) * * *

(A) * * *

(*2*) * * *

(*iv*) *Test method—Control groups.* Positive and negative controls shall be included in each experiment. In assays with metabolic activation, the positive control substance shall be known to require such activation. Nitrogen shall serve as the negative control and diluting gas.

* * * * *

(*vi*) *Test performance.* Cells in treatment medium with and without metabolic activation shall be exposed to varying concentrations of test gas-air mixtures by flushing treatment flasks (or chambers) with 10 volumes of test gas-air mixture at a rate of 500 mL/min or that rate which will allow complete flushing within 1 minute. In the case of a test chamber volume of 1.67 L, a flow rate of 10 L/min is appropriate. Each flask shall be closed with a cap with a rubber septum. Headspace samples shall be taken at the beginning and end of the exposure period and analyzed to determine the amount of test gas in each flask. Flasks shall be incubated on a rocker panel at 37 °C for 5 hours for tests with metabolic activation. For the non-activated portion of the test, the incubation time shall be 18 to 19 hours at 37 °C. At the end of the exposure period, cells treated with metabolic activation shall be washed and incubated in culture medium for 21 to 26 hours prior to subculturing the viability and expression of mutant phenotype. Cells treated without metabolic activation shall be washed and subcultured immediately to determine viability and to allow for expression of mutant phenotype. Appropriate subculture schedules (generally twice during the expression period) shall be used. At the end of the expression period, which shall be sufficient to allow near optimal phenotypic expression of induced mutants (generally 7 days for this cell system), cells shall be grown in medium with and without selective agent for determination of numbers of mutants and cloning efficiency, respectively. This last growth period is generally 7 days at 37 °C. Results of this test shall be confirmed in an independent experiment.

* * * * *

(ii) * * *

(A) Mutagenic effects-gene mutation tests shall be completed and the final results submitted to EPA as follows: Somatic cells in culture assay, by May 16, 1988; *Drosophila* sex-linked recessive lethal, by August 15, 1988 (for VF and VDF), and within 15 months (for TFE and HFP) after the effective date of the final rule; mouse visible specific locus assay, within 51 months after the date of EPA's notification of the test sponsor by certified letter or **Federal Register** notice that testing shall be initiated.

* * * * *

(2) * * *

(i) * * *

(A) * * *

(*2*) * * *

(*iii*) *Test method—route of administration.* Animals shall be exposed by inhalation with a single 6-hour exposure, with three sampling times between 29 and 72 hours.

* * * * *

(ii) * * *

(A) Mutagenic effects-chromosomal aberration testing shall be completed and final results submitted to EPA after the effective date of the rule as follows: mouse micronucleus cytogenetics for VDF by November 22, 1988, and for TFE within 10 months after the effective date of the final rule; dominant lethal assay for VF and HFP by October 22, 1988, and for VDF and TFE within 19 months after the effective date of the rule; heritable translocation assay, within 25 months after the date of EPA's notification of the test sponsor by certified letter or **Federal Register** notice that testing shall be initiated.

* * * * *

10. In § 799.2175, by revising paragraph (e)(1)(i) to read as follows:

§ 799.2175 C9 aromatic hydrocarbon fraction.

* * * * *

(e) * * *

(1) * * *

(i)(A) The required testing specified in paragraphs (d) (1), (2), (3), and (4) of this section shall be conducted in accordance with the study plans for testing the C9 fraction developed by the American Petroleum Institute (API), submitted to EPA on September 30, 1985, modified in a submission dated January 10, 1986, and the additional requirements specified in this paragraph.

(B) The required testing specified in paragraph (d)(5) of this section shall be conducted in accordance with the study plans for testing the C9 fraction developed by the American Petroleum Institute (API), submitted to EPA on September 30, 1985, and modified in submissions dated January 10, 1986, and September 13, 1988.

* * * * *

11. In § 799.2200, by revising paragraphs (c) (1)(ii), (2)(ii), (3)(ii), (4) (ii) and (iii)(A) to read as follows:

§ 799.2200 Hydroquinone.

* * * * *

(c) * * *

(1) * * *

(ii) *Test standard.* (A) The toxicokinetic testing shall be conducted in accordance with § 795.235 of this chapter except for the provisions in paragraph (c)(1)(iii)(C) of § 795.235.

(B) For the purpose of this section, the following provisions also apply:

(*1*) During the acclimatization period, rats shall be housed in polycarbonate cages on hardboard chip bedding, or suspended steel cages with no bedding material.

(*2*) [Reserved]

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(2) * * *

(ii) *Test standards.* The developmental toxicity testing shall be conducted in accordance with § 798.4900, as revised July 1, 1987.

* * * * *

(3) * * *

(ii) *Test standards.* The reproductive effects testing shall be conducted in accordance with § 798.4700, as revised July 1, 1987.

* * * * *

(4) * * *

(ii) *Test standards.* (A) The neurotoxicity testing of hydroquinone, consisting of a functional observational battery and neuropathology, shall be conducted in accordance with §§ 798.6050 and 798.6400, respectively, of this chapter, except for the provisions of paragraphs (d)(8) (ii) (C) and (D), (iv) (A), and (E)(2) of § 798.6400. The functional-observational battery and the neuropathology assessment may be conducted sequentially on the same group of rats. Neuropathological assessment should begin with the highest dose level and work downward until a no-observable-adverse-effects dose is reached.

(B) For the purpose of § 798.6400, the following provisions also apply:

(*1*) *Removal of brain and cord.* After perfusion, the bony structure (cranium and vertebral column) should be exposed. Animals should then be stored in fixative-filled bags at 4 °C for 8–12 hours. The cranium and vertebral column shall be removed carefully by trained technicians without physical damage of the brain and cord. Detailed dissection procedures may be found in the text by Palay and Chan-Palay (1974) under paragraph (f)(4) of this section. After removal, simple measurement of the weight of the whole brain (cerebrum, cerebellum, pons-medulla) should be made. Any abnormal coloration or discoloration of the brain and cord should also be noted and recorded.

(*2*) *Sampling.* Unless a given test rule specifies otherwise, cross-sections of the following areas shall be examined: The forebrain, the center of the cerebrum, the midbrain, the cerebellum and pons, and the medulla oblongata; the spinal cord at cervical and lumbar swelling (C3–C6 and L1–L4); dorsal root ganglia (C3–C6 and L1–L4), dorsal and ventral root fibers (C3–C6 and L1–L4), sciatic nerve (mid-thigh) and tibial nerve (at knee). The aforementioned areas will be examined with special stains (a combined Luxol Fast Blue Stain-Bodian Silver Protargol impregnation).

(*3*) *Histopathology examination.* Tissue specimens stored in 10 percent buffered formalin may be used for this purpose. All tissues must be immersion-fixed in fixative for at least 48 hours prior to further tissue processing. Alternative fixation procedures may be employed. Tissues for plastic embedment may be fixed for an additional period of at least 2 hours in glutaraldehyde. Tissues from perfused animals not destined for plastic embedment and all tissues from unperfused animals may be fixed in 10 percent neutral buffered formalin.

(*4*) *Special stains.* Regardless of the results of the general staining, selected sites and cellular components shall be further evaluated by the use of certain special stains (a combined Luxol Fast Blue Stain-Bodian Silver Protargol impregnation) and plastic embedded 1 micron sections. These stains and sections shall be used to detect chemical-induced damage to neuronal body, axon, myelin sheath and neurofibrils. A section of normal tissue shall be included in each staining to assure that adequate staining has occurred. Any changes shall be noted and representative photographs shall be taken. If a lesion(s) is observed, the special techniques shall be repeated in the next lower treatment group until no further lesion is detectable.

(iii) * * *

(A) The neurotoxicity tests shall be completed and final results submitted to EPA within 16 months of the effective date of the final Phase II rule.

* * * * *

12. In § 799.4000, by revising paragraphs (c)(1)(ii)(A), (2)(ii)(A), (d)(1)(ii)(A), (2)(ii)(A), (5), and (6)(ii)(A) to read as follows:

§ 799.4000 Tetrabromobisphenol A.

* * * * *

(c) * * *

(1) * * *

(ii) * * *

(A) The biodegradation test in sediment/water shall be completed and the final report submitted to EPA within 18 months of the effective date of the final rule.

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(2) * * *

(ii) * * *

(A) The inherent biodegradability in soil tests shall be completed and the final reports submitted to EPA within 18 months of the effective date of the final rule.

* * * * *

(d) * * *

(1) * * *

(ii) * * *

(A) The algal acute toxicity test shall be completed and the final report submitted to EPA within 15 months of the effective date of the final rule.

* * * * *

(2) * * *

(ii) * * *

(A) The fish acute toxicity test shall be completed and the final report submitted to EPA within 15 months of the effective date of the final rule.

* * * * *

(5) *Fish early life stage toxicity.*—(i) *Required testing.* (A) A fish early life stage toxicity test shall be conducted with TBBPA. The test species shall be fathead minnow (*Pimephales promelas*) if the 96-hour LC_{50} for fathead minnow conducted in accordance with paragraph (d)(2) of this section is equal to or less than 0.8 mg/L; the test species shall be either fathead minnow or rainbow trout if the 96-hour LC_{50} for fathead minnow is between 0.08–2.0 mg/L; the test species shall be rainbow trout if the 96-hour LC_{50} for fathead minnow is greater than or equal to 2.0 mg/L. The fish early life stage toxicity test shall be

conducted in accordance with § 797.1600 of this chapter, except for the provisions in paragraphs (c)(4)(iv)(A), (d)(2)(vii)(A)(*2*), (3)(i) and (ii)(B)(*1*), and (iv)(A) of § 797.1600.

(B) For the purpose of this section, the following provisions also apply:

(*1*) The first feeding for the fathead and sheepshead minnow fry shall begin shortly after transfer of the fry from the embryo cups to the test chambers. Silversides are fed the first day after hatch. Trout species initiate feeding at swim-up. The trout fry shall be fed trout starter mash or live newly-hatched brine shrimp nauplii (*Artemia salina*) three times a day *ad libitum*, with excess food siphoned off daily. The minnow fry shall be fed *Artemia salina* at least three times a day.

(*2*) The concentration of dissolved oxygen in the dilution water (fresh or salt) shall be greater than 75 percent of air saturation. When necessary, dilution water should be aerated by means of airstones, surface aerators, or screen tubes before the introduction of the test substance.

(*3*) Dissolved oxygen concentration. It is recommended that the dissolved oxygen concentration be maintained between 90 and 100 percent saturation; but it shall be no less than 75 percent saturation at all times for both minnow species, silversides, and the trout species in all test chambers. Dilution water in the head box may be aerated, but the test solution itself shall not be aerated.

(*4*) The concentration of dissolved oxygen shall not fall below 75 percent saturation for the fathead and sheepshead minnows and for the rainbow and brook trout.

(*5*) Brook and rainbow trout embryos shall be maintained in darkness or very low light intensity through 1-week post-hatch, at which time a 16-hour light and 8-hour dark photoperiod shall be provided.

* * * * *

(6) * * *

(ii) * * *

(A) The bioconcentration test in fish shall be completed and the final report submitted to EPA within 18 months after the effective date of the final rule.

* * * * *

[FR Doc. 89–15271 Filed 6–28–89; 8:45 am]

BILLING CODE 6560–50–M

FEDERAL EMERGENCY MANAGEMENT AGENCY

44 CFR Part 64

[Docket No. FEMA 6837]

List of Communities Eligible for the Sale of Flood Insurance

AGENCY: Federal Emergency Management Agency, FEMA.

ACTION: Final rule.

SUMMARY: This rule lists communities participating in the National Flood Insurance Program (NFIP). These communities were required to adopt floodplain management measures compliant with the NFIP revised regulations that became effective on October 1, 1986. If the communities did not do so by the specified date, they would be suspended from participation in the NFIP. The communities are now in compliance. This rule withdraws the suspension. The communities' continued participation in the program authorizes the sale of flood insurance.

EFFECTIVE DATE: As shown in fifth column.

ADDRESS: Flood insurance policies for property located in the communities listed can be obtained from any licensed property insurance agent or broker serving the eligible community, or from the NFIP at: P.O. Box 457, Lanham, Maryland 20706, Phone: (800) 638–7418.

FOR FURTHER INFORMATION CONTACT: Frank H. Thomas, Assistant Administrator, Office of Loss Reduction, Federal Insurance Administration, (202) 646–2717, Federal Center Plaza, 500 C Street, Southwest, Room 416, Washington, DC 20472.

SUPPLEMENTARY INFORMATION: The NFIP enables property owners to purchase flood insurance at rates made reasonable through a Federal subsidy. In return, communities agree to adopt and administer local floodplain management measures aimed at protecting lives and new construction from future flooding.

In addition, the Director of the Federal Emergency Management Agency has identified the Special Flood Hazard Areas in these communities by publishing a Flood Insurance Rate Map. In the communities listed where a flood map has been published, Section 102 of the Flood Disaster Protection Act of 1973, as amended, requires the purchase of flood insurance as a condition of Federal or federally related financial assistance for acquisition or construction of buildings in the Special Flood Hazard Area shown on the map.

The Director finds that the delayed effective dates would be contrary to the public interest. The Director also finds that notice and public procedure under 5 U.S.C. 553(b) are impracticable and unnecessary.

The Catalog of Domestic Assistance Number for this program is 83.100 "Food Insurance."

Pursuant to the provisions of 5 U.S.C. 605(b), the Administrator, Federal Insurance Administration, to whom authority has been delegated by the Director, Federal Emergency Management Agency, hereby certifies that this rule, if promulgated will not have a significant economic impact on a substantial number of small entities. This rule provides routine legal notice stating the community's status in the NFIP and imposes no new requirements or regulations on these participating communities.

List of Subjects in 44 CFR Part 64

Flood insurance and floodplains.

PART 64—[AMENDED]

1. The authority citation for Part 64 continues to reads as follows:

Authority: 42 U.S.C. 4001 et. seq., Reorganization Plan No. 3 of 1978, E.O. 12127.

2. Section 64.6 is amended by adding in alphabetical sequence new entries to the table.

In each entry, the suspension for each listed community has been withdrawn. The entry reads as follows:

§ 64.6 List of Eligible Communities.

State	Community name	County	Community No.	Effective date
Colorado	Akron, town of	Washingon	080177	June 19, 1989, suspension withdrawn.
Do	Buena Vista, town of	Chaffee	080030	Do.
Do	Unincorporated areas	Clear Creek	080034	Do.
Do	Crested Butte, town of	Gunnison	080079	Do.
Do	Erie, town of	Weld	080181	Do.
Do	Fort Morgan, city of	Morgan	080131	Do.

State	Community name	County	Community No.	Effective date
Do	Unincorporated areas	Garfield	080205	Do.
Do	Milliken, town of	Weld	080187	Do.
Do	Monte Vista, town of	Rio Grande	080155	Do.
Do	Unincorporated areas	Ouray	080136	Do.
Do	Ouray, city of	Ouray	080137	Do.
Do	Paonia, town of	Delta	080045	Do.
Do	Rockvale, town of	Fremont	080211	Do.
Do	Unincorporated areas	San Miguel	080166	Do.
Do	Silverthorne, town of	Summit	080201	Do.
Do	Steamboat Springs, city of	Routt	080159	Do.
Do	Superior, town of	Boulder	080203	Do.
Do	Thornton, city of	Adams	080007	Do.
Do	Wellington, town of	Larimer	080104	Do.
Do	Wiggins, city of	Morgan	080204	Do.
Kansas	Unincorporated areas	Labette	200590	Do.
Nebraska	Unincorporated areas	Buffalo	310419	Do.
Do	Peru, city of	Nemaha	310157	Do.
Do	Pleasanton, village of	Buffalo	310017	Do.
Do	Raymond, village of	Lancaster	310138	Do.
Do	Salem, village of	Richardson	310185	Do.
Do	Scottsbluff, city of	Scotts Bluff	310206	Do.
Do	St. Edward, city of	Boone	310010	Do.
Do	Tecumseh, city of	Johnson	310127	Do.
Do	Tekamah, city of	Burt	310024	Do.
Do	Union, village of	Cass	310035	Do.
Do	Weeping Water, city of	Cass	310036	Do.
Do	Winnebago, village of	Thurston	310223	Do.
Do	Wisner, city of	Cuming	310049	Do.
Do	Wymore, city of	Gage	310095	Do.
Do	Unincorporated areas	York	310486	Do.
North Dakota	North River, city of	Cass	380623	Do.
South Dakota	Hudson, town of	Lincoln	460049	Do.
Do	Rapid City, city of	Pennington	465420	Do.
Utah	Helper, city of	Carbon	490034	Do.
Do	Moab, city of	Grand	490072	Do.
Do	Riverside, city of	Weber	490190	Do.
Do	Salt Lake City, city of	Salt Lake	490105	Do.
Do	South Jordan, city of	Salt Lake	490107	Do.

Issued: June 26, 1989.

Harold T. Duryee,

Administrator, Federal Insurance Administration.

[FR. Doc. 89-15393 Filed 6-28-89; 8:45 am]

BILLING CODE 6718-21-M

44 CFR Part 64

[Docket No. FEMA 6838]

Suspension of Community Eligibility

AGENCY: Federal Emergency Management Agency, FEMA.

ACTION: Final rule.

SUMMARY: This rule lists communities, where the sale of flood insurance has been authorized under the National Flood Insurance Program (NFIP), that are suspended on the effective date shown in this rule because of noncompliance with the revised floodplain management criteria of the NFIP. If FEMA receives documentation that the community has adopted the required revisions prior to the effective suspension date given in this rule, the community will not be suspended and the suspension will be withdrawn by publication in the **Federal Register**.

EFFECTIVE DATE: As shown in fifth column.

FOR FURTHER INFORMATION CONTACT: Frank H. Thomas, Assistant Administrator, Office of Loss Reduction, Federal Insurance Administration, Federal Center Plaza, 500 C Street SW., Room 416, Washington, DC 20472, (202) 646-2717.

SUPPLEMENTARY INFORMATION: The NFIP enables property owners to purchase flood insurance at rates made reasonable through a Federal subsidy. In return, communities agree to adopt and administer local floodplain management measures aimed at protecting lives and new construction from future flooding. Section 1315 of the National Flood Insurance Act of 1968, as amended (42 U.S.C. 4022), prohibits flood insurance coverage as authorized under the NFIP (42 U.S.C. 4001-4128) unless an appropriate public body shall have adopted adequate floodplain management measures with effective enforcement measures.

On August 25, 1986, FEMA published a final rule in the **Federal Register** that revised NFIP floodplain management criteria. The rule became effective on October 1, 1986. As a condition for continued eligibility in the NFIP, the criteria at 44 CFR 60.7 require communities to revise their floodplain management regulations to make them consistent with any revised NFIP regulation within 6 months of the effective date of that revision or be subject to suspension from participation in the NFIP.

The communities listed in this notice have not amended or adopted floodplain management regulations that incorporate the rule revision. Accordingly, the communities are not compliant with NFIP criteria and will be suspended on the effective date shown in this final rule. However, some of these communities may adopt and submit the required documentation of legally enforceable revised floodplain management regulations after this rule is published but prior to the actual suspension date. These communities will not be suspended and will continue their eligibility for the sale of insurance. A notice withdrawing the suspension of the communities will be published in the **Federal Register**. In the interim, if you wish to determine if a particular community was suspended on the suspension date, contact the appropriate FEMA Regional Office or the NFIP servicing contractor.

The Administrator finds that notice and public procedures under 5 U.S.C. 533(b) are impracticable and unnecessary because communities listed in this final rule have been adequately notified. Each community receives a 90- and 30-day notification addressed to the Chief Executive Officer that the community will be suspended unless the required floodplain management measures are met prior to the effective suspension date. For the same reasons, this final rule may take effect within less than 30 days.

Pursuant to the provision of 5 U.S.C. 605(b), the Administrator, Federal Insurance Administration, FEMA, hereby certifies that this rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As stated in section 2 of the Flood Disaster Protection Act of 1973, the establishment of local floodplain management together with the availability of flood insurance decreases the economic impact of future flood losses to both the particular community and the nation as a whole. This rule in and of itself does not have a significant economic impact. Any economic impact results from the community's decision not to adopt adequate floodplain management measures, thus placing itself in noncompliance with the Federal standards required for community participation.

List of Subjects in 44 CFR Part 64

Flood insurance and floodplains.

PART 64—[AMENDED]

1. The authority citation for Part 64 continues to read as follows:

Authority: 42 U.S.C. 4001 *et seq.*, Reorganization Plan No. 3 of 1978, E.O. 12127.

2. Section 64.6 is amended by adding in alphabetical sequence new entries to the table.

§ 64.6 List of eligible communities.

State	Community name	County	Community No.	Effective date
Missouri	Matthews, city of	New Madrid	290254	July 4, 1989.
Do	North Lilbourn, village of	New Madrid	290257	Do.
North Dakota	Drayton, township of	Pembina	380276	Do.
Do	Dunseith, city of	Rolette	380103	Do.
Do	Dwight, township of	Richland	380657	Do.
Do	Eldorado, township of	Traill	380645	Do.
Do	Unincorporated areas	Grand Forks	380033	Do.
Do	Marmarth, city of	Slope	380115	Do.
Do	Mooreton, township of	Richland	380654	Do.
Do	Souris, city of	Bottineau	380010	Do.
Do	Velva, city of	McHenry	380051	Do.
Do	Walhalla, city of	Pembina	380254	Do.
Do	Wishek, city of	McIntosh	380053	Do.
Ohio	Huron, city of	Erie	390154	Do.
Do	Kipton, village of	Lorain	390743	Do.
Do	Madison, village of	Lake	390316	Do.
Do	Napoleon, city of	Henry	390266	Do.
Do	Newton Falls, city of	Trumbull	390539	Do.
Do	North Lewisburg, village of	Champaign	390058	Do.
Wyoming	Unicorporated areas	Laramie	560029	Do.
Colorado	Calhan, town of	El Paso	080192	July 17, 1989.
Do	Central City, city of	Gilpin	080077	Do.
Do	Creede, town of	Mineral	080118	Do.
Do	Unincorporated areas	Garfield	080205	Do.
Do	Unincorporated areas	Gilpin	080075	Do.
Do	Granada, town of	Prowers	080144	Do.
Montana	Boulder, town of	Jefferson	300035	Do.
Do	Unincorporated areas	Broadwater	300145	Do.
Do	Browning, town of	Glacier	300030	Do.
Do	Chester, town of	Liberty	300041	Do.
Do	Circle, town of	McCone	300108	Do
Do	Columbia Falls, city of	Flathead	300024	Do.
Do	Unincorporated areas	Custer	300147	Do.
Do	Dodson, town of	Phillips	300053	Do.
Do	Ennis, town of	Madison	300044	Do.
Do	Roundup, city of	Musselshell	300050	Do.
Do	Townsend, city of	Broadwater	300131	Do.
Do	White Sulphur Springs, city of	Meagher	300047	Do.
North Dakota	Anamoose, city of	McHenry	380154	Do.
Do	Antelope, township of	Richland	380663	Do.
Do	Arthur, city of	Cass	380156	Do.
Do	Caledonia, township of	Traill	380638	Do.
Ohio	Benton Ridge, village of	Hancock	390243	Do.
Do	Berea, city of	Cuyahoga	390097	Do.
Do	Brairwood Beach, village of	Medina	390379	Do.
Do	Clarington, village of	Monroe	390405	Do.
Do	Pepper Pike, city of	Cuyahoga	390125	Do.
Do	Powhatan Point, village of	Belmont	390030	Do.
Do	Yorkville, village of	Belmont	390033	Do.
South Dakota	Brandon, city of	Minnehaha	460296	Do.
Do	Unincorporated areas	Brookings	460004	Do.
Do	Unincorporated areas	Clay	460259	Do.
Do	Unincorporated areas	Codington	460260	Do.
Do	Colome, town of	Tripp	460084	Do.
Do	Corona, town of	Roberts	460071	Do.
Utah	Unincorporated areas	Wasatch	490164	Do.
Do	Unincorporated areas	Washington	490182	Do.
Do	Wellsville, city of	Cache	490031	Do.

State	Community name	County	Community No.	Effective date
Do	Wendover, town of	Tooele	490222	Do.
Do	Woodruff, town of	Rich	490101	Do.

Harold T. Duryee,
Administrator, Federal Insurance Administration.
Issued: June 26, 1989.

[FR Doc. 89-15394 Filed 6-28-89; 8:45 am]
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DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

[Docket No. 81-11; Notice 27]

Federal Motor Vehicle Safety Standards; Lamps, Reflective Devices, and Associated Equipment

AGENCY: National Highway Traffic Safety Administration (NHTSA), DOT.

ACTION: Final rule.

SUMMARY: This notice adopts an additional type of a standardized replaceable light source to be used in replaceable bulb headlamps on motor vehicles. The light source, which will be known as Type HB2, is a modification of the European bulb known as the H-4. The final rule follows a notice of proposed rulemaking issued in May 1985, and a supplemental notice published in June 1986.

This final rule adopts more stringent bulb filament and bulb/socket fit tolerances than those permitted on the H-4, but allows a ¼ degree reaim provision in the photometric test. Headlamps equipped with Type HB2 light sources are required to meet the same photometric requirements as Type F sealed beam headlamps.

The final rule does not allow "European Headlamps" nor does it allow the European (ECE) H-4 bulb to be used in passenger cars, multipurpose passenger vehicles, trucks, or buses. The effect of the rule is only to permit the HB2 light source in headlamps designed to meet rigorous environmental tests imposed by Standard No. 108 for all replaceable bulb headlamps intended for sale in the U.S. The HB2 bulb is an improved, tighter-toleranced version, of the H-4 bulb, and it is designed to be used in mechanically aimable headlamps. The HB2 bulb has to be marked "D.O.T." to certify compliance with these requirements. The H-4 bulb may not legally be so marked.

Because their headllamps are not required to be mechanically aimable, motorcycles may use an H-4 bulb, however, under the final rule, the lenses of these headlamps are required to be marked "Motorcycle", and they may not be used in other motor vehicles.

This notice completes action on a petition for rulemaking submitted by Volkswagen of America Corp.

DATES: The effective date of the final rule is July 31, 1989. Pursuant to 49 CFR 553.35(a), petitions for reconsideration must be received by the agency not later than July 31, 1989.

ADDRESS: Petitions for reconsideration should refer to the docket number and notice number of the notice and be submitted to: Administrator, National Highway Traffic Safety Administration, 400 Seventh Street SW., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Jere Medlin, Office of Rulemaking, NHTSA, (202-366-5276).

SUPPLEMENTARY INFORMATION:

Background of these Amendments

For over 40 years, the sealed beam headlamp in standardized shapes and sizes was the principal motor vehicle headlamp unit on the American market. With the advent of Federal Motor Vehicle Safety Standard No. 108, effective January 1, 1968, the sealed beam headlamp became the only permissible one.

In August 1981, Ford Motor Company filed a petition for rulemaking to amend Standard No. 108, to allow a new type of headlamp that it had developed in conjunction with GTE Products Corp. ("Sylvania"). This headlamp differed from those previously permitted in that it was not an indivisible unit, but one consisting of two parts, a lens-reflector assembly bonded together, and a standardized light source that could be replaced in the event of burn-out. The agency granted the petition, and proposed adoption of the Ford/Sylvania light source on January 17, 1983 (48 FR 1992). NHTSA amended the standard on June 2, 1983, to allow headlamps with the Ford/Sylvania light source (48 FR 24690).

Subsequently, Volkswagen of America petitioned NHTSA for rulemaking to allow the H-4. Although the H-4 has always been allowed under Standard No. 108 for motorcycle usage because mechanically aimable headlamps were not required for this type of motor vehicle, it had not been allowed for other motor vehicles which were required to have such headlamps. This petition was granted in part. On May 13, 1985, the agency proposed the adoption not of the H-4, but of a modified version of that light source called the HB2 (50 FR 19961). At the same time, the agency also proposed allowing two additional light sources for which General Motors Corporation ("GM") had petitioned.

The May 1985 proposal highlighted significant differences between the European H-4 and the proposed Type HB2. First, a headlamp with a Type HB2 light source would be required to meet the photometrics of Motor Vehicle Safety Standard No. 198 rather than those of the European regulation. Second, because no life requirement was prescribed by the European standard, NHTSA proposed the HB2 be designed to meet the same average life requirements as the Ford/Sylvania HB1, 320 hours for the lower beam and 150 hours for the upper beam, at 14 volts. Third, because no durability requirements were prescribed by the European standard, NHTSA proposed that headlamps which use the HB2, meet the same environmental test requirements as headlamps which use the HB1.

NHTSA also observed that some special interface between the bulb and socket was needed to distinguish between lamp systems presently using the existing H-4 bulb and those that would use the proposed HB2 bulb. In the agency's view, these modifications would help prevent inadvertent use of light source and lamp assemblies that may be available and legal for single headlamp motorcycle use under standard No. 108, but which do not meet all specifications set forth for multiple headlamp passenger cars. To assure the capability of mechanical aim, tighter specifications and tolerances for fit between the HB2 light source and the headlamp socket and for filament position with respect to the base were proposed which were comparable to those already required for the Ford/Sylvania HB1. This was intended to help reduce the problems associated with

mechanical aiming that would exist if the European specifications were used. Mechanical aim is not required on ECE headlamps and the tolerances on bulb-socket fit and filament location are not adequate to assure mechanical aim capability for headlamps using the H–4 bulb.

The principal commenters on the proposed HB2 were six manufacturers of lighting equipment: Sylvania, General Electric Corp. ("GE"), OSRAM, Hella, Thorn, and North American Philips Co. ("Philips"). Nine vehicle manufacturers also commented: Volkswagen, Rolls-Royce, GM, AMC, Chrysler, Fiat, Mercedes Benz, BMW, and Ford. Although use of the existing H–4 was oposed by Sylvania, GE, and Ford, the majority of the commenters supported the May 1985 proposal but urged modifications in it.

On May 2, 1986, NHTSA amended Standard No. 108 to allow the two GM light sources (51 FR 16235) set forth in the May 1985 proposal. At that time, the agency adopted its 1985 proposal to designate the Ford/Sylvania light source as Type HB1, and the GM sources as Types HB3 and HB4. Final action was not taken in that notice on Type HB2. Instead of proceeding directly to a final rule, the agency issued a supplementary proposal regarding Type HB2 on June 13, 1986 (51 FR 21696), to consider the modifications urged by the commenters on the May 1985 proposal. The June 1986 proposal stated that issues relating to the other aspects of the May 1985 proposal would be addressed in the next rulemaking action.

Technical Issues of the May 1985 and June 1986 Proposals

The June 1986 proposal addressed four major issues.

1. Design of the Base of the HB2

The May 1985 notice proposed that there be a difference in physical appearance and type of fit between the bases of the HB2 and H–4 light sources in order to minimize the potential misuse of bulbs that had higher-than-permitted light output, broader tolerances, etc. Virtually all of the 12 commenters on this issue objected on the ground that it would result in increased manufacturing costs and probably not have the desired effect as illegal versions of the HB2 lacking the different base could easily be developed. The June 1986 notice therefore proposed that the HB2 use the IEC P43t–38 base found on existing H–4 bulbs but with tighter fit tolerances. As an additional aid to proper use of replaceable lighting sources, that proposal also proposed that bulbs and lenses of motorcycle headlamps be labeled "motorcycle" if the replaceable light source were other than the HB series (e.g., an unmodified H–4).

2. Tolerances on the Fit Between the Base and Socket of the HB2

In response to the May 1985 proposal, GE, OSRAM, Hella, Philips, Volkswagen, GM, and Rolls-Royce supported use of the existing H–4 but with reduced filament, filament-to-shield, and filament location tolerances, as well as new socket fit specifications. OSRAM suggested additional changes to assure that beam pattern and aim requirements would be met after bulb replacement when using mechanical aiming. Thorn recommended changes in dimensions and tolerances to improve manufacturability. OSRAM and Volkswagen suggested new ECE references for referral to the H–4 bulb and socket. In response, the June 1986 notice proposed reductions in tolerances on reflector cavity dimensions, and the angle locating the two lower sockets for reference lugs. HB2 cap tolerance reductions were also proposed. Other changes were also proposed to ensure a tighter bulb-socket fit to assure correct aim with any HB2 bulb in a mechanically aimed headlamp.

3. Tolerances on the Location of HB2 Filaments

The consensus of the commenters on the May 1985 proposal was that the proposed tolerances on the location of the HB2 filaments were not sufficiently small to assure proper aim after bulb replacement. Accordingly, the June 1986 notice proposed reduced bulb filament tolerances suggested by OSRAM and Philips, and bulb/socket fit tolerances revised from those of the May 1985 proposal.

The June 1986 notice also proposed elimination of the ¼ degree reaim allowance on each test point during photometric testing, a proposal not included in the May 1985 notice. Such an allowance had been permitted heretofore to compensate for variations in the accuracy of laboratory equipment and to ensure a greater degree of repeatability when headlamps are tested by different laboratories. However, data submitted by VW on prototype headlamps using the H–4 bulb, indicated that the H–4 can produce a high gradient photometric pattern, with the result that a shift of ¼ degree can produce up to a 5000 candela change in intensity. This would allow the intensity at a test point such as ½D–1½R to be as low as 3000 candela compared with the 8000 candela minimum required by Standard No. 108. Such a disparity does not exist in the lower gradient beam patterns produced by most headlamps heretofore designed to meet Standard No. 108. The proposed reduced filament tolerances were intended as a complement because NHTSA concluded that HB2 replacement bulbs covering the full range of permissible H–4 European tolerances could not meet photometric requirements when the reaim allowance was eliminated.

4. Bulb Rating, Performance Requirements

NHTSA originally proposed that maximum power and luminous flux be measured at 13.2 volts, but in response to a comment by GM, the June 1986 proposal substituted 12.8 design volts. It was also proposed that the design luminous flux be changed from 1000 to 910 lumens on the lower beam and from 1650 to 1500 lumens on the upper beam (with tolerances of 10 percent for each), when measured at the lower design voltage.

Finally, the June 1986 notice proposed deleting the note in the European H–4 drawings which allows obscuration of light output from the bulb by means other than a black cap.

Type HB2 as Adopted

Therefore, on the basis of the proposals in the May 1985 and June 1986 notices, and available information, including the comments submitted in response to these notices, NHTSA is amending Federal Motor Vehicle Safety Standard No. 108 to allow the HB2 replaceable light source with the following characteristics:

1. Photometrics

In the May 1985 proposal, NHTSA asked for comments on alternative proposals, that a headlamp with a Type HB2 light source meet photometrics required for Type F sealed beam headlamps, or that it meet the requirements for headlamps designed to conform to SAE Standard J579c. In response to the May 1985 proposal, Volkswagen, as petitioner, commented that it had no preference. However, it recommended that NHTSA remove the 20,000 candela maximum at the seeing distance pint ½D, 1½R to R, to take full advantage of H–4 capabilities. NHTSA will not remove the 20,000 candela limit at the test point noted above. The possibility of new photometric requirements is being studied, and VW's recommendation is properly a part of that study.

NHTSA has decided that Type HB2 shall meet Type F photometrics. Higher

minimum light levels at critical seeing distance points can be achieved with Type F photometrics.

2. Design of the Base of the HB2 and Fit/Socket Tolerances

Volkswagen, Hella, and OSRAM agreed that the dimension of the bulb base, Dimension "M", can be tightened to improve mechanical aim, supporting the agency opinion that eccentricity control of the diameter is essential for accurate mechanical aim. The headlamp socket Dimension "Z" will also be tightened to improve mechanical aim capability. Otherwise, the bulb base tolerances will remain identical to those specified for the H–4, as will the headlamp socket dimensions.

3. Tolerances on Filament Locations

The tolerances that were proposed in the June 1986 notice have been adopted, with only minor changes. They are more stringent than the ECE standard requires of the H–4. This restriction is necessary to ensure that a headlamp with any Type HB2 replaceable bulb installed will continue to meet original equipment photometrics when mechanically aimed.

4. Allowance of Reaim During Photometric Tests

Commenters generally did not favor elimination of the ¼ degree reaim allowance. The high gradient beam pattern condition can exist even if a shielded filament light source like the HB2 is not used. Thus, the condition can exist even if an H–4 type light source is not used. The agency believes that the gradient issue is a separate one and has decided to defer the issue for consideration in future rulemakings on beam patterns.

5. HB2 Performance and Ratings

NHTSA proposed a lumen tolerance of 10 percent, as contrasted with an ECE tolerance of 15 percent. Since no commenters opposed this proposal, it has been adopted. Further, performance will be measured at 12.8 volts as with other replaceable light sources, and not 13.2 as with ECE ratings. The wattage values have been changed to reflect the test voltage. As with all other replaceable bulbs, a white shield will be used over the rear of the HB2 bulb base during the bulb lumen test.

6. Marking of Motorcycle Headlamps

The agency had proposed the marking of motorcycle headlamp lenses and bulbs with the words "For motorcycle use only" in characters 4mm high. A new commenter to the June 1986 proposal, American Honda, objected on the grounds that H–4 bulbs also have off-road applications in vehicles other than motorcycles. Another commenter, Stanley Electric Co., stated that it already uses the word "Motorcycle" in 3mm characters on its headlamps, and therefore did not agree with the agency's rather different proposal. NHTSA considers these points well made, and is amending Standard No. 108 to require the word "Motorcycle" to appear on the lens, and in characters 3mm high, on motorcycle headlamps equipped with a replaceable bulb other than one specified in Standard No. 108. No bulb marking will be required. Standard No. 108 does not require the type of bulb used in motorcycle headlamps to be marked on the lens.

Comments in Opposition

Issues of safety, economic impact, and fairness have been raised by the two principal opponents of Type HB2, Sylvania and GE. Sylvania argues that "NHTSA's finding that the H–4 light source meets U.S. safety standards would effectively lower U.S. standards rather than enhance the safety of replaceable light sources". It bases this conclusion upon the following concerns:

1. "Because the H–4 is designed for use in a non-sealed headlamp system, the system is prone to reflector and lens corrosion, reducing light output to unsafe levels over time."
2. "The looser 'fit' and tolerances of the H–4 increases significantly the potential for unsafe oncoming driver glare."
3. "The H–4 lamp, which incorporates an internal light-absorbing shield over the low beam filament, provides less on-the-road light for the driver compared to the HB1."
4. "The shield in the H–4 reflects more light upwards in front of the driver, resulting in excessive glare when driving in snow or fog."
5. "Headlamps that are equipped with H–4 bulbs may not provide adequate light for visibility of overhead interstate highway signs that are not artificially lighted."
6. "As the H–4 is currently available in wattages higher than the petition permits (e.g., 100W vs. 65W high beam), there is potential that oncoming drivers can experience disabling glare coming from these higher wattage bulbs. There is no provision in the proposed rules for making such bulbs noninterchangeable."

NHTSA agrees that the H–4 is designed for use in a non-sealed headlamp system, and that, in the absence of environmental testing designed to address the problem, non-sealed systems can be prone to reflector and lens corrosion, which over time will reduce light output. One of the agency's primary and long-standing concerns about non-sealed beam headlamps was the marginal resistance to corrosion of the reflectors, as noted in the German TUV inspection reports, and Swedish "Weak Points of Motor Vehicles", among other sources. This was one of the reasons that the agency in the late 1970's denied several petitions for rulemaking to allow European headlamps. Accordingly, when NHTSA amended Standard No. 108 to allow a headlamp that was not a sealed beam (incorporating the HB1 light source), it adopted stringent environmental tests including a 240-hour salt spray test to demonstrate corrosion resistance. Volkswagen, in fact, petitioned NHTSA to reduce the length of this test, and its petition was denied. Because all replaceable bulb headlamps must meet this corrosion performance test, NHTSA believes it consistent with the intent of the National Traffic and Motor Vehicle Safety Act to leave the design solution (i.e., seal or no seal) to the manufacturer.

The petitioner for the HB1 included a seal in its design. Originally, the petitioner for the HB3 and HB4 submitted drawings in which a seal was lacking; however, subsequently it revised its design to include a seal because it appeared to provide a better control of the positioning of the filament and the HB3 and HB4 as adopted contain a sealing feature. Because all replaceable bulb headlamps must meet identical environmental performance requirements, NHTSA does not agree that all future replaceable bulbs must also have a seal.

The sealing issue was the basis of an argument by Sylvania that the June 1986 notice was ambiguous and hence procedurally deficient. The Summary to that notice stated that it would cover only bulb and socket dimensions, and bulb rating and performance, and that "other HB2 issues will be addressed in the next rulemaking action". According to its comment, NHTSA's statement could mean either that the matter is deferred or that the agency had nothing further to add to its May 1985 notice. Sylvania believes that "it seems plain that some reasonable laymen could have reserved comment on sealing under the belief that the matter had been deferred. Such ambiguity renders the notice legally defective." Sylvania cites NHTSA's actions in proposing no seal designs for HB2, HB3 and HB4 in May 1985, and subsequently adopting seal designs for HB3 and HB4 shortly before the June 1986 notice appeared. Comments Sylvania: "(The June 1986 notice) * * * was silent on how the new

safety rationale of venting-plus-sealing should apply to the HB2. Like the HB3 and HB4, the HB2 is designed for use in vented assemblies * * * If NHTSA has grounds to believe that safety requires seals for the vented HB3 and HB4 lamps but not for the vented HB2 lamp, it should expose those reasons to public scrutiny and comment."

NHTSA finds Sylvania's position without legal merit, and has concluded that the spirit and the letter of the Administrative Procedure Act have been met by the rulemaking history of HB2, and HB3 and HB4. The May 1985 notice provided an opportunity to comment on the subject matter therein, including the fact that, unlike the HB1, the proposed additional light sources did not incorporate seals. Because the notice adopting the modified HB3 and HB4 light sources appeared in advance of the supplemental proposal on HB2, the June 1986 notice provided a further opportunity for comment on the sealing issue, even if that issue was not directly addressed. Those aspects of the May 1985 proposal that were not addressed in June 1986 remained in effect and were not suspended pending "the next rulemaking action," whether that action was an amendment or a further proposal.

As to Sylvania's second concern about the H–4, NHTSA also agrees that the looser "fit" and tolerances of H–4 are undesirable, and that is why they have been tightened on Type HB2. With regard to Sylvania's arguments that the H–4 bulb would provide less light on the road and be more prone to glare problems because of its internal shield, again NHTSA has proposed the same photometric performance specifications for the HB2 bulb as exist for other conforming headlamps. As long as the headlamp is made to comply with these performance requirements, its internal design features are not at issue.

Because the shield may restrict the upper portion of the beam, Sylvania believes that visibility of overhead signs will be impeded. It is true that a shield can restrict a bulb's upper directed light, however homofocal reflector designs or lensing can compensate for it by directing the bulb's unshielded light upward.

There is no way that NHTSA can prevent deliberate substitution by an owner of an H–4 bulb for an HB2, but the tighter bulb-socket fit tolerances will ensure that not all H–4s will be interchangeable with Type HB2.

Another concern expressed by Sylvania is that of energy efficiency. Both Sylvania and GE argue that inefficiency results with a 55 watt lower beam and use of the internal shield. The agency acknowledges these remarks, but believes that they do not bear on the question of whether HB2 should be permitted, since they relate to efficiency of operation and not to motor vehicle safety. The agency notes, for example, that Sylvania's own HB1 requires a high profile reflector. Since 1981, NHTSA's policy has been to try to remove restrictions barring the entry in the marketplace of products of comparative safety performance; Sylvania was one of the first beneficiaries of this policy. No manufacturer is required to adopt HB2. Since its use is optional, potential users in the marketplace will decide the importance of the energy issues raised by the commenters.

Some commenters strongly opposed the rulemaking on economic grounds, citing alleged competitive disadvantages. While, as discussed below, NHTSA concludes that the record in any event does not support those commenters' allegations, the agency has also considered how such arguments should be viewed in light of the statutory criteria for establishing standards. Section 103 of the National Traffic and Motor Vehicle Safety Act requires that each Federal motor vehicle safety standard must be practicable, meet the need for motor vehicle safety, and be stated in objective terms.

Since there is no statutory definition of "practicable," this agency follows the example of the courts and other agencies under other statutes of using the dictionary to interpret the term. The dictionary defines "practicable" as "capable of being done, effected, or put into practice, with the available means; feasible." *Random House Dictionary of the English Language,* unabridged edition. Thus, the requirement that a standard be practicable means that a standard must be "capable of being done," i.e., capable of being complied with. Court decisions indicate that a number of economic factors are comprehended by the term "practicable," including economic hardship of compliance. For example, in *H & H Tire Co.* v. *Department of Transportation,* 471 F.2d 350 (7th Cir. 1972), the court concluded that NHTSA, in establishing a standard for retreaded tires, must consider the deleterious economic impact that the retreaded tire industry would experience if it had to comply with the standard. Where the addition of a compliance option is at issue, however, alleged economic hardship is not related to whether compliance with the standard is capable of being done, since no manufacturer is required to choose the new option. Instead, what is alleged to be economic hardship is simply the result of competition in the marketplace by various manufacturers making different choices among the available compliance options.

As indicated above, NHTSA has striven since 1981 to remove restrictions barring the entry into the marketplace of products of comparative safety performance. This policy has been pursued evenhandedly, and a number of companies, as well as the public as a whole, have been its beneficiaries. While NHTSA recognizes that the statutory criterion of practicability requires it to consider economic factors, it rejects any notion that Congress intended that the Safety Act be used to prohibit or inhibit technological alternatives in order to favor existing products and companies. To the contrary, Congress specified that safety standards be expressed in terms of performance rather than design because it did not want the standards to "stifle innovation in automobile design." See S. Rep. No. 1301, 89th Cong., 2d Sess. (1966). Further, the Trade Agreements Act of 1979 admonishes Federal regulatory agencies not to establish or retain standards that act as non-tariff trade barriers by excluding products on grounds unrelated to the purposes of those standards.

NHTSA believes that the case of *Chrysler* v. *Department of Transportation,* 515 F.2d 1053 (6th Cir. 1975), supports its view of practicability, with respect to optional provisions in safety standards. In that case, Chrysler sought review of a lighting standard amendment which permitted the use of rectangular headlamps for a specified period of time, during which the agency would decide whether to permit such headlamps permanently. The company stated that it would be unable to take advantage of the option because it could not complete the necessary engineering and retooling in time to produce automobiles equipped with the new headlamps before the option expired, and that the earlier termination date was therefore impracticable. The court stated:

> We have some doubt that practicability is a significant principle in the context of an optional provision in a safety standard. A review of the cases in this area suggests the practicability requirement was designed primarily to prevent the NHTSA from establishing mandatory safety standards that are economically or technologically infeasible * * *. In the case at bar, however, the use of rectangular headlamps is not required, and Chrysler is subject to none of the statutory penalties if it fails to comply with this aspect of Standard No. 108.
>
> Even assuming that the practicability requirement is fully applicable in this

situation, it would be difficult to conclude that the rectangular headlamp option is impracticable in any absolute sense. The record reveals that at least two manufacturers are presently capable of producing rectangular headlamps. It may be that lead-time problems will make it difficult or impossible for Chrysler to take advantage of the new headlamp option, but we decline to construe the practicability requirement to invalidate a permissive safety standard merely because all manufacturers do not derive benefits from it. (515 F.2d at 1060.)

The agency notes that Chrysler also argued that the time limitation would confer a competitive advantage upon General Motors, thereby violating both the reasonableness standard of the Safety Act and the "arbitrary and capricious" standard of the Administrative Procedure Act. The court stated that it was not unsympathetic to this predicament, but also stated that the early effective date seemed more justifiable since any delay would be at the expense of the manufacturer which had invested time and money to incorporate new headlamps and taken the risk that NHTSA might reject its proposal. (See 515 F.2d at 1060.)

In the current factual situation, NHTSA has already permitted opponents' new headlamps. For example, in the rulemaking to permit headlamps with the Ford/Sylvania light source, Sylvania requested (through its co-developer's petition) and received the benefits from the very type of rulemaking it now opposes. Now, as discussed below, Sylvania asserts that this rulemaking is unfair to it, since it has invested substantial money to manufacture its product. NHTSA, however, sees nothing fair in permitting one manufacturer's new product and then declining to permit another manufacturer's competing product of comparative safety performance, simply to confer a competitive advantage on the first manufacturer.

The economic impact issue raised by the opponents is essentially one of competitiveness. HB2's principal opponents are manufacturers of the HB1, which for three years was the only type of standardized replaceable light source permitted by standard No. 108. NHTSA believes the following summarizes Sylvania's position on trade and U.S. employment implications if the HB2 were approved:

1. Because the HB2 is less complex than the HB1, it is "less costly to manufacture."

2. With substantial foreign lighting and automobile manufacturer experience with the H–4, relatively easy convertibility to the HB2, and lower cost, the HB2 bulb would then become the "de facto world standard."

3. There are no domestic producers of the H4 or HB2. There are a number of foreign manufacturers of the H4. As there is excess capacity of H4 production worldwide, these manufacturers would have "unfettered access to the U.S. market."

4. Asian and European automobile manufacturers would switch to the H4 light source in automobiles targeted for the U.S. market. Thus, approval of the H4 light source would immediately deprive U.S. manufacturers of millions of dollars of export sales and, while the American automobile manufacturers indicated they would not switch to the H4 immediately because of the investment in current tooling, they would likely switch in the future when new cars are designed for the world market.

5. Auto companies "want to deal only with automotive lighting manufacturers who can provide them with a full line of products." Thus, if Sylvania and other U.S. manufacturers "are driven out of the replaceable light source business, it will put them in an untenable position with respect to other automotive lighting products."

6. The end result of the above could be "no U.S. manufacturers left in the U.S. automotive lighting business." "If U.S. manufacturers are unable to compete in the automotive lighting business, as many as 15,000 U.S. jobs could be lost."

In amplification, Sylvania has commented that because the HB2 does not incorporate an "O" ring and a base of high temperature plastic, manufacturing costs will be less, and manufacturers of motor vehicles will shift to the HB2. Accordingly, Sylvania predicts that it and GE will lose not only the original equipment market, but also the associated replacement market that would have accrued to those headlamps. Sylvania predicted that adoption of HB2 "could lead to the eventual demise of the U.S. domestic headlamp industry."

The agency has carefully considered the remarks of the commenters. It is true that there is a difference in design and materials among the HB series of replaceable light sources. This is because NHTSA has sought to respond in a positive manner to the particular, differing designs of the petitioners for these sources. Both the Sylvania/Ford (HB1) and GM (HB3 and HB4) designs incorporated "O" rings, Ford/Sylvania's to provide a semi-deal for non-vented headlamps, and GM's as an aid to correctly seating the bulb in the lamp. On the other hand, Volkswagen's petition for the adoption of the H–4 did not include an "O" ring as a feature of the design. Although one design may differ from another, all replaceable bulb headlamps must meet the same environmental performance test requirements.

NHTSA is cognizant of the commenter's argument that allowance of the HB2 "would result in the H–4 becoming the de facto world standard," but the truth of the matter is that the H–4 appears already to be acceptable in every country of the world except the United States.

The opponents did not submit any comparative cost figures. The agency concluded that the HB2 could initially cost vehicle manufacturers about $0.15 to $0.60 less than the HB1, primarily because manufacturers of the HB2 have over 20 years of experience in producing a similar bulb (the H–4) and in many cases, their facility costs have been amortized. However, GE, a U.S. light source manufacturer, believes that the HB2 and HB1 will eventually cost the same, as manufacturers of the HB1 convert to highly automated and efficient production, which they have already begun to do. The agency also believes that any competitive advantage the HB2 might have (bulb cost, ease of meeting U.S. and European photometric requirements) would be very slight, if any, and may be balanced by an advantage for the HB1 in meeting U.S. durability requirements, its energy efficiency, and its more familiar U.S. lower beam pattern.

On the trade issue, the agency believes that adoption of the HB2 will allow domestic motor vehicles produced for foreign markets to be equipped with the same light source that require no prior approval before sale. General Motors has argued that NHTSA should adopt the HB2 for trade purposes. And while Sylvania argued that adoption of the HB2 will result in the loss of all U.S. automotive lighting business, it failed to support this allegation, after repeated agency attempts to obtain such documentation. The agency's own questioning of GM, Ford, and Chrysler, all of whom are Sylvania customers, uncovered little or no interest in the HB2, thus negating Sylvania's claim.

This comparison of cost and competitiveness may well be academic because the agency also believes that future headlamp designs for both HB1 and HB2 sources will be limited in number. NHTSA believes that, except for certain European makes retaining traditional vertical or squared grilles and associated buff frontal surfaces, there is an almost universal trend in vehicle design worldwide to aerodynamic low profile front ends, and smaller lamps with axial filaments are

being developed in response to manufacturers' needs for them. The high profile HB1 or HB2 lamps are not as suitable for these needs as the HB3 or HB4 lamps, or other lighting systems known to be under development, such as Sylvania's own eight-unit "multi-beam" system (whose petition for rulemaking is now pending at NHTSA). If there is a competitive challenge to HB1, it does not come from HB2 in the agency's view. It comes from the exigencies of future design. For example, Sylvania's low profile system seems likely to cut into the market for its higher profile HB1. As Sylvania itself has recently said: "In the increasingly technologic world of automotive lighting, the only constant is change" (advertisement, Automotive Engineering, February 1987, p. 161).

Finally, the commenters raise the fairness issue, stated as follows:

1. "Sylvania and other U.S. manufacturers have invested substantial sums of money to manufacture a product in accordance with NHTSA's recent 1983 rulemaking (HB1 approval). Approval of the H–4 would render obsolete this investment."

2. "U.S. manufacturers cannot sell U.S. standard headlamps in most foreign markets because of foreign standards."

3. "Approval of the H–4 would expose U.S. manufacturers to competition in the U.S. market with no reciprocal trade opportunities made available in foreign markets."

4. "The major beneficiaries of the NHTSA proposal would be European and Japanese lighting companies."

As the agency commented above, the investment represented in HB1 tooling may be rendered obsolete by advancements in lighting technologies rather than by competition from a newly-permitted but existing light source, and U.S. lighting manufacturers themselves will be the major contributors to this normal process of technological changeover. As to the lack of reciprocal trade opportunities, NHTSA notes that developers of the HB1 had not tried to get permission to market it in Europe. Therefore, on April 22, 1986, NHTSA formally petitioned the Economic Commission for Europe (ECE) to amend its relevant regulations to permit the use of the HB1, HB3, and HB4 replaceable light sources. The proposal was considered at the June 1987 meeting of WP29 (the Working Party on Construction of Vehicles), and referred to its Meeting of Experts on Lighting (GRE) for action. The Groupe de Travail de Bruxelles (GTB), an active participant in the GRE, was asked by the GRE to review the request. As of January 1989, that review was not complete, but it is expected that the review of HB3 and HB4 will be completed soon. In the meantime, use of headlamps with HB3 and HB4 light sources has become legal in Germany (through exemptions granted individual vehicle lines by the Senator for the Interior of the Free Hanseatic City of Bremen). With respect to HB1, a study is underway in GTB to determine if it is feasible to produce a sharp cut-off beam pattern. NHTSA is an active participant in the work of the GRE, and will continue to pursue the matter aggressively within that group and at WP29. Given the likelihood that HB3 and HB4 will be approved in the near term, NHTSA declines to accept the commenter's recommendation that the allowance of HB2 be tabled "until such time as a worldwide headlamp standard is established under the auspices of the Society of Automotive Engineers (SAE) and Brussels Working Group (GTB)."

After the close of the comment period Sylvania sought to persuade the agency that allowance of the HB2 would result in a substantial loss of sales. NHTSA asked Sylvania, in an effort to obtain more information, to support its allegations. Sylvania submitted a document under a claim of confidentiality, which it claimed supported its position. The agency reviewed this information and concluded that it provided little support. It showed some interest on the part of some unidentified manufacturers to use the European H–4 (although not necessarily the HB2). However, Sylvania's submission included some manufacturers who are not presently selling vehicles in the United States. Although repeatedly requested by the agency to do so, as the record indicates, Sylvania did not disaggregate its data; therefore the agency could not assess the impact on Sylvania's sales since it did not have the data to do so. Subsequently, NHTSA independently sought and obtained data from several vehicle manufacturers who sell their products in the United States (including the largest domestic manufacturers). The data, which is available in the Docket, indicates that the largest manufacturers have little interest in and no immediate plans to switch to the Type HB2 in the event that Standard No. 108 is amended to allow it. Although the precise quantification of Sylvania's market share and its distribution among its customers (the vehicle manufacturers) is confidential, the agency is of the opinion that, based on the information it obtained, Sylvania's volume of lighting products will not be substantially affected by allowing the HB2. Sylvania did not submit any actual data to contradict this conclusion.

This amendment becomes effective in 30 days. Since the amendment does not impose any new requirements but instead relieves a restriction, the agency finds for good cause shown that an effective date earlier than 180 days is in the public interest.

NHTSA has considered this rule and has determined that it is not major within the meaning of Executive Order 12291 "Federal Regulation," but is significant under Department of Transportation regulatory policies and procedures. A preliminary regulatory analysis was prepared for the May 1985 proposal (Notice 12) and placed in the public docket. For purposes of this final rule, a final regulatory evaluation is being placed in the docket. Since use of the HB2 replaceable light source is optional, the rule will not impose additonal costs or requirements but would permit manufacturers greater flexibility in the use of headlighting systems.

NHTSA has analyzed this rule for the purposes of the National Environmental Policy Act. The rule may have a small, but not significant, positive effect upon the human environment since the weight and quantity of materials used in the manufacture of headlamps could be reduced.

The agency has also considered the impacts of this rule in relation to the Regulatory Flexibility Act. I certify that this rule would not have a significantly economic impact on a substantial number of small entities. Accordingly, no initial regulatory flexibility analysis has been prepared. Manufacturers of motor vehicles and motor vehicle headlamps, those affected by the rule, are generally not small businesses within the meaning of the Regulatory Flexibility Act. Finally, small organizations and governmental jurisdictions would not be significantly affected since the price of new vehicles, headlamps, and aimer adjusters will be minimally impacted.

Finally, the agency has considered this rule as it relates to Executive Order 12612 "Federalism." The rule will preempt any State law that differs from the rule, but will not preempt any State law that is identical to the rule, according to the express preemption provision of 15 U.S.C. 1392(d).

The engineer and lawyer primarily responsible for this rule are Jere Medlin and Taylor Vinson respectively.

List of Subjects in 49 CFR Part 571

Imports, Motor vehicle safety, Motor vehicles, Rubber and rubber products, Tires.

PART 571—[AMENDED]

In consideration of the foregoing, 49 CFR Part 571, § 571.108, Motor Vehicle Safety Standard No. 108, *Lamps, Reflective Devices, and Associated Equipment*, is amended as follows:

1. The authority citation for Part 571 continues to read as follows:

Authority: 15 U.S.C. 1392, 1401, 1403, 1407; delegation of authority at 49 CFR 1.50.

§ 571.108 [Amended]

2. A new paragraph S5.1.1.29 is added to read:

S5.1.1.29 Each replaceable bulb headlamp that is designed to meet the photometric requirements of SAE Recommended Practice J584, *Motorcycle Headlamps*, April 1964, and that is equipped with a light source other than a standardized replaceable light source, shall have the word "motorcycle" permanently marked on the lens in characters not less than 0.114 inch (3 mm.) in height.

3. The introductory text of paragraph (d) of section S7.5 is revised to read: "For a headlamp equipped with one or two Type HB1 light sources, or one or two Type HB2 light sources, the following requirements apply:"

4. Paragraphs (d)(2)(i) (A) and (B) of section S7.5 are removed, and new paragraphs (d)(2)(i)(A), (2)(i)(A)(*1*), (*2*), and (B) are added to read:

* * * * *

(d) * * *

(2)(i)(A) By the outboard light source (or upper one if arranged vertically) designed to conform to:

(*1*) The lower beam requirements of Table 1 of SAE Standard J579 DEC84, if the light sources are Type HB1; or

(*2*) The lower beam requirements of Figure 17, if the light sources are Type HB2; or

(B) By both light sources, designed to conform to the lower beam requirements specified above for their Type.

* * * * *

5. Paragraphs (d)(2)(ii) (A) and (B) of section S7.5 are removed, and new paragraphs (d)(2)(ii)(A), (2)(ii)(A) (*1*), (*2*) and (B) are added to read:

* * * * *

(d) * * *

(2)(ii)(A) By the inboard light source (or the lower one if arranged vertically) designed to conform to:

(*1*) the upper beam requirements of Table 1 of SAE Standard J579 DEC84, if the light sources are Type HB1; or

(*2*) The upper beam requirements of Figure 17, if the light sources are Type HB2; or

(B) By both light sources, designed to conform to the upper beam photometrics specified above for their type.

* * * * *

6. Paragraphs (d)(3)(i) and (d)(3)(ii) of section S7.5 are revised to read:

* * * * *

(d) * * *

(3) * * *

(i) The lower beam shall be provided by the outboard lamp (or the upper one if arranged vertically), designed to conform to:

(A) The lower beam requirements of Table 1 of SAE Standard J579 DEC84, if the light sources are Type HB1; or

(B) The lower beam requirements of Figure 15, if the light sources are Type HB2; and the lens of each such headlamp shall be marked with the letter 'L'.

(ii) The upper beam shall be provided by the inboard lamp (or the lower one if arranged vertically), designed to conform to:

(A) The upper beam requirements of Table 1 of SAE Standard J579 DEC84, if the light sources are Type HB1; or

(B) The upper beam requirements of Figure 15, if the light sources are Type HB2; and the lens of each such headlamp shall be marked with the letter 'U'."

* * * * *

7. In the introductory text of paragraph (e) of S7.5, the words "or Type HB2 and any Type" are added between the words "HB1 and HB4" and "light sources."

8. In paragraph (e)(2) of S7.5, the parenthetical phrase is revised to read: "(Type HB1 with Types HB3 or HB4, Type HB2 and any Type, and Types HB3 and HB4)".

9. The introductory text of Paragraph (e)(3) of section S7.5 is revised to read: "The lower and upper beams of a headlamp system consisting of four lamps, using Type HB1 and Types HB3 or HB4, Type HB2 and any Type, and Types HB3 and HB4 light sources, each containing only a single light source, shall be provided only as follows:"

10. Paragraph (g) of section S7.5 is revised to read:

* * * * *

"(g) The lens of each replaceable bulb headlamp using Type HB2, Type HB3, or Type HB4 light sources, or Type HB1 light sources in conjunction with any other Type of light source within a headlamp system on a motor vehicle, shall permanently display the Type designation(s) for that light source on the lens in front of each light source.

11. In section S7.6, paragraphs (b), (c), (d), (e), (f), (g), (h), and (i), are redesignated respectively (c), (d), (e), (f), (g), (h), (i), and (j), and a new paragraph (b) is added to read:

* * * * *

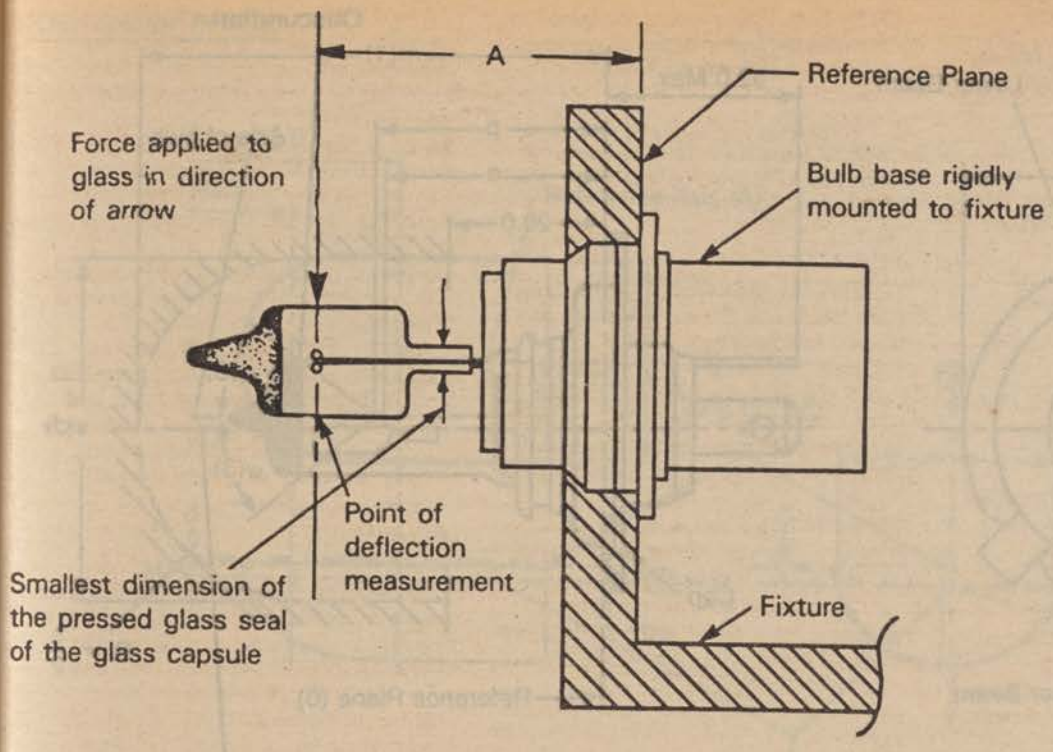
(b) A type HB2 light source shall be designed to conform with the dimensions specified in Figure 23. Its maximum power on the lower beam shall be 66 watts, and on the upper beam, 75 watts. Its luminous flux in lumens shall be 1000 plus or minus 10% on the lower beam, and 1650 plus or minus 10% on the upper beam.

* * * * *

12. In paragraphs S8.6, and S8.6.2 the word "HB1" is removed and the words "Types HB1 or HB2" substituted.

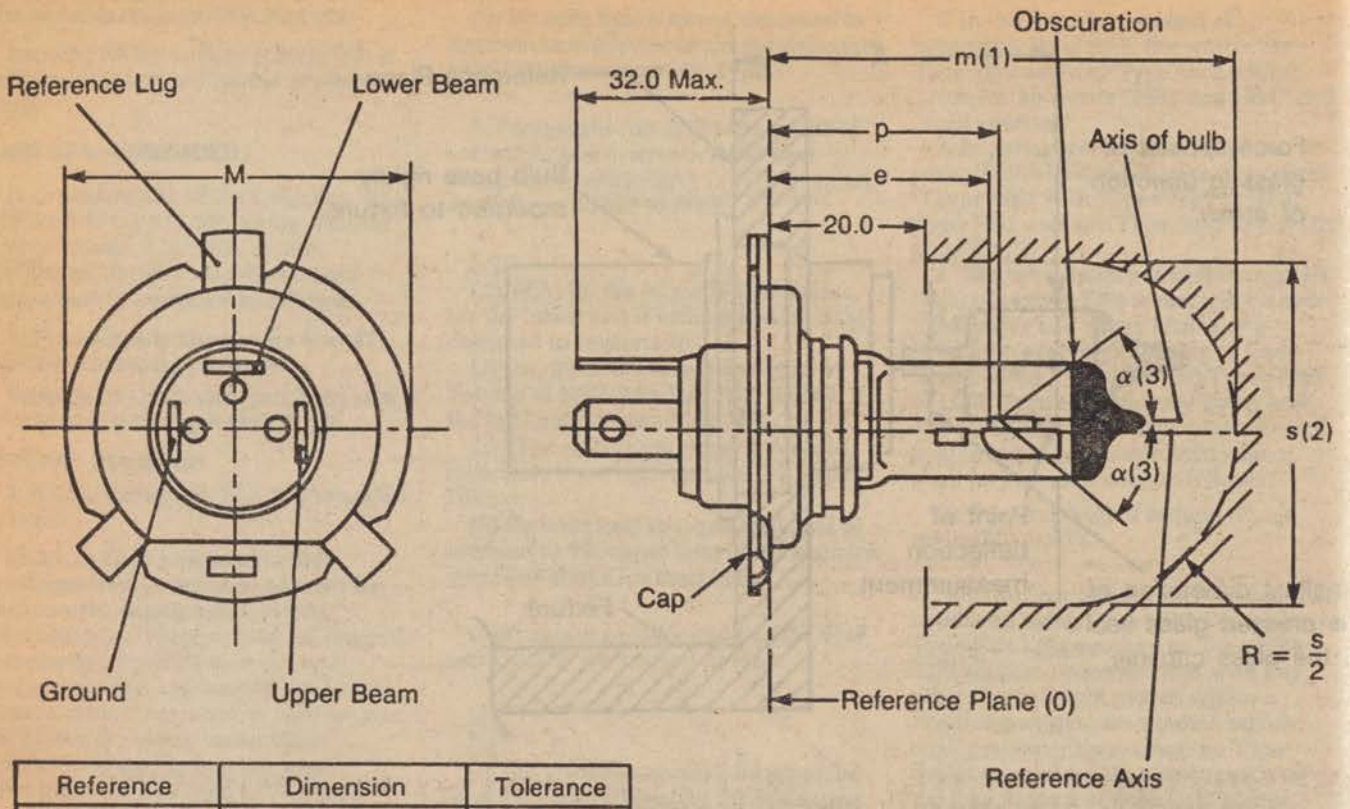
13. Figures 23–1 through 23–7 are added, and Figure 8 is revised as follows:

BILLING CODE 4910-59-M



Standardized Replaceable Light Source Type	Dimension "A"
HB1	44.50 ± 0.38 mm (1.75 ± 0.015 in)
HB2	31.25 ± 0.40 mm (1.23 ± 0.012 in)
HB3	31.50 ± 0.20 mm (1.24 ± 0.008 in)
HB4	31.50 ± 0.20 mm (1.24 ± 0.008 in)

Figure 8. Bulb Deflection Test



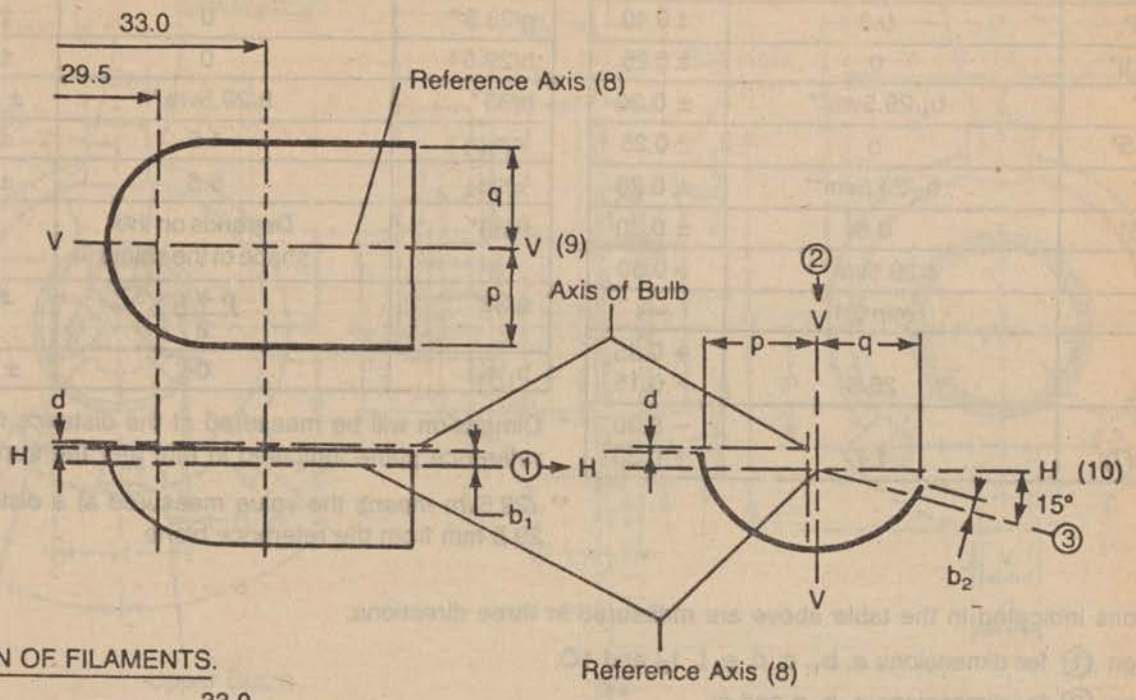
Reference	Dimension	Tolerance
e	28.5	+0.35 −0.15
p	28.95	—
m(1)	max. 60.0	—
s(2)	45.0	—
α(3)	max. 40°	—

Dimensions in millimeters

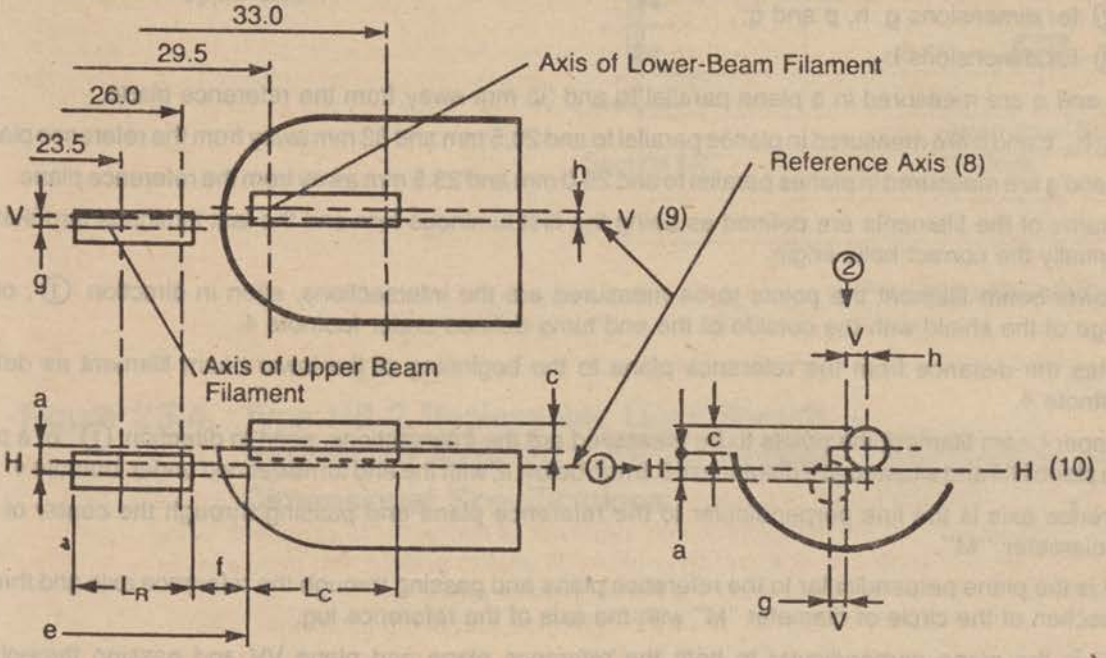
(0) The reference plane is the plane formed by the seating points of the three lugs of the base ring.
(1) "m" denotes the maximum length of the light source.
(2) It must be possible to insert the light source into a cylinder of diameter "s" concentric with the reference axis and limited at one end by a plane parallel to and 20 mm distant from the reference plane and at the other end by a hemisphere of radius s/2.
(3) The obscuration must extend at least as far as the cylindrical part of the glass bulb. It must also overlap the internal shield when the latter is viewed in a direction perpendicular to the reference axis.

Figure 23-1. Type HB-2 Replaceable Light Source — Dimensional Specifications

POSITION OF SHIELD



POSITION OF FILAMENTS.



(Also see continuation page)

Figure 23-2. Type HB-2 Replaceable Light Source — Shield and Filament Position Dimensional Specifications

Reference	Dimension	Tolerance
a/26*	0.8	±0.30
a/23.5*	0.8	±0.40
b_1/29.5*	0	±0.25
b_1/33*	b_1/29.5vm**	± 0.20
b_2/29.5*	0	±0.25
b_2/33*	b_2/29.5vm**	± 0.20
c/29.5*	0.6	± 0.30
c/33*	c/29.5vm**	±0.30
d	min 0.1	—
e(6)	28.5	+ 0.35 − 0.15
f(4)(5)(7)	1.7	− 0.30 + 0.30

Dimension	Reference	Tolerance
g/26*	0	±0.4
g/23.5*	0	±0.5
h/29.5*	0	±0.5
h/33*	h/29.5vm**	± 0.35
$l_{R(5)(7)}$	4.5	±0.8
$l_{c(5)(5)}$	5.5	±0.8
P/33*	Depends on the shape of the shield	—
q/33*	$\frac{p+q}{2}$	±0.6
b_1-b_2	0	± 0.25

* Dimension will be measured at the distance from the reference plane indicated in mm afer the stroke.

** ./29.5vm means the value measured at a distance of 29.5 mm from the reference plane.

Dimensions indicated in the table above are measured in three directions:

Direction ① for dimensions a, b_1, c, d, e, f, 1_R and 1C;

Direction ② for dimensions g, h, p and q;

Direction ③ for dimensions b_2.

Dimensions p and q are measured in a plane parallel to and 33 mm away from the reference plane.

Dimensions b_1, b_2, c and h are measured in planes parallel to and 20.5 mm and 33 mm away from the reference plane.

Dimensions a and g are measured in planes parallel to and 26.0 mm and 23.5 mm away from the reference plane.

(4) The end turns of the filaments are defined as being the first luminous turn and the last luminous turn that are at substantially the correct helix angle.

(5) For the lower-beam filament the points to be measured are the intersections, seen in direction ①, of the lateral edge of the shield with the outside of the end turns defined under footnote 4.

(6) "e" denotes the distance from the reference plane to the beginning of the lower-beam filament as defined under footnote 4.

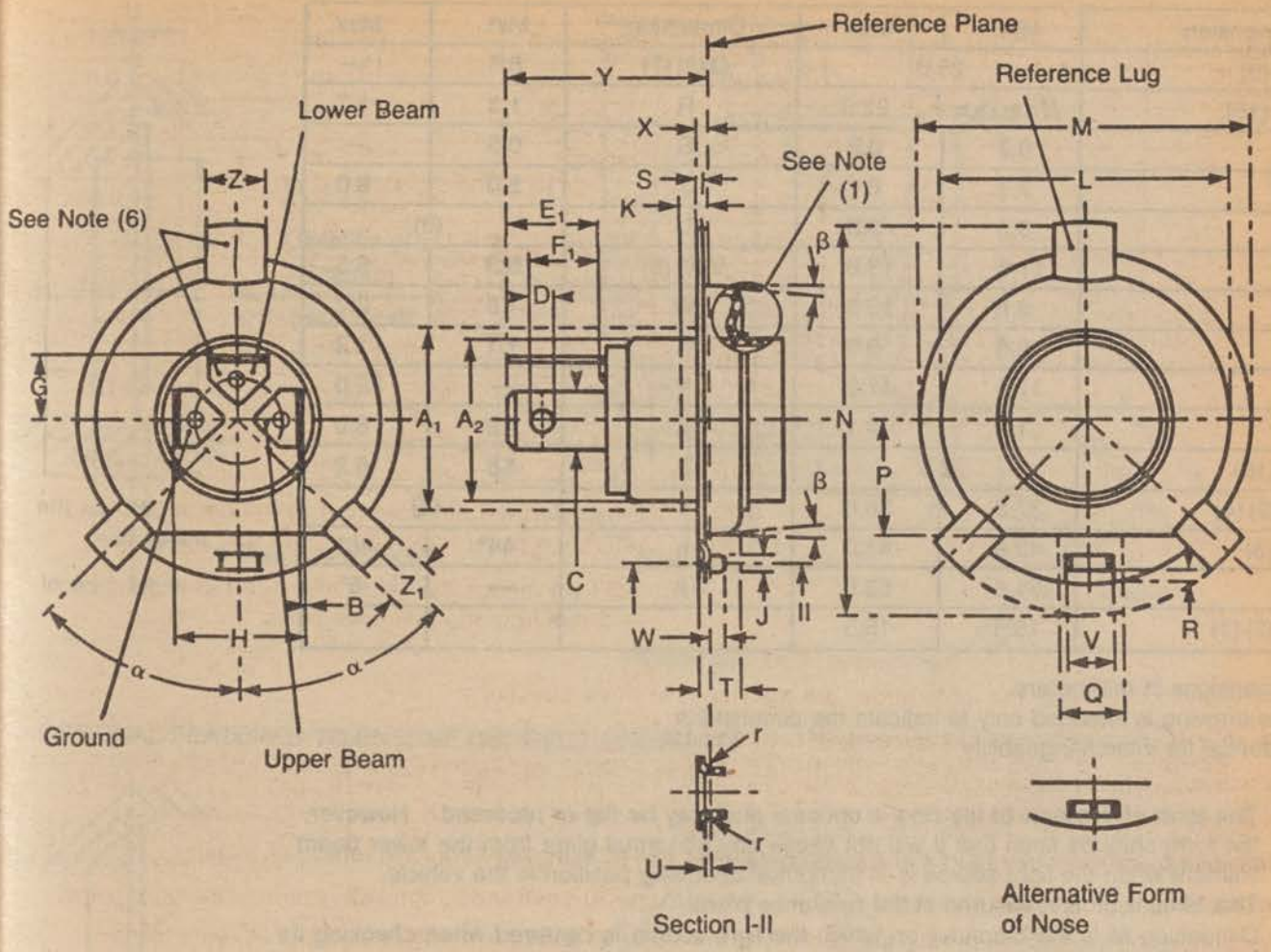
(7) For the upper-beam filament the points to be measured are the intersections, seen in direction ①, of a plane parallel to plane HH and situated at a distance of 0.8 mm below it, with the end turns defined under footnote 4.

(8) The reference axis is the line perpendicular to the reference plane and passing through the center of the circle of diameter "M".

(9) Plane VV is the plane perpendicular to the reference plane and passing through the reference axis and through the intersection of the circle of diameter "M" with the axis of the reference lug.

(10) Plane HH is the plane perpendicular to both the reference plane and plane VV and passing through the reference axis.

Figure 23-3. (Continued) Type HB-2 Replaceable Light Source — Shield and Filament Position Dimensional Specifications



(Also see continuation page)

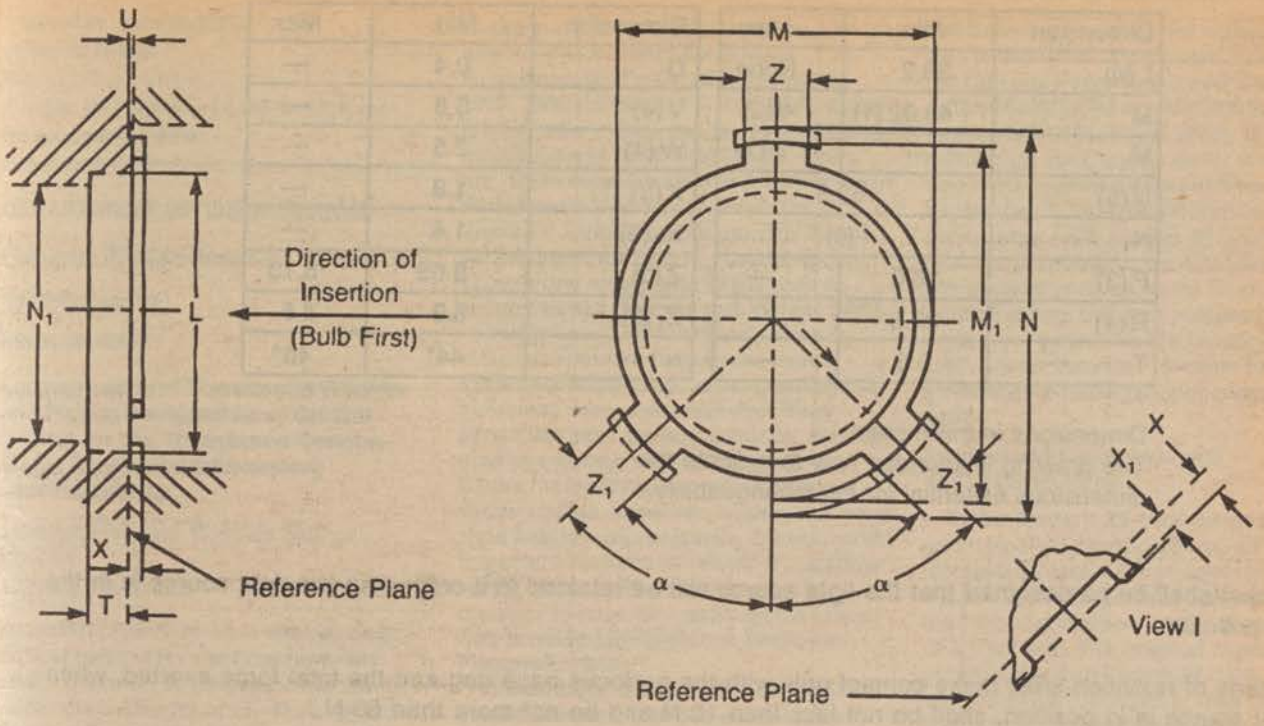
Figure 23-4. Type HB-2 Replaceable Light Source — Assembled Base P43t-38 on Finished Light Source — Dimensional Specifications

Dimension	Min.	Max.	Dimension	Min.	Max.
A_1 (8)	25.0		Q (2) (7)	8.5	—
A_2 (10)	Nominal	22.0	R	1.3	1.7
B	0.7	0.8	S	0.5	—
C	7.7	8.1	T	5.0	6.0
D	3.0	3.3	U	(9)	
E_1	11.8	13.6	V (2) (5)	6.3	6.5
F_1	8.8	10.3	W	1.8	2.2
G	8.5	9.0	X	1.1	1.3
H	17.0	17.9	Y	—	32.0
J	1.9	2.1	Z	7.9	8.0
K (10)	2.0		Z_1	5.8	6.2
L (2) (4)	37.8	38.0	r	(9)	
M (3)	42.9	43.0	α	44°	46°
N	51.6	52.0	β	—	5°
P (2) (7)	15.3	15.5			

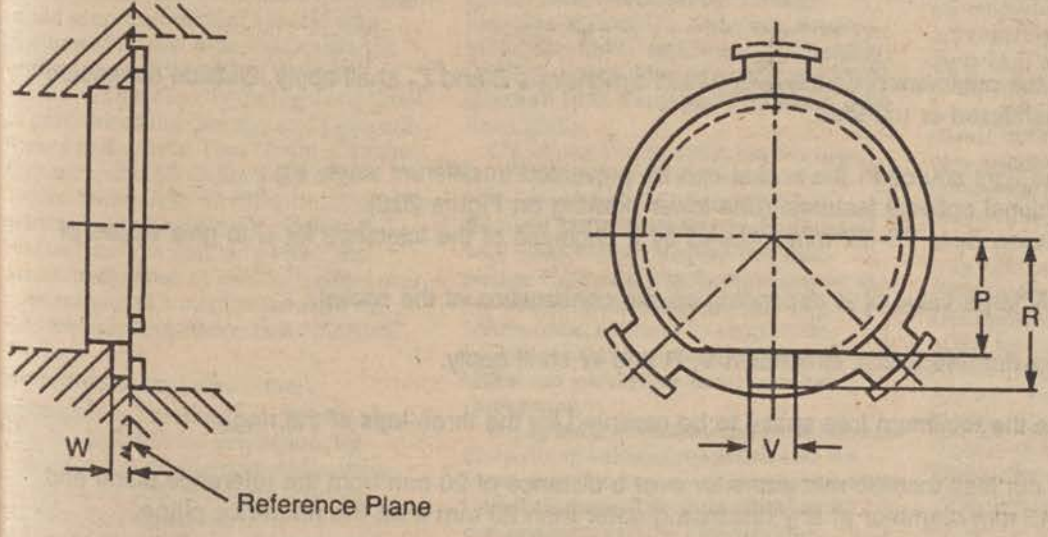
Dimensions in millimeters.
The drawing is intended only to indicate the dimensions essential for interchangeability

(1) The form of this part of the ring is optional and may be flat or recessed. However, the form shall be such that it will not cause any abnormal glare from the lower beam filament when the light source is in its normal operating position in the vehicle.
(2) This dimension is measured at the reference plane.
(3) Dimension M is the diameter on which the light source is centered when checking its dimensional characteristics.
(4) The maximum allowable eccentricity of cylinder L with respect to the circle of diameter M is 0.05 mm.
(5) The maximum allowable displacement of the center of the nose from the line running through the centers of the reference lug and the circle of diameter M is 0.05 mm. The sides of the nose shall not bend outwards.
(6) [Reserved]
(7) Dimension Q denotes the minimum width over which both the minimum and maximum limits of dimension P shall be measured. Outside dimension Q, the maximum limit for dimension P shall not be exceeded.
(8) The means of securing the ring in the headlamp shall not encroach on this cylindrical zone, which extends over the full length of the shell shown on this side of the ring.
(9) The radius r shall be equal to or smaller than dimension U.
(10) Beyond distance K, in the direction of the contact tabs, both the minimum and the maximum limits of dimension A_2 shall be measured.

Figure 23-5. (Continued) Type HB-2 Replaceable Light Source — Assembled Base P43t-38 on Finished Light Source — Dimensional Specifications



OPTIONAL FEATURES TO ENSURE CORRECT INSERTION



(Also see continuation page)

Figure 23-6. Type HB-2 Replaceable Light Source — Reflector Bulb Cavity P43t — Dimensional Specifications

Dimension	Min.	Max.
L (4)	38.2	None
M	43.02 (1)	43.2
M_1	—	49.0
N (5)	52.5	
N_1	(6)	
P (3)	16.0	—
R (4)	20.5	—
T	5.5	—

Dimension	Min.	Max
U	0.4	—
V (4)	6.8	—
W (4)	2.5	—
X (3)	1.8	—
X_1 (2)	1.4	—
Z (3)	8.05	8.13
Z_1 (3)	8.0	8.5
α	44°	46°

Dimensions in millimeters
The drawing is intended only to indicate the dimensions essential for interchangeability.

The socket shall be so designed that the light source will be retained in it only when the light source is in the correct position.

The means of retention shall make contact only with the prefocus base ring and the total force exerted, when the light source is in position, shall be not less than 10 N and be not more than 60 N.

(1) This value shall be complied with between the rim of the socket and the reference plane (dimension X). However, it may be reduced to 38.5 mm within the dimensions Z and Z_1 which correspond with the support points for the lugs of the ring.

(2) Dimension X_1 denotes the minimum distance over which dimensions Z and Z_1 shall apply. Outside dimension X_1 the slots may be chamfered or rounded.

(3) Wrong adjustment of the light source in the socket can be prevented in different ways, e.g.:
— by applying the additional optional features. (See lower drawing on Figure 23.6).
— by decreasing dimension Z_1 to 7.5–7.7 mm followed by a decrease of the tolerance for α to give values of 44°40′–45°20′.
— by using a sufficiently large value of X depending on the construction of the socket.

(4) If dimension L is smaller than 40.5 mm, dimension V, R and W shall apply.

(5) Dimension N delineates the minimum free space to be reserved for the three lugs of the ring.

(6) Dimension N_1 shall be not less than 35 mm diameter over a distance of 20 mm from the reference plane and shall be not less than 45 mm diameter at any distance greater than 20 mm from the reference plane.

Figure 23-7. (Continued) Type HB-2 Replaceable Light Source Reflector Bulb Cavity P43t — Dimensional Specifications

Issued on: June 22, 1989.

Jeffrey R. Miller,

Acting Administrator.

[FR Doc. 89-15239 Filed 6-26-89; 9:09 am]

BILLING CODE 4910-59-M

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AB27

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Threatened Concho Water Snake (Nerodia harteri paucimaculata)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service is designating critical habitat for the Concho water snake (*Nerodia harteri paucimaculata*) under the authority of the Endangered Species Act of 1973 (Act), as amended. The Concho water snake was listed as a threatened species on September 3, 1986 (51 FR 31412); however, final designation of the proposed critical habitat was postponed at that time in accordance with section 4(b)(6)(C) of the Act. Critical habitat is now being designated in portions of the Concho and Colorado Rivers in Runnels, Tom Green, Concho, Coleman, and McCulloch Counties, Texas, with minor modification from the critical habitat originally proposed. Federal actions that may affect the areas designated as critical habitat are now subject to consultation with the Service, pursuant to section 7(a)(2) of the Act.

EFFECTIVE DATE: July 31, 1989.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service Ecological Services Field Office, Room 9A33, 819 Taylor Street, Fort Worth, Texas 76102.

FOR FURTHER INFORMATION CONTACT: Alisa Shull, (See **ADDRESSES** above) at 817/334-2961 or FTS 334-2961.

SUPPLEMENTARY INFORMATION:

Background

The Concho water snake (*Nerodia harteri paucimaculata*), a nonpoisonous snake, is a member of the family Colubridae, and together with the Brazos water snake (*Nerodia harteri harteri*) constitutes the species *Nerodia harteri*, collectively known as the Harter's water snake. The Concho water snake was discovered in 1944 by J. Marr and was described as a distinct subspecies by Tinkle and Conant in 1961. This subspecies is relatively small for *Nerodia*; adults rarely exceed 900 millimeters (3 feet) total length. There are 21–23 dorsal scale rows, four rows of dark brown blotches arranged in alternate fashion on the grayish dorsal surface, and distinct to obscure dark spots along either side of the pink to orange venter (Wright and Wright 1957).

Adult Concho water snakes live in either shallow or deep water over a variety of substrates, as long as there is sufficient deep, secure shelter from predators near nursery grounds. Adults also use woody vegetation along the banks for basking. Juvenile Concho water snakes, however, have much more rigid habitat requirements, the two most important features of which are shallow water with a rocky substrate and medium to large flat rocks on the shore that provide hiding places (Scott and Fitzgerald 1985).

Historically, the Concho water snake occurred over about 330 miles of the Concho and Colorado Rivers and their tributaries. It is presently distributed discontinuously over a reduced range in Irion, Coke, Tom Green, Concho, Runnels, McCulloch, Coleman, Brown, Mills, San Saba, an Lampasas Counties (Williams 1971, Flury and Maxwell 1981, Brnovak 1975, Scott and Fitzgerald 1985, Rose 1985).

On December 30, 1982, the Service published a Notice of Review of Vertebrate Wildlife in the **Federal Register** (47 FR 58454). *Nerodia harteri* was included in category 1 of that notice. Category 1 includes those taxa for which the Service has substantial information on hand to support the biological appropriateness of a proposal to list the species as endangered or threatened.

On February 14, 1984, the New Mexico Herpetological Society petitioned the Service to list *Nerodia harteri* (including both subspecies) as threatened and designate its critical habitat. The Service found that substantial information had been presented indicating that the petitioned action might be warranted. A notice of this finding was published on May 18, 1984 (49 FR 21089). A 1-year finding was reported on July 18, 1985 (50 FR 29238). That finding held that the petitioned action was warranted for the Concho water snake but that such action was precluded by work on other pending proposals, in accordance with section 4(b)(3)(B)(iii) of the Act. The 1-year finding for the remaining subspecies, the Brazos water snake, was reported concurrently and held that the petitioned action was not warranted for that subspecies. A proposed rule to list the Concho water snake and designate critical habitat was published on January 22, 1986 (51 FR 2923). The final rule listing the Concho water snake as a threatened species was published on September 3, 1986 (51 FR 31412). In accordance with section 4(b)(6)(C) of the Act, the proposed critical habitat designation was not made final at the time of listing, but was postponed for an additional year from the January 22, 1987, 1-year deadline to allow for gathering and analyzing of economic data.

Summary of Comments and Recommendations

In the January 22, 1986, proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. The original comment period closed on March 24, 1986, but was reopened on April 3, 1986 (51 FR 9081), to accommodate a public hearing and remained open until May 2, 1986. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice inviting general public comment was published in the San Angelo, Texas, *Standard-Times* on February 10, 1986. One hundred fifty-seven comment letters were received, and are discussed below. Two requests for a public hearing were received, and a hearing was held in Ballinger, Texas, on April 3, 1986. Interested parties were contacted and notified of that hearing, and notices of the hearing were published in the **Federal Register** on March 17, 1986; the Abilene, Texas, *Reporter-News* on March 18, 1986; the Big Spring, Texas, *Herald* on March 19, 1986; the Midland, Texas, *Reporter-Telegram* on March 15, 1986; and the San Angelo, Texas, *Standard-Times* on March 20, 1986. Comments received in the hearing are also summarized below.

The public hearing held in Ballinger, Texas, was attended by about 350 people. Fifty-seven oral or written statements were given, 5 is support of the proposal, 46 questioning or in opposition, and 6 neither in support nor opposition. A transcript of this hearing is available for inspection (see **ADDRESSES**). Organizations represented at the hearing included: U.S House of Representatives; Texas Governor's Office; U.S. Geological Survey; U.S. Army Corps of Engineers; USDA Soil Conservation Service; Texas Parks and

Wildlife Department; Texas Department of Highways; Texas General Land Office; Texas Water Development Board; Big Country Audubon Society; Sierra Club; National Audubon Society; Cities of Midland, San Angelo, Ballinger, Coleman, Odessa, Abilene, Paint Rock, and Winters; Counties of Concho, Runnels, Coleman, and Tom Green; five State legislative districts; six local and regional water boards; and several local governmental or business organizations.

The 157 letters received were from 460 parties; several multiple-party and petition letters were received. Of those, 88 letters from 111 parties were in support of the proposed critical habitat, 51 letters from 322 parties questioned or opposed the proposal, and 18 letters from 27 parties were neither in support nor opposition.

All letters and written or oral statements received regarding critical habitat designation are combined in the following discussion. Comments in the letters and statements concerning the proposed listing of the Concho water snake have already been addressed in the final listing rule published in the **Federal Register** on September 3, 1986 (51 FR 31412). Comments on specific water projects (the need for each project, possible effects of this proposal on such projects, and specific features of alternative projects) are addressed here only if they requested or resulted in specific changes to the proposal or to the rule procedure on critical habitat designation. Information regarding the possible economic effects of the proposed critical habitat on such projects can be found in the Economic Analysis, which is summarized later in this rule. Comments received are available for inspection (see **ADDRESSES**).

Comments of support were received from Texas Parks and Wildlife Department; Texas General Land Office; National Audubon Society; Big Country Audubon Society; Defenders of Wildlife; Sierra Club; Texas Chapter of the Wildlife Society; American Society of Ichthyologists and Herpetologists; New Mexico Herpetological Society; Society for the Study of Amphibians and Reptiles; 94 private individuals or groups; and biologists from Texas A&I University, New York Zoological Society, Midland College, Angelo State University, Dallas Zoo, Central Texas College, Hardin-Simmons University, Texas A&M University, and Texas Tech University.

Comments questioning or in opposition to the proposal were received from Congressman Charles Stenholm; Texas Water Development Board; Texas Water Commission; Cities of Big Spring, Winters, Midland, San Angelo, Ballinger, Coleman, Odessa, Abilene, and Paint Rock; Counties of Brown, Concho, Runnels, and Coleman; six state legislators; Upper Colorado River Authority; Colorado River Municipal Water District; San Angelo Water Advisory Board; Central Colorado River Authority; West Central Texas Municipal Water District; and 324 private individuals or groups.

Economic information or neutral letters were received from the Bureau of Reclamation, Bureau of Land Management, Environmental Protection Agency, Federal Highway Administration, Soil Conservation Service, U.S. Army Corps of Engineers, Federal Emergency Management Agency, Texas Governor's Office, Texas System of Natural Laboratories, and 3 private individuals.

Summaries of all substantive comments addressing the issue of critical habitat designation for the Concho water snake are covered in the following discussion. Comments of similar content are grouped in a number of general issues with the Service's response to those issues and comments.

Issue 1: The sufficiency of the size of the critical habitat was questioned by two commenters. The Lone Star Chapter of the Sierra Club stated that they do not believe the proposed critical habitat goes far enough in securing all Concho water snake habitat and ensuring that areas are protected for reintroduction or population supplementation. They requested that the entire 199 miles of occupied range known at the time of proposal be included in the critical habitat designation, and that other areas be identified in the designation for reintoduction sites. Dr. John Peslak, of Hardin-Simmons University in Abilene, Texas, questioned whether the proposed critical habitat is "sufficient to insure the survivial of the snake even if the Stacy Dam becomes a reality?"

Service Response: The critical habitat designated in this rule includes all known occupied Concho water snake habitat that contains those constituent elements that are essential to the conservation of the species and that may require special management considerations or protection. Stream and reservoir banks that are essential for the conservation of the species are included. The Service will continue to evaluate other areas for future inclusion in the critical habitat.

Issue 2: Three commenters requested removal of, or questioned the need for, various areas of the proposed critical habitat. Both the Texas Water Development Board and the Texas Water Commission requested that the Stacy Reservoir area be excluded from the critical habitat designation for economic reasons. Section 4(b)(2) of the Endangered Species Act provides that the Secretary of the Interior may exclude any area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as critical habitat, unless failure to designate such area as critical habitat would result in the extinction of the species. The two agencies believe that the economic benefits of the water supply to be provided by the construction of Stacy Reservoir outweigh the benefits of the critical habitat designation.

Service Response: The reservoir basin is not withdrawn from the critical habitat designation. Concho water snake populations were found at Lake Spence and Lake Moonen in both 1987 and 1988 (Thornton and Dixon 1988). With this information on occurrence of Concho water snakes in reservoirs, and from a survey of the potential Concho water snake habitat on the future Stacy Reservoir shoreline, the recognized potential for the snake to inhabit Stacy Reservoir is substantially greater than when the designation of critical habitat was proposed. The retention of the critical habitat designation for the reservoir basin is necessary to provide protection for the potential habitat sites within the reservoir basin. In light of the Service's biological opinion that the Stacy project is not likely to jeopardize the continued existence of the Concho water snake or to result in the destruction or adverse modification of the proposed critical habitat, no disruption to the construction or operation of Stacy Dam and Reservoir is expected. Any impacts from the designation would be limited to possible restrictions on land use along those shoreline areas surrounding the reservoir that are potential or occupied Concho water snake habitat. Therefore, the benefits of retaining these areas in the critical habitat outweigh the benefits of excluding them.

A private landowner on the Concho River inquired about the basis for the 15 vertical foot provision in the proposed critical habitat designation. This commenter pointed out that the provision would result in extension of the critical habitat 1½ miles up Concho Creek, and states that although he has observed the Concho water snake many times, he has never found one more than 10 feet from the edge of the water.

Service Response: The basis of the 15 foot elevation line is the average general depth of the incision of the river into the surrounding countryside. The 15 feet is

not a measurement along the surface of the ground, but is instead a horizontal line rising 15 feet above the water surface at median discharge. The distance from the water's edge to the point at which that line intersects the bank will depend upon the flow at the specific point in time, as well as the degree of slope of the channel banks. The importance of these riparian areas is the maintenace of stream bank integrity, which is important for preservation of actual water snake habitat. The Service acknowledges that there is no benefit to the snake from extension of the critical habitat more than ½ mile upstream into most tributary streams. The Concho water snake generally does not use tributary streams, particularly those that have only ephemeral flow. Therefore, the critical habitat has been modified in this rule to limit the extension of the critical habitat to ½ mile upstream into any tributary of the Concho and Colorado Rivers or to Stacy Reservoir at the conservation pool level.

Issue 3. Three commenters questioned the process for economic analysis of the critical habitat, or asked for specific considerations in that process. The Lone Star Chapter of the Sierra Club asked that economics not be considered in the critical habitat designation.

Service Response: The Endangered Species Act (section 4(b)(2)) specifies that the "economic impact, and any other relevant impact" be considered in the final designation of critical habitat. In addition, critical habitat designation is also subject to Executive Order 12291, which requires, to the extent permitted by law, that all regulatory actions will have benefits outweighing costs, and that the alternative with the largest net benefit shall be chosen; to the Regulatory Flexibility Act, which requires analysis of the impacts of regulatory actions on small entities; and, to the Paperwork Reduction Act, the purpose of which is to minimize the paperwork and resulting costs of regulatory actions. Only the listing portion of the proposed rule was exempt from economic considerations.

The Texas Water Development Board objected to the delay in completing an economic analysis of the critical habitat. The Board pointed out that in July 1983 they notified the Service of potential conflicts between water development and the proposed critical habitat and recommended that a comprehensive economic analysis be conducted. They questioned why no analysis had yet been done at the time of the publication of the proposed rule on listing and critical habitat in January 1986.

Service Response: When critical habitat designation is proposed concurrently with the listing of a species, as is required (with certain exceptions) by the Act, the economic analysis is not conducted prior to proposal to avoid non-biological considerations from influencing or delaying the listing. This procedure is based upon the specific requirement of the Act that listing actions be based on the best biological and commercial data available.

The Big Country Audubon Society requested that the Service's economic analysis focus on patterns of water use in the area.

Service Response: As a result of the reasonable and prudent alternatives developed for the Stacy Reservoir, there are no known conflicts between the critical habitat designation and any specific water development in the area. Therefore, the economic analysis addresses water use patterns only to the extent that the Stacy biological opinion results in economic costs for such use patterns.

Compensation costs that must be paid by the Colorado River Municipal Water District for construction of Stacy Reservoir include hiring of a biologist to oversee all phases of construction, funding studies on Concho water snake life history, genetics, and habitat requirements, and construction of riffle habitats in the river. However, these costs are part of the reasonable and prudent alternatives needed to relieve jeopardy to the Concho water snake and would be required even if no critical habitat were proposed.

Issue 4: One commenter presented several questions regarding the impacts of critical habitat designation on private property fronting on the critical habitat. He specifically questioned if the critical habitat designation would affect his water rights or his ability to control brush along the river and draws. He states that landowners will suffer economically from the critical habitat designation through loss of control and full use of their property and water rights.

Service Response: The land and water rights of private landowners are in no way affected or limited by the designation of critical habitat. Critical habitat provides protection only from Federal actions. It does not affect private actions, lands, water or any other rights, unless the private actions are Federally funded or if they require a Federal permit. Brush control by a private individual on private lands would not be affected unless Federal money is being used in the project. Private water rights would not be affected per se. However, if the mechanism used to develop the water right involves actions in the river channel that require a permit under the Clean Water Act, the Rivers and Harbors Act, or other such Federal legislation, then the proposed permit for the mechanism would be subject to consultation with the Service under section 7 of the Endangered Species Act. The effect, if any, of the consultation on the mechanism for implementing the water right would vary depending on the location and type of action. Such effects are generally minor and may involve some modifications to the project to accommodate the species and/or its critical habitat.

Issue 5: Several commenters suggested actions that they think should be taken instead of critical habitat designation, or as a necessary adjunct to the designation. The Texas General Land Office, Natural Heritage Program, believes that assurances of adequate stream flows for reproduction and growth of the Concho water snake should be included in the critical habitat designation.

Service Response: Minimum stream flows and flood or channel maintenance flows are provided for most of the critical habitat as a part of the reasonable and prudent alternatives set forth in the Service's biological opinion resulting from the consultation on Stacy Reservoir. These flow requirements are included in the constituent elements for the designated critical habitat at the end of this rule.

The Lone Star Chapter of the Sierra Club requested that the Service seek easement, water rights, or fee title to riparian areas critical to the Concho water snake.

Service Response: At present none of these measures appear to be necessary to the continued survival and recovery of the Concho water snake. As the implementation of the reasonable and prudent alternatives of the Section 7 consultation on Stacy Reservoir proceeds, areas may be identified for which easement or full-title acquisition may be desirable.

A private landowner questioned whether critical habitat will do anything to enhance the Concho water snake as long as nothing is done to eliminate natural predators.

Service Response: Although fish may prey upon young Concho water snakes, there are no data that suggest fish or predation in general, have been a major factor in the overall decline of the Concho water snake.

Critical Habitat

Critical habitat, as defined by section 3 of the Act means: (i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection, and (ii) specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

The future Stacy Reservoir basin will be included in the final designation of critical habitat. With recent information on occurrence of Concho water snakes at Spence and Moonen reservoirs, and from a survey of the potential water snake habitat on the future Stacy Reservoir shoreline, the potential for the snake to inhabit Stacy Reservoir appears significantly greater than previously thought. About 63 km of the future lake shoreline between elevations 1,530 feet and 1,551.5 feet (conservation pool level) were found to contain rocky habitat similar to that found in Spence and Moonen reservoirs. This is 26 and 33 percent of the shoreline at the two elevations, respectively. Open spaces between rocky habitat areas are less than 800 meters, which would allow at least some movement of snakes between sites.

Because of the uncertain time factor and other variables, the Service does not believe that future reservoir habitat will be equal to the amount of stream habitat lost to impoundment. However, the Service believes that successful occupation of a number of sites around Stacy Reservoir by the Concho water snake would significantly reduce the fragmentation effect by providing a corridor for gene flow through snake movement. Translocation of snakes above and below the Dam may be necessary to augment natural movements if they are found to be insufficient.

In addition, the March 7, 1989 amendment to the biological opinion provides that the 17 segments of future Stacy Reservoir shoreline identified in the 1988 Annual Report (Thorton and Dixon 1988) and maps as potential Concho water snake habitat are to be protected by the Colorado River Municipal Water District from development for housing, industry, agriculture, recreation or other activities that could have an adverse effect on snake habitat.

The areas that are included in the critical habitat designation contain essential elements for the conservation of the Concho water snake. These include: riffles for feeding and resting, rocky gravel bars that provide shelter for neonates, larger rocks that adults and subadults use for basking or for shelter, brush/debris piles adjacent to riffles for shelter, low tree limbs overhanging the river for basking (usually adjacent to riffles), minimum stream flows (see item 4 of amendment to 50 CFR 17.95(c) at end of this rule), and rocky areas and stream pool banks for movement to other areas (Dixon, Greene, and Mueller 1988; Thorton and Dixon 1988).

The Concho water snake is protected from taking and harm by section 9 of the Act, and is protected against adverse impacts to the snake itself from Federal actions. Critical habitat designation provides that additional protection of that habitat from adverse impacts of Federal actions. This habitat protection is consistent with the habitat protection needs outlined in the biological opinion, as amended, on Stacy Dam. These needs include protection of approximately 17 segments of reservoir shoreline habitat, restoration of riffle habitats, stream and habitat monitoring, and maintenance of minimum flows.

Section 4(a)(3) of the Act requires that critical habitat be designated to the maximum extent prudent and determinable concurrently with the determination that a species is endangered or threatened. Section 4(b)(6) requires that a proposed listing be made final within one year from the publication of the proposal, but provides for an additional one-year extension for the final designation of critical habitat, if necessary. Critical habitat is being designated for the Concho water snake (*Nerodia harteri paucimaculata*) in the following areas:

1. Concho River in Tom Green and Concho Counties, Texas. A stretch extending from Mullin's Crossing located 5 miles northeast of the town of Veribest, downstream to the confluence of the Concho and Colorado Rivers.

2. Colorado River in Runnels, Concho, Coleman, and McCulloch Counties, Texas. A stretch extending from the Farm to Market Road 3115 bridge near the town of Maverick downstream to the confluence of the Colorado River and Salt Creek, northeast of the town of Doole.

Both stretches include both the river channel and the river banks up to 15 vertical feet above the water level at median discharge. However, the critical habitat is limited to no more than ½ mile upstream on any tributaries of either the Concho or Colorado Rivers. The Service will continue to evaluate other areas for future designation as critical habitat.

3. The entire future Stacy Reservoir basin up to the maximum water level of 1551.5 foot elevation, and including reservoir banks up to 15 vertical feet above the 1551.5 foot elevation.

This critical habitat designation has been modified from the area proposed. Critical habitat is limited to no more than ½ mile upstream on any tributary of either the Concho or Colorado Rivers, and the portions of the Concho and Colorado Rivers that will become Stacy Reservoir have been retained in the critical habitat designation. The dam that will create the reservoir is currently under construction and was the subject of consultation under section 7 of the Act. The December 19, 1986, biological opinion (as amended March 7, 1989) resulting from that consultation, set forth reasonable and prudent alternatives for creating and preserving habitat elsewhere. If implemented, those alternatives would reduce the impacts of the reservoir on proposed critical habitat to levels that would not significantly diminish the value of the proposed critical habitat (or its constituent elements) for the survival and recovery of the Concho water snake.

The Service issued an amended biological opinion on March 7, 1989, based on its review of new information, including the discovery of Concho water snake populations in two reservoirs. Concho water snakes are expected to colonize the Stacy Reservoir. Therefore, certain requirements in the original biological opinion have been reduced or eliminated. The eliminated requirements include construction of artificial habitats in the reservoir basin, and construction of low head dams, gabions, and aritificial riffle habitats on the lower Colorado River from Winchell to a point about 33 miles downstream. Monitoring of stream and stream habitat has also been reduced. Riffle habitats are to be restored in the upper Colorado River. Construction of other low head dams, gabions, and artificial riffles on the lower Colorado River from a point about 33 miles below Winchell downstream about 16 miles to Pecan Bayou has been delayed pending evaluation of prototype structures in the upper Colorado River and changes in the lower Colorado River. The approximately seventeen segments of reservoir shoreline habitat that were identified in the 1988 Annual Report (Thornton and Dixon 1988) must be protected from adverse impacts.

The entire Stacy Reservoir basin has been included in designation of critical habitat because this area is expected to contribute to viable Concho water snake populations. This is a change from the proposed critical habitat because it include all areas that will be inundated following construction of Stacy Dam.

In addition, the proposed critical habitat has been modified to limit designation of critical habitat to the lower ½ mile of streams tributary to the Concho and Colorado Rivers or to Stacy Reservoir at the conservation pool level. The proposed critical habitat included land areas inside of a horizonal line drawn outward from a point 15 vertical feet above the level of median discharge of the river. It was pointed out during the comment period that because of the low topographic relief of the area, this provison allowed the proposed critical habitat to extend upstream into some tributaries for 1 to 2 miles. However, only the mouths of these tributaries and their banks are considered to be critical to the species' survival. Therefore, the extension of the critical habitat up the tributary streams has been limited to ½ mile.

The constituent elements of the final critical habitat are biologically important to the survival of viable Concho water snake populations. Stream and reservoir bank integrity must be maintained to provide areas for the water snakes to rest, bask, and travel between sites. Riffle habitats are important feeding and resting areas for water snakes, especially neonates. Rocky substrates of different sizes provide shelter sites for water snakes of all age groups. Minimum stream flow requirements must be met (see item 4 of amendment to 50 CFR 17.95(c) at end of this rule). Water quality maintenance contributes to an ample prey base. The stretches of river and the reservoir basin in this critical habitat designation contain the constituent elements that are necessary for Concho water snake survival.

Section 4(b)(8) requires, for any proposed or final regulation that designates critical habitat, a brief description and evaluation of those activities (public or private) that may adversely modify such habitat or may be affected by such designation. Any activity that would lessen the amount of minimum flow, or would significantly alter the natural flow regime in those portions of the Concho and Colorado Rivers, could adversely impact the critical habitat. Such activities include, but are not limited to, impoundment and water diversion. Any activity that would extensively alter the channel and bank morphology in those river portions and result in a significant decrease in the amount or quality of riffle habitat could adversely impact the critical habitat. Such activities include, but are not limited to, channelization, excessive sedimentation, mining or rock and gravel, pollution, impoundment, and removal of riparian vegetation. Any activity that would significantly alter the water chemistry or temperature regime in those river portions could adversely impact the critical habitat. Such activities include, but are not limited to, release of chemical or biological pollutants into the waters at a point source or by dispersed release.

Section 4(b)(2) of the Act requires the Service to consider economic and other impacts of designating a particular area as critical habitat. The Service has considered the critical habitat designation in light of all additional relevant information obtained during the public comment period and public hearings. An Economic Analysis and Determination of Effects of Rules for the critical habitat designation have been prepared and are available upon request. No significant economic or other impacts are expected from this designation of critical habitat for the Concho water snake. The additional information received has been addressed in the "Summary of Comments" section of this rule or in the economic documents prepared on the rule. Conclusions of the economic assessments are summarized in the "Regulatory Flexibility Act and Executive Order 12291" section of this rule.

Available Conservation Measures

Section 7(a)(2) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is listed as endangered or threatened and with respect to the habitat that has been designated as critical. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect the listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

Concho water snakes are found only in rivers, reservoirs and their shorelines, and adjacent riparian areas on private, State, or county owned lands. This critical habitat designation is expected to have little effect upon the present land and water uses in the area. Known Federal activities that may be affected by this critical habitat designation are future federally funded or authorized dam and reservoir construction; highway, bridge, and pipeline construction; or irrigation projects. Such activities, although on private lands, would be subject to section 7 consultation if Federal funding were involved, or if the activity requires Federal authorization.

The threatened status of the Concho water snake, under provisions of section 4(a)(1) of the Endangered Species Act of 1973, as amended, is not affected by this designation of its critical habitat.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

Regulatory Flexibility Act and Executive Order 12291

The Department of the Interior has determined that designation of critical habitat for this species is not a major rule under Executive Order 12291 and certifies that this designation 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.*). No additional costs to Federal or non-Federal entities caused by critical habitat designation have been identified. The Service and the Soil Conservation Service (SCS) completed an informal consultation on a planned floodwater retention project. The SCS determined that the project would have no adverse effect on the Concho water snake or its critical habitat, and the Service concurred with this conclusion. The above findings are based on opinions rendered by the agencies involved, and on the following: Bureau of Reclamation's normal and expected management of water releases from upstream reservoirs; the expectation that no additional economic impacts will accrue to Stacy Dam and Reservoir as a result of the designation of critical habitat; the absence of other ongoing or planned Corps of Engineers or Federal Emergency Management Agency projects in the vicinity of the critical habitat; the expectation of either no impacts or beneficial impacts from

existing and partially completed SCS projects in the vicinity of the critical habitat; the existence of easily added protective mechanisms that can be used to protect against adverse modification of critical habitat by the All-American pipeline; current Environmental Protection Agency standards on National Pollution Discharge Elimination System permits in the river basin; and Federal Highway Administration policies for avoiding adverse environmental effects. In addition, no State or private activities involving Federal funds or permits are expected to affect or be affected by the critical habitat designation.

Therefore, no significant economic impacts are expected to result from the critical habitat designation. In addition, no direct costs, enforcement costs, or information collection or recordkeeping requirements are imposed on small entities by the designation. These determinations are based on a Determination of Effects of Rules that is available upon request (see **ADDRESSES**).

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Author

This rule was prepared by the Endangered Species Staff, Region 2, U.S. Fish and Wildlife Service, Albuquerque, New Mexico.

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Regulation Promulgation

PART 17—[AMENDED]

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93–205, 87 Stat. 884; Pub. L. 94–359, 90 Stat. 911; Pub. L. 95–632, 92 Stat. 3751; Pub. L. 96–159, 93 Stat. 1225; Pub. L. 97–304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*); Pub. L. 99–625, 100 Stat. 3500 (1986); Pub. L. 100–478, 102 Stat. 2306 (1988), unless otherwise noted.

2. Amend § 17.95(c) by adding the critical habitat of the Concho water snake in the same alphabetical order as the species occurs in § 17.11(h):

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(c) * * *

* * * * *

Concho Water Snake (*Nerodia harteri paucimaculata*)

Texas: Areas of land and water as follows:

1. *Tom Green and Concho Counties.* Concho River: The mainstream river channel and river banks, up to a level on both banks that is 15 vertical feet above the water level at median discharge (but not extending more than ½ mile upstream on any tributary stream); extending from Mullin's Crossing, northeast of the town of Veribest downstream to the confluence of the Concho and Colorado Rivers.

2. *Runnels, Concho, Coleman, and McCulloch Counties.* Colorado River: The mainsteam river channel and river banks, up to a level on both banks that is 15 vertical feet above the water level at median discharge (but not extending more than ½ mile upstream on any tributary steam); extending from the Farm to Market Road 3115 bridge near the town of Maverick downstream to the confluence of the Colorado River and Salt Creek, northeast of the town of Doole.

3. The entire future Stacy Reservoir basin up to the conservation pool level of 1551.5 feet elevation, and including reservoir banks up to 15 vertical feet above the 1551.5 feet elevation, and including tributary streams for not more than ½ mile upstream from the conservation pool level.

4. Constituent elements include shallow riffles and rapids with rocky cover, minimum steam flows, dirt banks, rocky shorelines, and woody riparian vegetation. Minimum flows include the following:

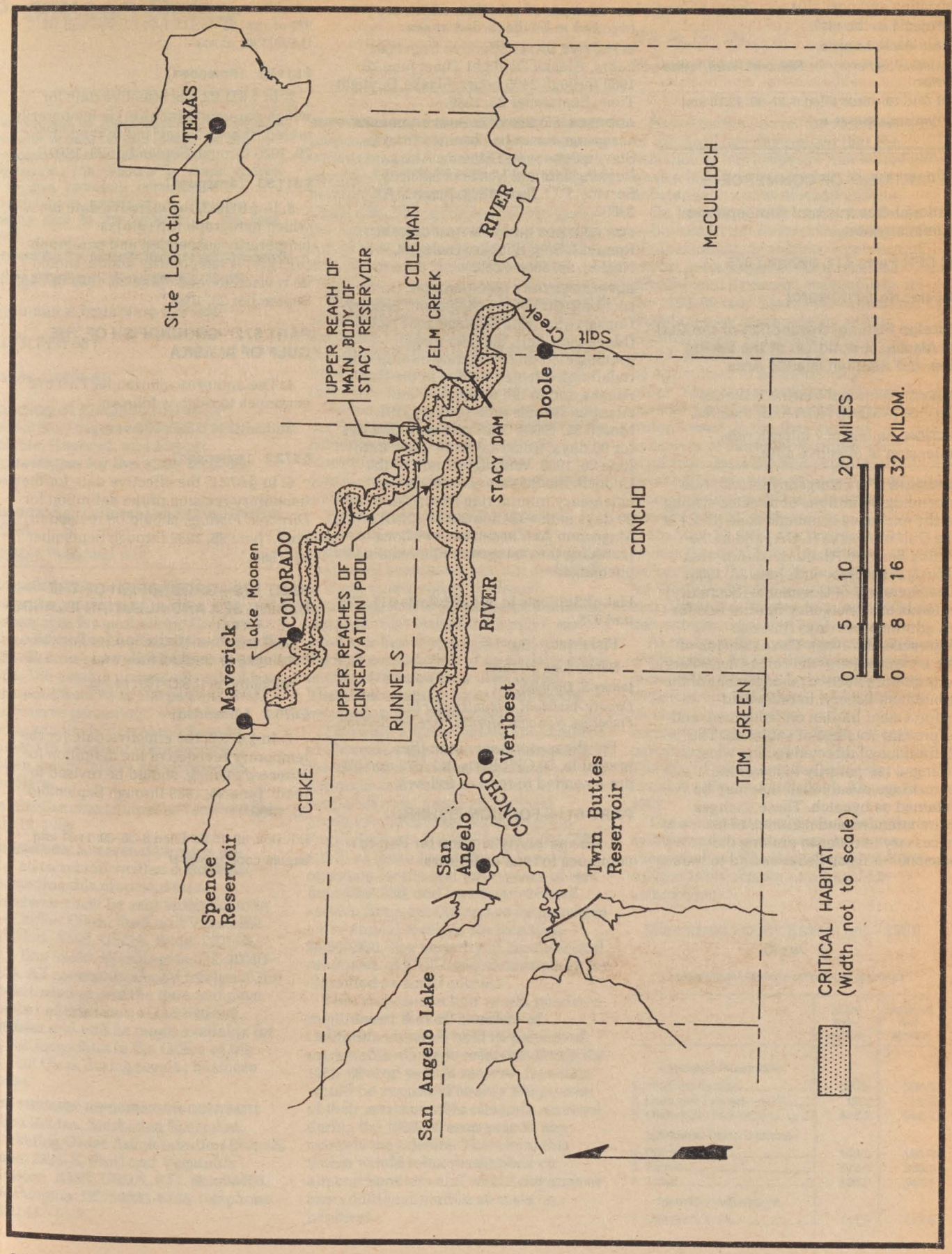
(a) A continous, daily flow of 10.0 cubic feet/second (cfs) in the Colorado River from E.V. Spence Reservoir to Ballinger, Texas.

(b) A flushing flow of 600 cfs from E.V. Spence Reservoir for a duration of 3 consecutive days (at any time during the months of November through February), at least every other year for channel maintenance.

(c) A continuous, daily minimum flow of 11.0 cfs in the Colorado River between Stacy Dam and Pecan Bayou between April and September each year, and a minimum of 2.5 cfs between October and March of each year.

(d) Flushing flows of 2500 cfs from Stacy Reservoir for 2 consecutive days at least once every 2 years for channel maintenance.

BILLING CODE 4310-55-M



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* * * * *

Dated: June 20, 1989.

Susan Recce Lamson,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 89-15496 Filed 6-27-89; 12:18 am]

BILLING CODE 4310-55-M

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Parts 611, 672 and 675

[Docket No. 90370-9070]

Foreign Fishing; Groundfish of the Gulf of Alaska; Groundfish of the Bering Sea and Aleutian Islands Area

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Emergency interim rule, extension of effective date.

SUMMARY: An emergency interim rule amending definitions of directed fishing in the exclusive economic zone (EEZ) in the Gulf of Alaska (GOA) and in the Bering Sea and Aleutian Islands area (BSAI) is in effect until June 26, 1989. The Secretary of Commerce (Secretary) extends the emergency interim rule for an additional 90 days (through September 23, 1989). The extension of the emergency interim rule is necessary to promote effective management of the groundfish fishery, to relieve an enforcement burden on fishermen, and to prevent wastage of sablefish. The definitions of directed fishing were changed temporarily to lower the percentage of sablefish that may be retained as bycatch. These changes were intended and continue to be necessary in order to prolong the seasons for these fisheries and to reduce the amounts of sablefish which are required to be discarded at sea.

EFFECTIVE DATE: Effective from 0001 hours, Alaska Daylight Time, June 26, 1989 through 2400 hours Alaska Daylight Time, September 23, 1989.

ADDRESS: Copies of the environmental assessment may be obtained from Steven Pennoyer, Director, Alaska Region, National Marine Fisheries Service, P.O. Box 21668, Juneau, AK 99802.

FOR FURTHER INFORMATION CONTACT: Ronald J. Berg (Fishery Biologist, NMFS), 907-586-7230.

SUPPLEMENTARY INFORMATION: Under section 305(e) of the Magnuson Fishery Conservation and Management Act (Magnuson Act), the Secretary promulgated an emergency interim rule redefining directed fishing in the Gulf of Alaska and in the Bering Sea and Aleutian Islands area (54 FR 13191, March 31, 1989). That rule was effective for 90 days, from March 28, 1989, until June 26, 1989. With agreement of the Council, the Secretary extends the emergency interim rule for an additional 90 days under section 305 (e)(3)(B) of the Magnuson Act, because conditions justifying the emergency rule remain unchanged.

List of Subjects in 50 CFR Parts 611, 672 and 675

Fisheries.

Dated: June 23, 1989.

James E. Douglas, Jr.,

Deputy Assistant Administrator For Fisheries, National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR Parts 611, 672 and 675 are amended to read as follows:

PART 611—FOREIGN FISHING

1. The authority citation for Part 611 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.* 16 U.S.C. 971 *et seq.*, 22 U.S.C. 1971 *et seq.*, and 16 U.S.C. 1361 *et seq.*

§ 611.92 [Amended]

2. In § 611.92, the effective date for which paragraph (c)(1)(iii) is temporarily added, should be revised to read "June 26, 1989 through September 23, 1989."

§ 611.93 [Amended]

3. In § 611.93, the effective date for which paragraph (b)(1)(iii) is temporarily suspended and paragraph (b)(1)(iv) is temporarily added, should be revised to read "June 26, 1989 through September 23, 1989."

PART 672—GROUNDFISH OF THE GULF OF ALASKA

4. The authority citation for Part 672 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

§ 672.2 [Amended]

5. In § 672.2, the effective date for the temporary revision of the definition for *Directed Fishing*, should be revised to read "June 26, 1989 through September 23, 1989."

PART 675—GROUNDFISH OF THE BERING SEA AND ALEUTIAN ISLANDS

6. The authority citation for Part 675 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

§ 675.2 [Amended]

7. In § 675.2, the effective date for the temporary revision of the definition for *Directed Fishing*, should be revised to read "June 26, 1989 through September 23, 1989."

[FR Doc. 89-15362 Filed 6-26-89; 11:31 am]

BILLING CODE 3510-22-M

Proposed Rules

Federal Register
Vol. 54, No. 124
Thursday, June 29, 1989

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

DEPARTMENT OF AGRICULTURE

Agricultural Marketing Service

7 CFR Part 981

[FV-88-120PR-A]

Handling of Almonds Grown in California; Proposed Revision of Salable, Reserve, and Export Percentages for the 1988-89 Crop Year

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Proposed rule.

SUMMARY: This proposed rule would revise the salable and reserve percentages for marketable California almonds received by handlers during the 1988-89 crop year, which began July 1, 1988. The salable percentage would be increased from 75 to 100 percent, and the reserve percentage would be correspondingly decreased from 25 percent to 0 percent. This proposed action would relieve restrictions on handlers.

DATES: Comments must be received by July 10, 1989.

ADDRESSES: Interested persons are invited to submit written comments concerning this proposed rule. Comments must be sent in triplicate to the Docket Clerk, Fruit and Vegetable Division, AMS, USDA, Room 2525-S, P.O. Box 96456, Washington, DC 20090-6456. All comments should reference the docket number and the date and page number of this issue of the Federal Register and will be made available for public inspection in the Office of the Docket Clerk during regular business hours.

FOR FURTHER INFORMATION CONTACT: Allen Belden, Marketing Specialist, Marketing Order Administration Branch, Room 2524-S, Fruit and Vegetable Division, AMS, USDA, P.O. Box 96456, Washington, DC 20090-6456; telephone: (202) 447-5120.

SUPPLEMENTARY INFORMATION: This proposed rule is issued under marketing agreement and Order No. 981, both as amended (7 CFR Part 981), regulating the handling of almonds grown in California. The order is effective under the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601-674), hereinafter referred to as the "Act."

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

Pursuant to requirements set forth in the Regulatory Flexibility Act (RFA), the Administrator of the Agricultural Marketing Service (AMS) has considered the economic impact of this action on small entities.

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

There are approximately 115 handlers of almonds subject to regulation under the almond marketing order and approximately 7,500 producers in the regulated area. Small agricultural producers have been defined by the Small Business Administration (13 CFR 121.2) as those having gross annual revenues for the last three years of less than $500,000, and small agricultural service firms are defined as those whose gross annual receipts are less than $3,500,000. The majority of handlers and producers of California almonds may be classified as small entities.

This proposed action would remove a requirement that all handlers of California almonds hold 25 percent of marketable almonds received during the 1988-89 crop year in reserve. Handlers would be permitted to ship 100 percent of their merchantable almonds received during the 1988-89 crop year to any markets they desire. Therefore, this action would relax restrictions on almond handlers and would not impose any additional burden or costs on handlers.

Based on the above, the Administrator of the AMS has determined that the issuance of this proposed rule would not have a significant economic impact on a substantial number of small entities.

On January 25, 1989, a final rule was published in the Federal Register [54 FR 3584] establishing salable, reserve, and export percentages of 75 percent, 25 percent, and 0 percent, respectively, for the 1988-89 crop year. That action was based on a recommendation of the Almond Board of California (Board), which works with the U.S. Department of Agriculture in administering the order. The recommendation was made pursuant to §§ 981.47 and 981.49 of the order, based on the then current estimates of marketable supply and combined domestic and export trade demand for the 1988-89 crop year. This recommendation was made at the Board's July 20, 1988, meeting.

On May 12, 1989, the Board met to review the salable and reserve percentages that had been established for the 1988-89 crop year and the supply and demand estimates from which those percentages were derived.

At that meeting, pursuant to § 981.48 of the order, the Board recommended an increase in the salable percentage from 75 percent to 100 percent of the 1988-89 marketable production, and a corresponding decrease in the reserve percentage from 25 percent to 0 percent. The Board recommended that this revision take place effective August 1, 1989.

The estimates used in reviewing the salable and reserve percentages are shown below. The Board's July 20, 1988, estimates are shown as a basis for comparison.

MARKETING POLICY ESTIMATES—1989 CROP

[Kernelweight basis in millions of pounds]

	Initial estimates	Revised estimates
Estimated Production		
1. 1988 Production	580.0	585.5
2. Loss and Exempt—4.0%	23.2	23.4
3. Marketable Production	556.8	562.1
Estimated Trade Demand		
4. Domestic	160.0	159.0
5. Export	370.0	383.1
6. Total	530.0	542.1
Inventory Adjustment		
7. Carryin 7/1/88	112.8	117.5

MARKETING POLICY ESTIMATES—1989 CROP—Continued

[Kernelweight basis in millions of pounds]

	Initial estimates	Revised estimates
8. Additional Carryin 8/1/88	112.8	112.8
9. Desirable Carryover 6/30/89	113/2	113/2
10. Desirable Additional Carryover 8/1/89	0	137.1
11. Adjustment (item 9 plus item 10 minus item 7 minus item 8)	−112.4	20.0
Salable and Reserve Percentages		
12. Adjusted Trade Demand (Item 6 plus item 11)	417.6	562.1
13. Reserve (Item 3 minus item 12)	139.2	0
14. Salable % (Item 12÷item 3×100)	75%	100%
15. Reserve % (100% minus item 14)	25%	0%

Estimated 1988 crop production has increased from 580.0 million kernelweight pounds to 585.5 million kernelweight pounds. Estimated weight loss resulting from the removal of inedible kernels by handlers and losses during manufacturing has increased from 23.2 million kernelweight pounds to 23.4 million kernelweight pounds. Therefore, marketable production is increased from 556.8 million kernelweight pounds to 562.1 million kernelweight pounds.

Estimated 1988–89 domestic trade demand has decreased from 160.0 to 159.0 million kernelweight pounds. Estimated 1988–89 export trade demand has increased from 370.0 to 383.1 million kernelweight pounds. Therefore, total estimated 1988–89 trade demand is increased from 530.0 to 542.1 million kernelweight pounds.

Carryin on July 1, 1988, has increased from 112.8 to 117.5 million kernelweight pounds. Estimated salable carryover on June 30, 1989, based on the 75 percent salable percentage in effect at that time, is expected to remain at 113.2 million kernelwight pounds.

The revised estimates include an additional desirable carryover of salable almonds on August 1, 1989, of 137.1 million kernelweight pounds. At its May 12, 1989, meeting, the Board reported that as of April 30, 1989, 190.2 million kernelweight pounds of salable almonds remained unshipped to supply domestic and export trade demand. The Board indicated that this quality was ample to supply market needs through July 31, 1989. The Board also reported that for the period August 1, 1988, through September 15, 1989 (at which time 1989 crop almonds are expected to be available) shipments are estimated to total 636.9 million pounds and that a comparable quantity of almonds would be needed to supply domestic and export trade demand for the period August 1, 1989, through September 15, 1990 (at which time 1990 crop almonds are expected to be available). However, the Board reported that the National Agricultural Statistical Service's preliminary estimate of 1989 crop production is only 450.0 million kernelweight pounds and that the Board's preliminary estimate of 1989 marketable production is only 427.5 million kernelweight pounds. Therefore, it appears that the 1989 crop would not be sufficient to meet 1989–90 crop year trade demand needs and carryover requirements for use during the early months of the 1990–91 crop year until 1990 crop almonds are available for shipment. While the carryover of an estimated 113.2 million kernelweight pounds of salable almonds on June 30, 1989, would make up part of the deficiency, the release of the estimated 137.1 million kernelweight pound reserve would be necessary to ensure that sufficient quantities of almonds are available to meet 1989–90 trade demand needs. Therefore, an increase of the salable percentage from 75 percent to 100 percent as of August 1, 1989, would be warranted.

Interested persons are invited to submit their views and comments on this proposed rule. A 10-day comment period is considered adequate because this action would relax restrictions on handlers by allowing them to ship additional almonds to salable outlets and if adopted, it should be made effective by August 1, 1989, to ensure a sufficient quantity of almonds for normal domestic and export needs and to maintain the current momentum of sales.

List of Subjects in 7 CFR Part 981

Almonds, California, and Marketing agreements and orders.

PART 981—ALMONDS GROWN IN CALIFORNIA

For the reasons set forth in the preamble, it is proposed that 7 CFR Part 981 be amended as follows:

1. The authority citation for 7 CFR Part 981 continues to read as follows:

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

Subpart—Salable, Reserve, and Export Percentages

2. Section 981.236 is revised to read as follows:

§ 981.236 Salable, reserve and export percentages for almonds during the crop year beginning July 1, 1988.

The salable reserve, and export percentages, during the crop year beginning July 1, 1988, shall be 100 percent, 0 percent, and 0 percent, respectively.

Dated: June 23, 1989.

Robert C. Keeney,

Deputy Director, Fruit and Vegetable Division.

[FR Doc. 89–15317 Filed 6–28–89; 8:45 am]

BILLING CODE 3410–02–M

7 CFR Part 981

[FV–89–055PR]

Handling of Almonds Grown in California; Proposed Extension of Date for Satisfying Inedible Disposition Obligation

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Proposed rule.

SUMMARY: This proposed action would temporarily change the date from July 31, 1989, to August 31, 1989, by which handlers of California almonds must satisfy 25 percent of their 1988–89 crop year inedible disposition obligations. Handlers must satisfy the remaining 75 percent of their inedible disposition obligations by the current July 31, 1989, date. This action is taken in conjunction with a recommendation by the Almond Board of California (Board), the agency responsible for local administration of the order, which would transfer a 25 percent reserve percentage in effect for the 1988–89 crop year to the salable category.

DATE: Comments must be received by July 10, 1989.

ADDRESSES: Interested persons are invited to submit written comments concerning this proposal. Comments must be sent in triplicate to the Docket Clerk, Fruit and Vegetable Division, AMS, USDA, Room 2525–S, P.O. Box 96456, Washington, DC 20090–6456. All comments should reference the docket number and the date and page number of this issue of the **Federal Register** and will be made available for public inspection in the Office of the Docket Clerk during regular business hours.

FOR FURTHER INFORMATION CONTACT: Allen Belden, Marketing Specialist, Marketing Order Administration Branch, Room 2525, South Building, F&V, AMS, USDA, P.O. Box 96456, Washington, DC 20090–6456; telephone: (202) 447–5120.

SUPPLEMENTARY INFORMATION: This proposed rule is issued under marketing agreement and Order No. 981, both as amended (7 CFR Part 981), regulating the handling of almonds grown in California, hereinafter referred to as the "order". The order is effective under the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674), hereinafter referred to as the "Act."

This proposed rule has been reviewed under Executive Order 12291 and Departmental Regulation 1512–1 and has been determined to be a "nonmajor" rule under criteria contained therein.

Pursuant to requirements set forth in the Regulatory Flexibility Act (RFA), the Administrator of the Agricultural Marketing Service (AMS) has considered the economic impact of this proposed action on small entities.

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

There are an estimated 115 handlers of almonds subject to regulation under the marketing order for California almonds during the current season. There are approximately 7,500 producers in the regulated area. Small agricultural producers have been defined by the Small Business Administration (13 CFR 121.2) as those having average gross annual revenues for the last three years of less than $500,000, and small agricultural service firms are defined as those whose gross annual receipts are less than $3,500,000. The majority of handlers and producers of California almonds may be classified as small entities.

This proposed action would give handlers of California almonds an additional month to satisfy 25 percent of their 1988–89 crop year inedible disposition obligation. Therefore, this proposed action would relax restrictions on almond handlers and would not impose any additional burden or costs on handlers.

Based on the above, the Administrator of the AMS has determined that the issuance of this proposed rule would not have a significant economic impact on a substantial number of small entities.

This proposed rule would revise, for 1989 only, § 981.442 of "Subpart—Administrative Rules and Regulations." The action is based on the unanimous recommendation of the Board and upon other available information.

Section 981.42 of the order provides that handlers are required to deliver a quantity of almond kernels equal to their inedible disposition obligation to the Board or Board-accepted crushers, feed manufacturers, or feeders. A handler's inedible disposition obligation is the percentage of inedible kernels in lots received by such handler during a crop year, as determined by the Federal-State Inspection Service, less any tolerance in effect for the crop year. Section 981.42 also provides that the Board may establish rules and regulations necessary to the administration of these provisions.

Section 981.442(a)(5) of the rules and regulations provides that each handler's inedible disposition obligation is satisfied when the almond meat content of the material delivered to accepted users equals the inedible disposition obligation, but no later than July 31 succeeding the crop year in which the obligation was incurred. This action would extend the July 31 date to August 31 for 25 percent of handler's disposition obligations incurred during the 1988–89 crop year only. Thus, handlers would have until August 31, 1989, to satisfy the final 25 percent of their 1988–89 crop year inedible disposition obligation. This corresponds to the 25 percent of the 1988–89 merchantable almond crop which handlers have held in reserve, and which was recommended to be released to the salable category effective August 1, 1989. A proposed rule to release the 25 percent reserve to the salable category is published in this issue of the **Federal Register**. Handlers still would have to satisfy the other 75 percent of their inedible disposition obligations by July 31, 1989.

While the reserve is in effect, handlers are required to withhold 25 percent of their marketable almond receipts from normal domestic and export markets. Consequently, many handlers take no action to process those almonds. Handlers customarily satisfy their inedible disposition obligations with inedible quality almonds removed during processing. Therefore, since the 25 percent reserve would not be released to the salable category until August 1, 1989, if that proposal is adopted, handlers may need additional time to process those almonds to satisfy the 25 percent of their inedible disposition obligations which corresponds to the 25 percent reserve.

Interested persons are invited to submit their views and comments on this proposed rule. A 10-day comment period is considered adequate because this action would relax restrictions on handlers by extending a July 31, 1989, deadline concerning 25 percent of their inedible disposition obligations and, if adopted, it should be finalized before July 31, 1989, so that handlers may plan their operations accordingly.

List of Subjects in 7 CFR Part 981

Almonds, California, and Marketing agreements and orders.

PART 981—ALMONDS GROWN IN CALIFORNIA

For the reasons set forth in the preamble, it is proposed that 7 CFR Part 981 be amended as follows:

1. The authority citation for 7 CFR Part 981 continues to read as follows:

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

Subpart—Administrative Rules and Regulations

2. The last sentence in paragraph (a)(5) of § 981.442 is revised to read as follows:

§ 981.442 Quality control.

(a) * * *

(5) * * * Each handler's disposition obligation shall be satisfied when the almond meat content of the materials delivered to accepted users equals the disposition obligation, but no later than July 31 succeeding the crop year in which the obligation was incurred: *Provided*, That for 1988–89 crop year almonds, handlers have until August 31, 1989, to satisfy the 25 percent of their disposition obligation which corresponds to the 25 percent reserve almonds released to salable almonds.

* * * * *

Dated: June 23, 1989.

Robert C. Keeney,

Deputy Director, Fruit and Vegetable Division.

[FR Doc. 89–15316 Filed 6–28–89; 8:45 am]

BILLING CODE 3410–02–M

Farmers Home Administration

7 CFR Part 1910

Receiving and Processing Applications, Securing Credit and Reports on Initial Farmer Program and Single Family Housing Loan Applications

AGENCY: Farmers Home Administration, USDA.

ACTION: Proposed rule.

SUMMARY: The Farmers Home Administration (FmHA) proposes to amend its regulations to change the

internal processing of applications. This action is necessary to require credit bureau reports on new and rescheduled loan applications and to screen for previous debts with FmHA, using the Current/Past Debt Inquiry and Borrower Cross-Reference Systems. The intended effect of this action is to provide each FmHA office with the necessary credit information to make a sound credit decision, thereby reducing the Government's exposure to losses.

DATE: Comments must be submitted on or before August 28, 1989.

ADDRESS: Submit written comments, in duplicate, to the Office of the Chief, Directives and Forms Management Branch, Farmers Home Administration, USDA, Room 6346, South Agriculture Building, Washington, DC 20250. Written comments made pursuant to this notice will be made available for public inspection during regular working hours at the above address.

FOR FURTHER INFORMATION CONTACT: Ed Douglas, Financial Analyst, Farmers Home Administration, U.S. Department of Agriculture, Room 5507, South Agriculture Building, Washington, DC 20250. Telephone (202) 475–4425.

SUPPLEMENTARY INFORMATION: This proposed rulemaking action has been reviewed under USDA procedures established in Departmental Regulation 1512–1, which implements Executive Order 12291, and has been determined "non-major" since the annual effect on the economy is less than $100 million and there will be no major increase in cost or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions. Furthermore, there will be no significant adverse effects on competition, employment, investment, producivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

Discussion of Background

Currently the ordering of credit bureau reports is at the discretion of the county supervisor. This revision will call for credit bureau reports on all initial and rescheduled Farmer Program and on all initial Single Family Housing applications, with the exception of 502 and 504 applications under $7,500 unless the county supervisor feels it necessary. In so much as Farmers Home Administration is the lender of last resorts, it is incumbent on FmHA to have sound credit management policies. What is set forth in this proposed rule is fundamental to all financial institutions that make loans. Once a lender has secured a completed loan application, the next logical step is to secure a credit report. This is generally standard operating procedure in the industry. Since it is incumbent on the lender to determine the history of both the applicant's willingness and ability to repay and and all debts incurred, a credit report is often an excellent source for this type of information. Another very valuable source of this type of information concerning an applicant's willingness and ability to pay would be prior loan experience with the lender, which this proposed rule also seeks to impose. These two changes should enhance the decision making ability of FmHA employees, thus reducing the Government's exposure to losses.

Environmental Impact Statement

This proposed rule has been reviewed in accordance with 7 CFR Part 1940, Subpart G, "Environmental Program." FmHA has determined that this action does not constitute a major Federal action significantly affecting the quality of human environment and since it is in accordance with the National Environmental Policy Act of 1969, Pub. L. 91–190, an Environmental Impact Statement is not required.

For reasons set forth in the Final Rule related to Notice, 7 CFR Part 3015, Subpart V (48 F.R. 29115, June 24, 1983), and FmHA Instruction 1940–J, "Intergovernmental Review of Farmers Home Administration Programs and Activities" (December 23, 1983), this program is related to the following programs that are subject to intergovernment consultation with state and local officials:

10.405—Farm Labor Housing Loan and Grants
10.411—Rural Housing Site Loans (Section 523 and 524 Site Loans)
10.414—Resource Conservation and Development Loans
10.415—Rural Rental Housing Loans
10.416—Soil and Water Loans
10.418—Water and Waste Disposal System for Rural Communities
10.419—Watershed Protection and Flood Prevention Loans
10.420—Rural Self-Help Housing Technical Assistance (Section 523 Technical Assistance)
10.422—Business and Industrial Loans
10.423—Community Facilities Loans
10.427—Rural Rental Assistance Payment (Rental Assistance)

In turn, the following programs to which this program is also related, are not subject to Executive Order 12372:

10.404—Emergency Loans
10.406—Farm Operating Loans
10.407—Farm Ownership Loans
10.421—Indian Tribes and Tribal Corporation Loans
10.428—Economic Emergency Loans

List of Subjects in 7 CFR Part 1910

Applications, Credit, Loan programs—Agriculture, Loan Program—Housing and community development, Moderate income housing, Marital status discrimination, Reporting requirements and Sex discrimination.

PART 1910—GENERAL

Therefore, as proposed, Chapter XVIII, Title 7, Code of Federal Regulations is amended as follows:

1. The authority citation for Part 1910 continues to read as follows:

Authority: 7 U.S.C. 1989; 42 U.S.C. 1480; 5 U.S.C. 301; 7 CFR 2.23; 7 CFR 2.70

Subpart A—Receiving and Processing Applications

2. In § 1910.4, paragraph (a)(10) is added to read as follows:

§ 1910.4 Processing applications.

* * * * *

(a) * * *

(10) The Current/Past Debt Inquiry and Borrower Cross-Reference Inquiry System. Copies of the screens must be attached to the applicant's file.

* * * * *

3. In § 1910.5, paragraph (d) is added to read as follows:

§ 1910.5 Evaluating applications.

* * * * *

(d) *Current/Past FmHA Loan History.* Current or previous delinquent FmHA loans, as determined by reviewing the Current/Past Debt Inquiry System or the Borrower Cross-Reference Inquiry System, may be used to help determine the credit history of an applicant.

Subpart B—Credit Reports (Individual).

4. In § 1910.51 is revised to read as follows:

§ 1910.51 Purpose.

This subpart prescribes the policies and procedures for obtaining individual credit reports. Credit reports will be ordered to help determine the eligibility of applicants requesting Farmers Home Administration (FmHA) loans.

5. In § 1910.52(b) is amended by revising the last sentence to read as follows:

§ 1910.52 General.

* * * * *

(b) * * * In the meantime, follow § 1910.4(a) (1), (2), (4), (5), (6), (7), (8), (9), and (10) of Subpart A of this part to verify the applicants' qualifications and credit needs.

* * * * *

6. In § 1910.53 is amended by revising paragraph (a) to read as follows:

§ 1910.53 Policy

(a) The County Supervisor will be responsible for ordering individual credit reports. These will be obtained on initial and rescheduled Farmer Program and on all initial Single Family Housing applications, except for those situations outlined in paragraph (c) of this section, to help determine the eligibility of the loan applicant, and when it appears the credit report will not have to be updated before loan closing.

* * * * *

Date: May 4, 1989.

Neal Sox Johnson,

Acting Administrator, Farmers Home Administration.

[FR Doc. 89-15318 Filed 6-28-89; 8:45 am]

BILLING CODE 3410-07-M

7 CFR Part 1942

Industrial Development Grants; Correction

AGENCY: Farmers Home Administration, USDA.

ACTION: Proposed rule; correction.

SUMMARY: This action corrects a proposed rule published June 16, 1989, (54 FR 25588) regarding the amendment of the Agency's policies and procedures governing the administration of Industrial Development Grants by clarifying the requirements for the financing of small and emerging private business enterprises through the Industrial Development Grant Program. The intended effect of this action is to remove the "Effective Date" line and insert in its place a "Date" line and to add an "Address" line to read as follows:

DATE: Comments to be received on or before July 31, 1989.

ADDRESS: Submit written comments in duplicate to the Office of the Chief, Directives and Forms Management Branch, Farmers Home Administration, U.S. Department of Agriculture, Room 6349, South Agriculture Building, 14th and Independence Avenue SW., Washington, DC 20250. All written comments made pursuant to this notice will be available for public inspection during regular working hours at the above address.

FOR FURTHER INFORMATION CONTACT: Bonnie S. Justice, Telephone: (202) 382-1490.

Date: June 23, 1989.

Neal Sox Johnson,

Acting Administrator, Farmers Home Administration.

[FR Doc. 89-15419 Filed 6-28-89; 8:45 am]

BILLING CODE 3410-07-M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR Part 610

[Docket No. 89N-0109]

General Biological Products Standards; Test for Residual Moisture

AGENCY: Food and Drug Administration; Health and Human Services.

ACTION: Proposed rule.

SUMMARY: The Food and Drug Administration (FDA) is proposing to amend the test for residual moisture found in the general biological products standards to reflect more recent scientific knowledge and experience for determining residual moisture levels in dried biological products.

DATES: Comments by August 28, 1989. FDA is proposing that any final rule based on this proposal be effective 30 days after the date of its publication in the Federal Register.

ADDRESSES: Written comments to the Dockets Management Branch (HFA-305), Food and Drug Administration, Rm. 4-62, 5600 Fishers Lane, Rockville, MD 20857.

FOR FURTHER INFORMATION CONTACT: Joseph Wilczek, Center for Biological Evaluation and Research (HFB-130), Food and Drug Administration, 8800 Rockville Pike, Bethesda, MD 20892, 301-295-8188.

SUPPLEMENTARY INFORMATION: Under section 351 of the Public Health Service Act (42 U.S.C. 262), biological products offered for sale in interstate commerce must be licensed and meet certain standards that ensure their continued safety, purity, and potency.

Section 610.13 of the biologics regulations (21 CFR 610.13) provides requirements for assuring the purity of biological products, including, in § 610.13(a), a test for residual moisture in dried biological products. Certain biological preparations are lyophilized to maintain the integrity, potency, and other properties of the product, when freezing alone or addition of a preservative does not provide sufficient stability. Levels of residual moisture in the freeze-dried product should be low so that the stability of the product is not compromised over time by degradation.

The current requirement in § 610.13(a)(1) prescribes specific procedures for testing residual moisture in dried biological products, and in § 610.13(a)(2) requires a moisture limit of no greater than 1 percent for most biological products. Several products, such as Measles Virus Vaccine Live and Rubella Virus Vaccine Live, have higher moisture limits specified in the current regulations. For other products, product license applications have provided stability data in the form of product potency and residual moisture to establish residual moisture limits higher than 1 percent throughout the product's dating period.

The codified test procedure for determining moisture levels utilizes a vacuum and phosphorus pentoxide at room temperature for 3 or more days to remove residual moisture. This gravimetric, or loss-on-drying, method requires large sample sizes and is not capable of measuring all the water of hydration and other types of bound water in the biological product which new technological methods can detect. Although the gravimetric method will measure some loosely bound water or hydration, this method most accurately measures the surface moisture of the freeze-dried product, which is the original definition of residual moisture.

Newer methods can now serve as acceptable alternative testing to the gravimetric method for some products. For example, the coulometric Karl Fischer method for moisture determination detects smaller amounts of moisture than the gravimetric method and requires less sample for analysis. This procedure is particularly useful for analyzing the moisture content in freeze-dried products in single-dose vials that contain only a few milligrams of biological material. In addition, the Karl Fischer method takes less time to perform than the gravimetric method. There are also other newer technologies for determining moisture content, for example, gas chromatographic methods and thermogravimetric analysis which combines a mircobalance and heat to determine moisture content. The thermogravimetric method can determine moisture content in very small samples (i.e., 1 to 3 milligrams per vial).

Because § 610.13(a)(1) specifically requires use of the gravimetric method, these new technologies cannot be used for determining the residual moisture of dried biological products without the submission of comparative data under § 610.9 *Equivalent methods and*

processes. In addition, because these new technologies may detect increased levels of moisture, the 1.0 percent moisture limit may not be appropriate for some products when tested by one of the new methods.

Accordingly, in concert with newer technology and more recent scientific knowledge, FDA is proposing to amend the test for residual moisture in § 610.13 by providing more flexibility in the residual moisture test requirements. The proposed changes would delete the specific test procedures now in § 610.13(a)(1) and, in § 610.13(a)(2), remove the upper moisture limit of 1.0 percent, and the listed exceptions. Proposed § 610.13(a)(1) would require each lot of dried product to be tested for residual moisture and other volatile substances, and to meet and not exceed established limits as specifed by an approved method on file in the product license application. Another proposed change in § 610.13(a)(1) would allow the Director, Center for Biologics Evaluation and Research, to permit exemptions from this testing requirement when deemed not necessary for the continued safety, purity, and potency of the product. Manufacturers of dried products may at any time request an exemption from this testing requirement. However, manufacturers of these products must continue to perform the test unless notified otherwise in writing by the Director, Center for Biologics Evaluation and Research. Proposed § 610.13(a)(2) also would require that records concerning the test for residual moisture be maintained in accordance with applicable provisions of §§ 211.188 and 211.194 of the current good manufacturing practice regulations for finished pharmaceuticals (21 CFR Part 211).

Elsewhere in this issue of the **Federal Register**, FDA is announcing the availability of a draft guideline to interested persons that discusses test procedures, testing results, and standards for determining residual moisture in freeze-dried products.

Environmental Impact

The agency has determined under 21 CFR 25.24(a)(10) that this proposed action is of a type that does not individually or cumulatively have a significant effect on the human environment. Therefore, neither an environmental assessment nor an environmental impact statement is required.

Paperwork Reduction Act

Section 610.13(a)(2) of this proposed rule contains cross-references to 21 CFR 211.188 and 21 CFR 211.194 which contain information collection requirements that were submitted for review and approval of the Director, Office of Management and Budget (OMB), as required by section 3507 of the Paperwork Reduction Act of 1980. Those requirements were approved and assigned OMB control number 0910–0139.

Economic Assessment

The agency has examined the economic consequences of this proposed rule and has determined that it does not require either a regulatory impact analysis, as specified in Executive Order 12291, or a regulatory flexibility analysis, as defined in the Regulatory Flexibility Act (Pub. L. 96–354). The proposed rule increases the flexibility of the testing requirement for biological products in determining residual moisture content. The proposed change also permits the Director, Center for Biologics Evaluation and Research, to exempt manufacturers from this testing requirement. Therefore, the agency has determined that the proposed rule is not a major rule as defined in Executive Order 12291. Further, FDA certifies that the proposed rule will not have a significant impact on a substantial number of small entities, as defined in the Regulatory Flexibility Act.

Comments

Interested persons may, on or before August 28, 1989, submit to the Dockets Management Branch (address above) written comments regarding this proposal. Two copies of any comments are to be submitted, except that individuals may submit one copy. Comments are to be identified with the docket number found in brackets in the heading of this document. Received comments may be seen in the office above between 9 a.m. and 4 p.m., Monday through Friday.

List of Subjects in 21 CFR Part 610

Biologics, Labeling, Reporting and recordkeeping requirements.

PART 610—GENERAL BIOLOGICAL PRODUCTS STANDARDS

Therefore, under the Federal Food, Drug, and Cosmetic Act, the Public Health Service Act, and under authority delegated to the Commissioner of Food and Drugs, it is proposed that 21 CFR Part 610 be amended as follows:

1. The authority citation for 21 CFR Part 610 continues to read as follows:

Authority: Secs. 201, 501, 502, 505, 510, 701, 52 Stat. 1040–1042 as amended, 1049–1051 as amended by 76 Stat. 780, 1052–1053 as amended, 1055–1056 as amended, 76 Stat. 794 as amended, and sec. 301 of Pub. L. 87–781 (21 U.S.C. 321, 351, 352, 355, 360 and note, 371), the Public Health Service Act (secs. 351 and 361, 58 Stat. 702 and 703 as amended (42 U.S.C. 262 and 264)), and the Administrative Procedure Act (secs. 4, 10, 60 Stat. 238 and 243, ad amended (5 U.S.C. 553, 702, 703, 704)); 21 CFR 5.10 and 5.11.

2. Section 610.13 is amended by revising paragraph (a), and by adding an OMB control number at the end of the section to read as follows:

§ 610.13 Purity.

* * * * *

(a) (1) *Test for residual moisture.* Each lot of dried product shall be tested for residual moisture and other volatile substances and shall meet and not exceed established limits as specified by an approved method on file in the product license application. The test for residual moisture and other volatile substances may be exempted by the Director, Center for Biologics Evaluation and Research, when deemed not necessary for the continued safety, purity, and potency of the product.

(2) *Records.* Appropriate records for residual moisture under paragraph (a)(1) of this section shall be prepared and maintained as required by the applicable provisions of §§ 211.188 and 211.194 of this chapter.

* * * * *

(Information collection requirements were approved by the Office of Management and Budget (OMB) and assigned OMB control number 0910–0139)

Dated: June 12, 1989.

Alan L. Hoeting,

Acting Associate Commissioner for Regulatory Affairs.

[FR Doc. 89–15356 Filed 6–28–89; 8:45 am]

BILLING CODE 4160–01–M

FEDERAL EMERGENCY MANAGEMENT AGENCY

44 CFR Part 353

RIN 3067–AB49

Fee for Services in Support, Review and Approval of State and Local Government or Licensee Radiological Emergency Plans and Preparedness

AGENCY: Federal Emergency Management Agency.

ACTION: Proposed rule.

SUMMARY: FEMA proposes to establish a fee for services the agency provides in the review and approval of State and local government or licensee site-specific offsite radiological emergency plans and preparedness for commercial nuclear power plants. These services are

provided pursuant to Presidential Directive and Memorandum of Understanding between FEMA and the Nuclear Regulatory Commission (NRC). FEMA's services contribute to the emergency preparedness requirements needed for the NRC's licensing purposes under the Atomic Energy Act of 1954, as amended. The proposed fees are based on site-specific costs incurred by FEMA's Radiological Emergency Preparedness (REP) Program and related site-specific litigation costs associated with the NRC licensing process as a result of FEMA's support, review and approval of offsite radiological emergency plans and preparedness. The proposed fees are applicable to the full range of situations involving emergency planning, preparedness and response, including emergency response planning by a utility.

DATE: Comments must be received August 28, 1989.

ADDRESS: Comments should be sent to Rules Docket Clerk, Office of General Counsel, Room 1840, 500 C Street SW., Washington, DC 20472.

FOR FURTHER INFORMATION CONTACT: Vernon Adler, Acting Chief, Program Development Branch, Technological Hazards Division, Washington, DC 20472 (202) 646-3348.

SUPPLEMENTARY INFORMATION:

Background

Following the 1979 accident at the Three Mile Island nuclear power plant, a Presidential Directive transferred the lead for offsite radiological emergency activities from the U.S. Nuclear Regulatory Commission (NRC) to the Federal Emergency Management Agency (FEMA). Upon assuming this responsibility, FEMA in cooperation with the NRC established the regulatory foundation for a joint FEMA/NRC Radiological Emergency Preparedness (REP) program. This foundation consists of (1) an agreed upon working framework between FEMA and the NRC reflected in two separate Memoranda of Understanding (MOU) (see 50 FR 15485, April 18, 1985, and 45 FR 82713, December 18, 1980), (2) issuance of separate regulations by both FEMA and NRC, (3) publication of joint FEMA/NRC planning guidance, and (4) development of a Federal Radiological Emergency Reponse Plan (FRERP) among FEMA, the NRC and other Federal departments and agencies.

FEMA has the lead responsibility for review and assessment of the adequacy of offsit emergency plans developed by State and local governments or licensees and their capability to implement such plans (e.g., adequacy and maintenance of procedures, training, resources, staffing levels and qualification and equipment adequacy). These assessments, findings, and determinations are used by the NRC in connection with its own licensing and regulatory responsibilities under the Atomic Energy Act of 1954, as amended. FEMA will support these assessments, findings, and determinations in the NRC licensing process and related administrative and court proceedings (See 10 CFR Part 50).

Pursuant to 44 CFR Part 350, FEMA's assessments, findings, and determinations are based upon the level of preparedness demonstrated by the plan submission and the exercising of plans by State and local governments. The plans and exercises are evaluated under joint FEMA–NRC criteria, NUREG–0654/FEMA–REP–1, Rev. 1. When State and local governments do not participate in the development of an emergency plan, the utility can submit a utility plan to the NRC (see 10 CFR Part 50). FEMA, if requested by the NRC through the MOU, can make an assessment, finding and determination on such utility developed plans and exercises, which shall be evaluated under joint FEMA–NRC criteria, NUREG–0654/FEMA–REP–1, Rev. 1, Suppl. 1. The NRC under the MOU can also request from FEMA an interim finding, which represents a "snapshot" of radiological emergency planning and preparedness at a specific point in time.

On November 18, 1988, the President issued Executive Order 12657 (53 FR 47513) "Federal Emergency Management Agency Assistance in Emergency Preparedness Planning at Commercial Nuclear Power Plants." This Order was issued to ensure that adequate offsite radiological emergency planning and preparedness is in place at commercial nuclear power plants to satisfy the emergency planning requirements of the NRC for the issuance or retention of operating licenses. The order applies to those situations where State and local governments, either individually or together, decline to or inadequately prepare radiological emergency plans to meet NRC licensing requirements or to participate adequately in the preparation, demonstration, testing exercise or use of such plans. 44 CFR 352 provides a framework pursuant to the Executive Order for FEMA to provide Federal assistance in situations where State and local governments decline to or inadequately prepare plans or participate in NRC licensing requirements.

Guidelines for Fee Development

FEMA has developed guidelines for use in establishing a fee for individually identifiable services provided to recipient licensees under the REP program. The proposed fee is based upon Title V of the Independent Offices Appropriation Act (IOAA) of 1952, 31 U.S.C. 9701, which authorizes Federal regulatory agencies to recover to the fullest extent possible costs attributable to services provided to identifiable recipients.

FEMA proposes, that each licensee be identified as the recipient and payor of fees assessed for FEMA's services rendered on a site-specific basis. Licensees have been selected because they are the ultimate beneficiaries of FEMA's services since such services assist licensees to comply with NRC regulatory requirements. While State and/or local governments may derive some benefit and assistance from FEMA's services, the licensees must comply with NRC regulatory requirements in order to obtain or maintain an operating license from the NRC. FEMA's services convey the benefit of regulatory compliance to the licensees, which are therefore the ultimate recipients of FEMA services.

The fees proposed will be for services that provide a special benefit to the recipient licensees in complying with NRC statutory and regulatory obligations. The guidelines for development of FEMA's fees are based upon the Supreme Court decisions in *National Cable Television Association, Inc.* v. *United States, et al.*, 415 U.S. 336 (1974), and *Federal Power Commission* v. *New England Power Company, et al.*, 415 U.S. 345 (1974), and further guidance provided by the United States Court of Appeals for the District of Columbia Circuit in *National Cable Television Association, Inc.* v. *Federal Communications Commission*, 554 F. 2d 1094 (1976); *National Association of Broadcasters* v. *Federal Communications Commission*, 554 F. 2d 1118 (1976); *Electronic Industries Association* v. *Federal Communications Commission*, 554 F. 2d 1109 (1976); and *Capital Cities Communication, Inc., et al.* v. *Federal Communications Commission*, 554 F. 2d 1135 (1976). In summary, the guidelines provide that:

1. Fees may be assessed to persons who are identifiable recipients who derive a benefit from services conferred by FEMA in the review and approval of site-specific offsite radiological emergency plans and preparedness. This includes all services necessary for the issuance of a FEMA assessment, finding

or determination, and all services provided by FEMA that are necessary for the recipient to comply with NRC licensing requirements.

2. All direct and indirect costs incurred by FEMA in providing identificable services to the recipient may be recovered by fees.

3. It is not necessary to allocate costs in proportion to the degree of public or private benefit resulting from conferring a special benefit on a recipient.

4. Where the identification of the ultimate beneficiary of FEMA activity is obscure, the cost of the activity may not be included in the cost basis for the fee.

5. A fee should not exceed the sum of direct and indirect costs which FEMA incurs in furnishing the service for the recipient.

6. Calculation of FEMA costs shall be perfomed as accurately as is reasonable and practical based upon a professional hourly rate charged for the specific service rendered to the recipient.

Services Provided

A. General Information

FEMA is responsible for review and assessment of the adequacy of offsite emergency plans developed by State and local governments or licensees and the capability of implementation of these plans. This review and assessment function can be carried out in four different types of situations: (1) Upon formal submission of a State and local emergency plan by the Governor pursuant to 44 CFR Part 350 (Review and Approval Process of State and Local Radiological Emergency Plans and Preparedness); (2) at the request of the NRC for an interim finding by FEMA pursuant to the FEMA–NRC MOU (50 FR 15485, April 18, 1989); (3) at the request of the NRC pursuant to the FEMA–NRC MOU where a utility submits a utility-developed emergency response plan in lieu of a State and local plan; and (4) upon the certification from a utility that State or local governments have refused or failed to adequately participate in emergency planning in accordance with 44 CFR Part 352 (Commercial Nuclear Power Plants; Emergency Preparedness Planning). FEMA also may be called upon to render technical assistance to State and local governments or licensees, separate from its formal review and assessment function for the NRC. And in the event of an actual radiological emergency involving a commercial nuclear power plant, FEMA may be called upon to respond and provide support under the FRERP or any other Federal response effort.

FEMA's services in providing support, review and assessment of the adequacy of offsite emergency plans provide assurance that the public health and safety of citizens living around nuclear power plants are adequately protected from the offsite consequences of radiological accidents. The public derives a benefit from FEMA's services by securing an understanding and knowledge that a cooperative system is in place that assures radiological emergency planning and preparedness. FEMA's support, review and assessment services rendered also directly benefit the licensee by assuring its compliance with the statutory and regulatory requirements of the NRC. Any response by FEMA to a radiological emergency also would benefit licensees by providing them assistance and support in an actual emergency.

B. "350" Process

When a State seeks formal review and approval by FEMA of the State's radiological emergency plan pursuant to 44 CFR Part 350 (Review and Approval Process of State and Local Radiological Emergency Plans and Preparedness), FEMA provides the services described in 44 CFR Part 350 in regard to that request, and fees will be charged for such services to the licensee, which is the ultimate beneficiary of FEMA's services. Fees will be charged for all FEMA conducted activities related to such services on a site-specific basis, including but not limited to the following:

a. Acknowledgement of the State application and publication of notice of FEMA's receipt of State plan.

b. Plan distribution to and reviews by the Regional Assistance Committee (RAC).

c. Plan evaluation and FEMA's determination.

d. Exercise observation and evaluation, post-exercise briefing, and written evaluation.

e. Notice and conduct of public meeting.

f. Regional finding and determination of adequacy of plans and preparedness followed by review by Federal Radiological Preparedness Coordinating Committee and FEMA Headquarters resulting in final FEMA determination of adequacy of plans and preparedness.

g. Notice of determination to Governor, NRC, FEMA Region and by publication in **Federal Register**.

h. Conduct and evaluation of any remedial exercises and/or review and evaluation of any plan revisions.

The above services are designed to protect the health and safety of the public living in the vicinity of the nuclear power facility by providing reasonable assurance that appropriate protective measures can be taken offsite in the event of a radiological emergency and that such plans are capable of being implemented. Successful completion of these services benefits the licensees since the rendering of these services assists the licensees in their compliance with NRC licensing requirements.

C. Interim Findings

Where the NRC seeks from FEMA under the FEMA–NRC MOU (50 FR 15845, April 18, 1985) an interim finding, which represents a "snapshot" of radiological emergency planning and preparedness at the specific point in time for a specific nuclear power plant, FEMA proposes to assess a fee to the plant licensee for providing this service. The rendering of this service consists of making a determination whether the plans are adequate to protect the health and safety of the public living in the vicinity of the nuclear power facility by providing reasonable assurance that appropriate protective measures can be taken offsite in the event of a radiological emergency and that such plans are capable of being implemented. This service benefits the licensee since FEMA's rendering of such service assists the licensee in its compliance with NRC regulatory requirements.

D. NRC Utility Plan Submissions

Where the NRC, under the FEMA–NRC MOU (50 FR 15845, April 18, 1985), requests FEMA to review and evaluate the adequacy of an emergency response plan developed by the utility absent participation by State and/or local governments, FEMA shall provide these services, and fees will be assessed to the licensee, which is the ultimate beneficiary of such FEMA services. Fees will be charged for all FEMA conducted activities related to such services on a site-specific basis, including but not limited to the following:

a. Publication of notice of FEMA's receipt of the utility's plan.

b. Plan distribution to and review by the Regional Assistance Committee (RAC).

c. Plan evaluation and FEMA determination.

d. Exercise observation and evaluation, post-exercise briefing, and written evaluation.

e. Notice and conduct of pubic meeting.

f. Regional finding and determination of adequacy of plans and preparedness followed by review by Federal Radiological Preparedness Coordinating Committee and FEMA Headquarters

resulting in final FEMA determination of adequacy of plans and preparedness.

g. Notice of determination to NRC and FEMA Region, and by publication in Federal Register.

h. Conduct and evaluation of any remedial exercises and/or review and evaluation of any plan revisions.

The above services are designed to protect the health and safety of the public living in the vacinity of the nuclear power facility by providing reasonable assurance that appropriate protective measures can be taken offsite in the event of a radiological emergency and that such plans are capable of being implemented. Successful completion of these services benefits and licensee since the rendering of these services assists the licensee in its compliance with NRC licensing requirements.

E. Utility Certification Submission

When a licensee seeks Federal assistance pursuant to 44 CFR Part 352 due to the decline or failure of a State or local government to adequately prepare emergency plans, FEMA shall process the licensee's certification request and make the determination whether a decline or fail situation exists. Fees will be assessed for all FEMA services rendered in making the determination. Upon the determination that a decline or fail situation does exist, fees will be assessed for any services provided or secured by FEMA which result in a benefit to the licensee, as described in 44 CFR Part 352. These services may include technical assistance, and consultation and coordination with other Federal agencies on providing Federal technical assistance, resources or facilities as required.

F. FEMA Participation in NRC Adjudicatory Proceedings

Where FEMA must participate in NRC licensing proceedings and any related court actions to support FEMA findings as a result of its support, review and approval of offsite emergency plans and preparedness, fees will be assessed to the licensee for such participation.

G. FEMA Response to a Radiological Emergency

In the event of a radiological emergency requiring a Federal response, any actions taken by FEMA to carry out such a response either under the Federal Radiological Emergency Response Plan or 44 CFR Part 352, pursuant to Executive Order 12657, will be assessed to the licensee of the site requiring a Federal response.

Fee Development

A. Radiological Emergency Plans and Preparedness

The Radiological Emergency Preparedness (REP) Program within FEMA is responsible for processing applications for the review and approval of offsite radiological emergency plans and preparedness requested directly by a State under 44 CFR Part 350 or by the NRC under the MOU (50 FR 15485, April 18, 1985) on behalf of the licensee. The REP Program also has responsibility for processing a licensee's certification when a E.O. 12657 request is made for Federal assistance and for providing such assistance if warranted under 44 CFR Part 352.

In identifying the site-specific services FEMA renders to licensees, it was determined that only those elements of the agency that provide such services benefitting licensees would be considered. Therefore, only three organizational units of the agency involved in the REP program were analyzed since they provide site-specific services. These units are the Field Operations Branch of the Technological Hazards Division of the Office of Natural and Technological Hazards/ State and Local Programs and Support Directorate, the FEMA Regional Offices/ Natural and Technological Divisions, and the Office of General Counsel. Agency units with REP responsibilities, but which are involved in developing policy guidance, planning FEMA emergency response actions, and providing generic training on a non-site-specific basis were excluded from fee calculations.

The program's professional staff time is necessary to calculate the fee for site-specific offsite radiological emergency plans and preparedness services provided by FEMA. Personnel that provide these services were identified resulting in professional staff figures, which were calculated into an average cost per work-year rate to maintain a professional employee who provides site-specific services for offset radiological emergency plans and preparedness. This rate was developed by using (1) the program's cost of personnel compensation (salaries) for professional REP and legal staff, (2) personnel benefits for the professional REP and legal staff, (3) administrative support (e.g., clerical salaries and benefits, and printing), (4) travel, (5) cost of contractor support, and (6) overhead support (e.g., rent, utilities, etc.). This rate will be applied for site-specific services provided for licensees on a professional staff hourly rate.

The following shows how the professional staff work-year rate was developed for site-specific services in support, review and approval of offsite radiological emergency plans and preparedness:

Personnel compensation:		
REP Headquarters	$444,814	(9.5 FTE)
REP Regions	1,940,468	(51.0 FTE)
Legal	101,677	(2.0 FTE)
Total	$2,486,960	

This represents Full-Time Equivalent (FTE) professional staff dedicated to performing services in Radiological Emergency Preparedness (REP) on a site-specific basis. The calculation omits professional staff used in developing generic program policy guidance, planning generic emergency response actions, and providing generic training.

Benefits:	
REP Headquarters	71,170
REP Regions	310,474
Legal	16,268
Total	$397,912

Employee benefits for professional staff that perform site-specific services are estimated at 16 percent of salary, the rate used in FEMA's FY 1990 Budget Request.

Program Administrative Support:	
Clerical (salaries & benefits)	174,751
Printing	20,000
Total	$194,751

This calculation is based on Full-Time Equivalent (FTE) clerical support to professional staff in the performance of site-specific services and related printing costs for site-specific reports, hearings and transcripts.

Travel: Total $480,000

This is based on budgeted travel allocations to support professional staff in performing site-specific exercises, plan reviews, technical assistance, adjudicatory hearings, and site visits.

Contractor Support:	
Findings & determinations of plans and exercises	160,000
Support for licensing	110,000
Performance of plan reviews and exercises	3,286,000
Total	$3,556,000

This is based on budgeted costs related to support to professional staff in performing site-specific services.

Overhead Costs: Total $540,688

This is based on rent, supplies, telephone, and wordprocessing costs at FEMA headquarters and analogous costs at the FEMA Regional Offices to support professional staff in performing site-specific services. These costs were identified on a FEMA agency-wide per capita basis, then extrapolated to the number of REP and legal professional staff performing site-specific services. Excluded were any costs toward personnel-related administration or services and agency management.

Total yearly costs to maintain professional staff in performing site-specific services	$7,656,311

Average cost/work-year to maintain one professional staff employee in performing site-specific services:

$7,656,311 divided by 62.5 (FTE performing site-specific services) =$122,500

Professional staff hourly rate:

$122,500 divided by 1744 work hours = $70.24

The professional staff hourly rate is based upon the average yearly cost to maintain one professional staff employee in performing site-specific services divided by the number of productive employee hours in a work-year as determined by the Office of Management and Budget (see OMB Circular A–76).

The professional staff hourly rate will be charged when any FEMA professional staff member works on a site-specific project that contributes to a licensee's compliance with the NRC's regulatory scheme. No charge will be made for work not related to a site-specific project.

The estimated fees licensees can expect to be charged will vary because FEMA's services will be based on work performed on a site-specific basis. The amount of work-performed will vary due to complexity of the work, for example, plan review, exercises, federal coordination of resources, and Federal response. FEMA will only charge fees to licensees for site-specific services rendered by FEMA personnel and/or FEMA contractors. FEMA will not charge fees for services rendered to benefit a licensee by another Federal department or agency, consistent with authority granted under 31 U.S.C. 9701.

Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Director has certified that this rule will not have a significant economic impact upon a substantial number of small entities. The rule places obligations and burdens only on nuclear power plant licensees. These licensees are not "small entities" as set forth in the Regulatory Flexibility Act and do not meet the small business size standards (set forth in Small Business Administration regulations in 13 CFR Part 121.) A copy of the certification and attendant material is available for inspection and copying in the Rules Docket.

Environmental Assessment and Finding of No Significant Environmental Impact

The Director has determined under the National Environmental Policy Act of 1969 and FEMA Regulation 44 CFR Part 10, "Environmental Consideration" that this rule is not a major Federal action significantly affecting the quality of the human environment. Therefore, an environmental impact statement is not required. In support of this finding, an environmental assessment has been prepared which is available for inspection and copying for a fee in the Rules Docket.

Regulatory Analysis

This rule is not a major rule as the term is used in Executive Order 12291 and implementing OMB guidance. It will not have an annual effect on the economy of $100 million or more, will not result in a major increase in costs or prices to consumer, individual industries, Federal, State or local agencies, or geographic regions and will not have a significant adverse impact on competition, employment, investment, productivity, innovation or the ability of United States based enterprises to compete with foreign based enterprises in domestic or export markets.

Paper Work Reduction Act

This rule does not contain collection of information requirements and is therefore not subject ato the Paper Work Reduction Act of 1980, as amended (44 U.S.C. 3501 *et seq.*).

Federalism Executive Order

A Federalism assessment under E.O. 12612 has been prepared and a copy is available for inspection and copying for a fee at the Rules Docket.

List of Subjects in 44 CFR Part 353

Nuclear power plants and reactors, radiation protection, Intergovernmental relations and Federal assistance.

Accordingly, Subchapter E Chapter 1, Title 44, Code of Federal Regulations is proposed to be amended by adding Part 353.

PART 353—FEE FOR SERVICES IN SUPPORT, REVIEW AND APPROVAL OF STATE AND LOCAL GOVERNMENT OR LICENSEE RADIOLOGICAL EMERGENCY PLANS AND PREPAREDNESS

Sec.

Authority: 31 U.S.C. 9701; E.O. 12657 and E.O. 12148.

§ 353.1 Purpose.

The regulations in this part set out fees charged for site-specific radiological emergency planning and preparedness services rendered by the Federal Emergency Management Agency, as authorized by 31 U.S.C. 9701.

§ 353.2 Scope.

The regulations in this part apply to all licensees who have applied for or have received a license from the Nuclear Regulatory Commission to operate a commercial nuclear power plant.

§ 353.3 Definitions.

As used in this part, the following terms and concepts are defined:

(a) FEMA means the Federal Emergency Management Agency.

(b) NRC means the Nuclear Regulatory Commission.

(c) Certification means the written justification by a licensee of the need for Federal compensatory assistance, as authorized in 44 CFR Part 352 and E.O. 12657.

(d) Technical assistance means services provided by FEMA to facilitate offsite radiological emergency planning and preparedness such as: provision of support for the preparation of offsite radiological emergency response plans and procedures; provision of advice and recommendations for specific aspects of preparedness such as alert and notification and emergency public information.

(e) Federal facilities and resources means personnel, property (land, buildings, vehicles, equipment) and operational capabilities controlled by the Federal government related to establishing and maintaining radiological emergency response preparedness.

(f) Licensee means the utility which has applied for or has received a license from the NRC to operate a commercial nuclear power plant.

(g) Governor means the Governor of a State or his/her designee.

(h) RAC means Regional Assistance Committee chaired by FEMA with representatives from the NRC, Environmental Protection Agency, Department of Health and Human Services, Department of Energy, Department of Transportation, Department of Agriculture, Department of Commerce and other Federal Departments and agencies as appropriate.

(i) REP means FEMA's Radiological Emergency Preparedness Program.

(j) Fiscal Year means Federal fiscal year commencing on the first day of October through the thirtieth day of September.

(k) Federal Radiological Preparedness Coordinating Committee is the national level committee chaired by FEMA with representatives from the NRC, Environmental Protection Agency, Department of Health and Human Services, Department of Energy,

Department of Transportation, Department of Agriculture, Department of Commerce and other Federal Departments and agencies as appropriate.

§ 353.4 Payment of fees.

Fees for site-specific offsite radiological emergency plans and preparedness services and related site-specific legal services are based on the full cost of such services and are payable upon notification by FEMA. Each FEMA services will be billed at six-month intervals for all accumulated costs on a site-specific basis. Each bill will identify the costs related to services for each nuclear power plant site.

§ 353.5 Average cost per professional staff-hour.

(a) Services rendered will be calculated based upon the full costs for such services using a professional staff rate per hour equivalent to the sum of the average cost to the agency of maintaining a professional staff member performing site-specific services related to the Radiological Emergency Preparedness Program, including salary, benefits, administrative support, travel, contractor support, and overhead. The professional staff rate for FY 90 is $70.24 per hour. This rate will be charged when FEMA performs such services as (a) the review and approval of State and local or licensee developed offsite radiological emergency plans and preparedness pursuant to 44 CFR Part 350 and the FEMA–NRC MOU (50 FR 15484, April 18, 1985), (b) the issuance of interim findings pursuant to the FEMA–NRC MOU, (c) the processing of a certification request by a utility that a situation exists where a State or local government declines or fails to participate in emergency planning as provided for under 44 CFR Part 352, (d) the coordination and provision of federal assistance under 44 CFR Part 352, (e) the provision of all technical assistance, (f) the performance of any adjudicatory services, and (g) any response action provided by FEMA in the event of a radiological emergency.

(b) The professional staff rate for the REP Program and related legal services will be revised on a fiscal year basis using the most current fiscal data available and the revised hourly rate will be published as a notice in the **Federal Register** for each fiscal year if the rate increases or decreases.

§ 353.6 Schedule of services.

Recipients shall be charged the full cost of the service based upon the appropriate professional hourly staff rate for the services described in paragraph (a) through (g) of this section.

(a) *Formal review and approval of State plan.* When a State seeks formal review and approval by FEMA of the State's radiological emergency response plan pursuant to 44 CFR Part 350 (Review and Approval Process of State and Local Radiological Emergency Plans and Preparedness), FEMA shall provide the services as described in 44 CFR Part 350 in regard to that request and fees will be charged for such services to the licensee which is the ultimate beneficiary of FEMA's services. Fees will be charged for all FEMA activities related to such services, including but not limited to the following:

(1) Acknowledgement of the State application and publication of notice of FEMA's receipt of State plan.

(2) Plan distribution to and review by the Regional Assistance Committee (RAC).

(3) Plan evaluation and FEMA determination.

(4) Exercise observation and evaluation, post-exercise briefing, and written evaluation.

(5) Notice and conduct of public meeting.

(6) Regional finding and determination of adequacy of plans and preparedness followed by review by Federal Radiological Preparedness Coordinating Committee and FEMA Headquarters resulting in final FEMA determination of adequacy of plans and preparedness.

(7) Notice of determination to Governor, NRC, FEMA Region and by publication in **Federal Register.**

(8) Conduct and evaluation of any remedial exercises and/or review and evaluation of any plan revisions.

(b) *Interim findings.* Where the NRC seeks from FEMA under the FEMA–NRC MOU (50 FR 15485, April 18, 1985) an interim finding, which represents a "snapshot" of radiological emergency planning and preparedness at a specific point in time for a specific nuclear power plant, FEMA shall assess a fee to the licensee for providing this service. The rendering of this service consists of making a determination whether the plans are adequate to protect the health and safety of the public living in the vicinity of the nuclear power facility by providing reasonable assurance that appropriate protective measures can be taken offsite in the event of a radiological emergency and that such plans are capable of being implemented.

(c) *NRC utility plan submissions.* Where the NRC, under the FEMA–NRC MOU (50 FR 15485, April 18, 1985), requests FEMA to review and evaluate the adequacy of an emergency response plan developed by the utility absent participation by State and/or local government, FEMA shall provide these services and fees will be charged for such services to the licensee which is the ultimate beneficiary of FEMA's services. Fees will be charged for all FEMA activities related to such services, including but not limited to the following:

(1) Publication of notice of FEMA's receipt of the utility's plan.

(2) Plan distribution to and review by the Regional Assistance Committee (RAC).

(3) Plan evaluation and FEMA determination.

(4) Exercise observation and evaluation, post-exercise briefing, and written evaluation.

(5) Notice and conduct of public meeting.

(6) Regional finding and determination of adequacy of plans and preparedness followed by review by Federal Radiological Preparedness Coordinating Committee and FEMA Headquarters resulting in final FEMA determination of adequacy of plans and preparedness.

(7) Notice of determination to NRC and FEMA Region, and by publication in **Federal Register.**

(8) Conduct and evaluation of any remedial exercises and/or review and evaluation of any plan revisions.

(d) *Utility certification submission.* When a licensee seeks Federal assistance within the framework of 44 CFR Part 353 due to the decline or failure of a State or local government to adequately prepare an emergency plan, FEMA shall process the licensee's certification and make the determination whether a decline or fail situation exists. Fees will be charged for services rendered in making the determination. Upon the determination that a decline or fail situation does exist, any services provided or secured by FEMA consisting of assistance to the licensee, as described in 44 CFR Part 352, will have a fee charged for such services. These services may include technical assistance, and consultation and coordination with other Federal agencies on providing Federal technical assistance, resources, or facilities as required.

(e) *FEMA participation in NRC adjudicatory proceedings.* Where FEMA participates in NRC licensing

proceedings and any related court actions to support FEMA findings as a result of its review and approval of offsite emergency plans and preparedness, fees will be charged to the licensee for such participation.

(f) *Rendering technical assistance.* Where FEMA is requested to provide any technical assistance, such assistance will be charged to the licensee for the rendering of such service.

(g) *FEMA response to a radiological emergency.* In the event of a radiological emergency requiring a Federal response, the costs of any actions taken by FEMA to carry out such a response will be assessed to the licensee of the site requiring a Federal response, regardless of whether the response is under (a) the Federal Radiological Emergency Response Plan, (b) 44 CFR Part 352, pursuant to Executive Order 12657, or (c) any other Federal response authority.

§ 353.7 Failure to pay.

In any case where FEMA finds that a licensee has failed to pay a prescribed fee required under this part, procedures will be implemented in accordance with 44 CFR Part 11 Subpart C to effectuate collections under the Debt Collection Act of 1982 (31 U.S.C. 3711 *et seq.*).

Dated: June 22, 1989.

Grant C. Peterson,

Associate Director, State and Local Programs and Support.

[FR Doc. 89–15395 Filed 6–28–89; 8:45 am]

BILLING CODE 6718–21–M

FEDERAL COMMUNICATIONS COMMISSION

47 CFR—Part 15

[General Docket 89–44]

Procedure for Measuring Electromagnetic Emissions From Digital Devices

AGENCY: Federal Communications Commission.

ACTION: Proposed rule; order extending time to file comments.

The adoption of this Order extends the times to file comments and reply comments in the above captioned proceeding published March 20, 1989 (54 FR 11415). This action is being taken in response to a petition filed by American Telephone and Telegraph Company (AT&T), requesting extension of times for filing comments and reply comments in this proceeding.

DATES: Comments are due to be filed July 7, 1989. Reply comments are due to be filed August 7, 1989.

ADDRESS: Federal Communications Commission, Washington, DC 20554.

FOR FURTHER INFORMATION CONTACT: Richard Fabina, telephone (301) 725–1585.

List of Subjects in 47 CFR Part 15

Radio frequency devices.

Order Extending Time to File Comments

Adopted: June 7, 1989
Released: June 9, 1989

By the Chief Engineer

1. A Notice of Proposed Rule Making in the above entitled proceeding, FCC 89–53, was adopted by the Commission on February 13, 1989, and released on March 7, 1989. In an Order in this proceeding, approved by the Chief Engineer on April 10, 1989, and released on April 26, 1989, the time for filing comments and reply comments was extended to June 7, 1989, and July 7, 1989, respectively.

2. On May 30, 1989, American Telephone and Telegraph Company ("AT&T") filed with the Commission a petition requesting extension of the times for filing comments and reply comments to July 10, 1989, and September 11, 1989, respectively. In their further petition, AT&T states that it participates in national and international organizations which develop test and measurement standards. The petitioner further states that its technical experts in this area are currently involved in standards development which was planned months before this proceeding was initiated. AT&T asserts that these experts cannot review the test results from the multiple testing locations used by the petitioner, both company owned and independent contractors, and make significant comments on the proposed test procedure in the time presently allotted.

3. Because of the technical information and experience which can be added to this proceeding by AT&T and other companies, as well as our desire to have a fully developed record before us, it has been determined that a further extension of the comment and reply comment dates is appropriate. However, due to our desire to resolve this proceeding as soon as possible, we feel that extending the comment and reply comment periods as requested will prolong this proceeding unnecessarily. We believe that the concerns of all interested parties can still be resolved with a reply comment period of 30 days, instead of the 60 days requested. Accordingly, *It is ordered,* pursuant to the delegated authority contained in 47 CFR 0.241(a)(5), that the period of time for the filing of comments in the above proceeding is extended until July 7, 1989, and the period of time for filing of reply comments is extended until August 7, 1989.

Thomas P. Stanley,

Chief Engineer.

[FR Doc. 89–15322 Filed 6–28–89; 8:45 am]

BILLING CODE 6712–01–M

GENERAL SERVICES ADMINISTRATION

48 CFR Parts 532 and 552

[GSAR Notice No. 5–272]

General Services Administration Acquisition Regulation, Authorizing Payment by Credit Card Under GSA Schedule Contracts

AGENCY: Office of Acquisition Policy, GSA.

ACTION: Proposed rule.

SUMMARY: This notice invites comments on a proposed change to the General Services Administration Acquisition Regulation (GSAR) that would add Subpart 532.70 to establish criteria for including a contract clause that would authorize GSA schedule contractors to accept the Government commercial credit card as an alternative method of payment for orders of $25,000 or less; revise Section 552.210–79, Packing List, to add supplemental information, which must be included on the packing list or other shipping document when payment will be made by Government commercial credit card; and add Section 552.232–80 to provide the text of clause authorizing GSA schedule contractors to be paid for oral or written orders of $25,000 or less by using the Government commercial credit card.

DATE: Comments are due in writing on or before July 31, 1989.

ADDRESS: Comments should be addressed to Ms. Marjorie Ashby, Office of GSA Acquistion Policy and Regulations (VP), 18th and F Streets, NW., Room 4026, Washington, DC 20405.

FOR FURTHER INFORMATION CONTACT: Paul Linfield, Office of GSA Acquisition Policy and Regulations, (202) 566–1224.

SUPPLEMENTARY INFORMATION: The Director, Office of Management and Budget (OMB), by memorandum dated December 14, 1984, exempted certain agency procurement regulations from Executive Order 12291. The exemption applies to this proposed rule.

Pursuant to the Regulatory Flexibility Act 5 U.S.C. 601 *et seq.*, GSA certifies that the rule will not have a significant impact on a substantial number for small entities since the acceptance of credit cards by vendors is widespread and will be voluntary under this program.

Credit cards provide a mechanism for payment to the vendor's bank account, usually within one day, instead of the normal invoicing and processing time associated with receiving payment from Federal agencies. Consequently, the

impact on vendors, including small entities is expected to be beneficial and no regulatory flexibility analysis has been prepared. However, comments from small entities are hereby solicited and will be considered in accordance with section 610 of the Regulatory Flexibility Act. The Packing List clause at GSAR 552.210–79 contains an information collection requirement that requires the approval of OMB under Section 3504(h) of the Paperwork Reduction Act. This proposed rule has been submitted to OMB for approval. Comments on the information collection requirement in GSAR 552.210–79 may be directed to the Office of Information and Regulatory Affairs of OMB, Attention: Desk Officer for GSA, Washington, DC 20503. The title of the collection is "48 CFR 552.210–79, Packing List." The clause requires GSA schedule contractors shipping items that will be paid for by Government commercial credit card to include on the packing list or other suitable shipping document the name and telephone number of the cardholder and the term "Credit Card." This information is needed by the cardholder to verify receipt of the order, reconcile the monthly credit card statement, and expeditiously authorize payment to the credit card issuer. The respondents are GSA schedule contractors. The estimated annual burden for this collection is 2,427 hours. This is based on an estimated average burden hour per response of 0.0167, a proposed frequency of 48.4 responses per respondent, and an estimated number of respondents of 3,000.

List of Subjects in 48 CFR Parts 532 and 552

Government procurement.

1. The authority citation for 48 CFR Parts 532 and 552 continues to read as follows:

Authority: 40 U.S.C. 486(c).

PART 532—[AMENDED]

2. Subpart 532.70 is added to read as follows:

Subpart 532.70—Authorizing Payment by Credit Card Under Schedule Contracts

532.7001 Definitions.

"Government commercial credit card," as used in this subpart, means the uniquely numbered credit card issued by the contractor under single award schedule, Federal Supply Schedule IG 615, Governmentwide Commercial Credit Card Service, to named individual Government employees to pay for official Government purchases.

532.7002 Solicitation requirements.

(a) Solicitations for schedule contracts for supplies (other than telecommunications and telephone equipment) and service must invite offerors to quote a discount for credit card orders to be applied when payments of $25,000 or less are made using the Government credit card. Payments by credit card will not be made unless an additional discount is provided in consideration for making such payments. Acceptance of the Government credit card by contractors is voluntary and the failure of an offeror to quote an additional discount will not affect consideration of the offer.

(b) The contracting officer shall identify the clearinghouse that is being used by the contractor issuing credit cards under single award schedule, Federal Supply Schedule IG 615, for Governmentwide Commercial Credit Card Service on the cover page or in section L of the solicitation. The name of the clearinghouse is provided for offerors information and use in responding to the schedule solicitation.

532.7003 Contract clause.

The contracting officer shall insert the clause at 552.232–80, Payment By Credit Card, in schedule solicitations and contracts for supplies (other than telecommunication and telephone euqipment) and services to provide for payment for Government commercial credit card as an alternative method of payment for orders under $25,000.

PART 552—[AMENDED]

3. Section 552.210–79 is revised to read as follows:

552.210–79 Packing list.

As prescribed in 510.001(j), insert the following clause:

Packing List (XXX 1989)

(a) A packing list or other suitable shipping document shall accompany each shipment and shall indicate: (1) Name and address of the consignor; (2) Name and complete address of the consignee; (3) Government order or requisition number; (4) Government bill of lading number covering the shipment (if any); and (5) Description of the material shipped, including item number, quantity, number of containers, and package number (if any).

(b) When payment will be made by Government commercial credit card, in addition to the information in (a) above, the packing list or shipping document shall include: (1) Cardholder name and telephone number and (2) the term "Credit Card."
(End of Clause)

4. Section 552.232–80 is added to read as follows:

552.232–80 Payment by credit card.

As prescribed in 532.7003, insert the following clause:

Payment by Credit Card (XXX 1989)

(a) Definitions.

"Government commercial credit card" means the uniquely numbered credit card issued by the contractor under single award schedule, Federal Supply Schedule IG 615, Governmentwide Commercial Credit Card Service, to named individual Government employees to pay for official Government purchases.

"Oral delivery order" means an order placed orally either in person or by telephone, which is paid for by Government commercial credit card.

(b) Payments of $25,000 or less for oral or written delivery orders may be made to the Contractor using the Government credit card when a discount from the contract price is provided for credit card orders in consideration for making such payments under this contract.

(c) The Contractor shall not process a transaction for payment through the credit card clearinghouse until the purchased supplies have been shipped or services performed. Unless the cardholder requests correction or replacement of a defective or faulty item in accordance with other contract requirements, the Contractor shall immediately credit a cardholder's account for items returned as defective or faulty.
(End of Clause)

Dated: June 21, 1989.

Richard H. Hopf, III,

Associate Administrator for Acquisition Policy.

[FR Doc. 89–15326 Filed 6–28–89; 8:45 am]

BILLING CODE 6820–61–M

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

National Highway Traffic Safety Administration

49 CFR Parts 393 and 571

[BMCS Docket No. MC–110, Notice No. 84–4; NHTSA Docket No. 84–06; Notice No. 2]

Parts and Accessories Necessary for Safe Operation; Federal Motor Vehicle Safety Standards

AGENCIES: Federal Highway Administration (FHWA), National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

ACTION: Notice of termination of rulemaking.

SUMMARY: This notice terminates the activity of the Federal Highway Administration and National Highway Traffic Safety Administration regarding a jointly published advanced notice of

proposed rulemaking (ANPRM) requesting comments on the appropriateness at this time of revising the Federal Motor Carrier Safety Regulations (FMCSR) and the Federal Motor Vehicle Safety Standards (FMVSS) by adding a requirement that 102-inch wide trailers have a minimum axle width of 77 inches. This requirement would provide the trailers with an axle/tire track of 102 inches. The agencies conclude that a regulatory requirement for 102 inch axle/tire tracks is unnecessary since available data show that the industry is voluntarily adopting the 102 inch axle/tire track.

FOR FURTHER INFORMATION CONTACT: NHTSA: Mr. Scott Shadle, Office of Vehicle Safety Standards, (202) 366–5273; Ms. Dorothy Nakama, Office of Chief Counsel, (202) 366–2992, National Highway Traffic Safety Administration, 400 Seventh Street SW., Washington, DC 20590; or FHWA: Mr. Thomas P. Kozlowski, Office of Motor Carriers, (202) 366–2981; Mr. Paul Brennan, Office of Chief Counsel, (202) 366–1394, Federal Highway Administration, 400 Seventh Street, SW., Washington, DC 20590. Office hours are from 8:00 a.m. to 4:00 p.m. ET, Monday through Friday.

SUPPLEMENTARY INFORMATION: On May 22, 1984, the Bureau of Motor Carrier Safety (which is now called the Office of Motor Carriers) in the Federal Highway Administration (FHWA), and the National Highway Traffic Safety Administration (NHTSA) published an ANPRM (49 FR 21551) seeking comments on the desirability of requiring the operation of 102 inch wide vehicles on a minimum axle width of 77 inches. This requirement would provide the trailers with an axle/tire track of 102 inches. In 1982, the Surface Transportation Assistance Act of 1982 (STAA) (Pub. L. 97–424, 96 Stat. 2097), amended effective April 6, 1983 by Pub. L. 98–17 (97 Stat. 59), made several significant changes to provisions governing a vehicle's width, weight, and overall length. Section 416 of the STAA requires that States allow the operation of 102-inch wide vehicles on the Interstate and other qualifying Federal-Aid Primary Systems highways. The statute set no requirements for axle width of the vehicles. Prior to the enactment of Section 416, although several states had set vehicle width maxima standards from 96 to 102 inches for vehicles operating without special permits, there was no Federal standard regulating width.

As a Federal request for comment on the desirability of mandating a minimum axle/tire track width, the ANPRM was issued in response to November 1983 rulemaking petitions by the International Brotherhood of Teamsters (IBT) which requested FHWA and NHTSA to adopt a regulation requiring new 102-inch wide trailers to have axle/tire tracks which are also 102 inches wide. "Axle/tire track width" measurements include the width of the tires which are attached to both ends of the axle whereas "axle width" includes only the actual axle itself. The axle width would change from an industry standard 71 inches–71½ inches (found on the standard 96-inch wide trailer) to 77 inches–77½ inches. The IBT requested the change to increase the operating stability of the wider trailers.

A March 1983 research study conducted by the University of Michigan on vehicle roll stability found that the rollover threshold of a 102 inch wide semitrailer having a 102 inch wide axle/tire track is greater than the threshold of the same semitrailer having a 96-inch axle/tire track. This shows that using a 102-inch trailer with the wider track provides more vehicle stability than one with a narrower track. The study estimated that the improved stability would result in a 20-percent reduction in the rollover accident rate. In addition, the study described other factors influencing vehicle stability such as tractor width, cargo type, cargo density, and loading.

In the May 1984 ANPRM, the FHWA and NHTSA sought more information on these factors from the public. The agencies asked 13 questions in the ANPRM, relating to the issues of safety, economic, and cost benefits or liabilities derived from requiring 102 inch wide trailers to have axle/tire tracks of 102 inches. They specifically asked whether the railroad industry, including trailer on flatcar operations (TOFC), would have a problem if wider axle tracks were required, and that if wider axle/tire tracks were required on trailers, whether tractors should also be required to have the wider tracks.

Various businesses and other organizations that are involved in TOFC and other intermodal transportation operations strongly opposed the IBT petition. The commenters involved in TOFC or other intermodal operations, such as Roll-on-Roll-off (RO–RO) barge transport and containerized ship transport were concerned about physical incompatibilities between some TOFC railroad flatcars, RO–RO barges, and accompanying loading facilities, and trailers equipped with axles having an axle/tire track of 102 inches, as opposed to the past standard of 96 inches.

Although most of those commenters who opposed the petition indicated that the TOFC and RO–RO operations are converting to be compatible with wider axle/tire tracks, they gave no firm indication of when such conversions would be completed. One opposing commenter, a national association of entities concerned with freight transportation services, suggested that "a four or five year phase-in period be granted to help defray the enormous costs" in redesigning transportation facilities to eliminate or reduce incompatibility problems.

No opposition was expressed from those involved in only over-the-road (OTR) trucking operations. In fact, two national organizations, representing a large portion of the OTR trucking operations in the United States, supported the IBT petition.

To gather more information about the issue, the Department of Transportation's Transportation Systems Center (TSC) conducted a study and issued a report titled, "Safety and Economic Impact Assessment of Requiring Wider Axles on 102-Inch Trailers" (January 1986). The report found that under the various regulatory schemes studied, the potential number of lives saved as a result of requiring the wider 102 inch axle/tire tracks was estimated to be from 0.2 to 0.8 per year, and the potential number of accidents prevented was estimated to be from 7 to 25 per year. The TSC estimate of 7 to 25 accidents per year prevented was consistent with the 1983 University of Michigan study which had estimated that a 102 inch trailer with a wider 102 inch wide axle/tire track would result in a 20 percent reduction in the rollover accident rate.

The major reason for the relatively small overall benefits, despite the 20 percent rollover rate reduction estimated for trailers with 102 inch, rather than 96 inch, axle/tire track widths, is the small number of vehicles that would be affected by the regulation. All available information indicates that 102 inch wide trailers used in OTR trucking operations are currently built with 102 axle/tire tracks. Benefits estimated in the TSC study would result only from building TOFC trailers in the same fashion.

The TSC report emphasized the special situation of the TOFC industry by noting that TOFC trailers with 102 inch bodies and 96 inch axle track widths have been purchased because a portion of the then current railroad flatcar fleet could not accommodate the wider axle trailers. If a regulation requiring wider axles were adopted, the TOFC industry would be forced to speed up the rate at which it converts or

retires these incompatible flatcars. If all 102 inch trailers with narrow axles are eventually prohibited from the highways (assuming no "grandfathering" of existing equipment), the industry would also be forced to convert its existing trailers at an additional cost. With or without grandfathering, the TOFC industry would be prohibited from reusing narrow axle bodies as part of a wide van, narrow axle remanufactured trailer.

The TSC report further noted that the total costs of a wider axle rule to the TOFC industry could exceed $100 million unless the regulation included grandfathering of existing equipment and the enforcement date was extended so far into the future that industry would be able to make adjustments that they would have made without a regulation. Regulatory alternatives to full and immediate enforcement of the regulation could bring costs down to as low as $9 million. However, because this would entail grandfathering and extension of the enforcement date, delaying the time when additional wider axle trailers are put to use, the regulation's benefits would be reduced. The TSC report concluded that the cost of a proposed regulation appeared to be high relative to the derived benefits under any regulatory scenario, especially if existing equipment could not be grandfathered.

Since the economic impact estimates were made in the TSC study, it has become more evident that the problem of incompatibility between some portion of the trailer-on-flatcar (TOFC) railcar fleet and trailers with 102 inch axle/tire track widths is the only significant incentive to continue using trailers with 102 inch body widths and 96 inch axle/tire track widths, narrow axle trailers. It is believed that essentially all new vehicles, other than those designed for TOFC applications, will be built with 102 inch axle/tire track widths. Since the major cost impact of a requirement for 102 inch axle/tire track widths on trailers with 102 inch body widths is that related to the early retirement and/or conversion of TOFC railcars that are not compatible with trailers having 102 inch axle/tire track widths, the agency believed that it was important to update its information on the makeup of the TOFC railcar fleet generally and the fleet's compatibility with the 102 inch axle/tire track width trailers.

Therefore, the agency sought and recently received information regarding the current makeup of the TOFC railcar fleet and has placed that information in the public docket. For various economic reasons not related to the 102 inch axle/tire track width issue, the railcars not compatible with wide axle trailers are being replaced/converted at a rate greater than that assumed in the "no regulation" baseline case used in the TSC study. This should reduce the incentive for the production and use of narrow axle trailers, which would, in turn, reduce the already relatively small safety benefits of the various regulatory approaches examined by TSC.

Accordingly, the NHTSA and the FHWA have determined that it is no longer necessary to pursue this rulemaking. Because of the increasing trend toward the 102 inch axle/tire width, the agencies believe that industry itself is aware of the desirability of using that axle/tire width on 102 inch wide trailers, and see no reason to establish a Federal requirement to do something the affected parties are already doing voluntarily.

Should the ongoing industry voluntary changeover to 102 inch axle/tire track widths on 102 inch wide trailers (both TOFC and OTR) not continue in future years, it may be necessary for the NHTSA and the FHWA to reconsider the need for Federal regulation.

Issuing Date: June 23, 1989.

Jeffrey R. Miller,

Deputy Administrator, National Highway Traffic Safety Administration.

R.D. Morgan,

Executive Director, Federal Highway Administration.

[FR Doc. 89-15344 Filed 6-28-89; 8:45 am]

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49 CFR Part 571

[Docket No. 89-10; Notice 1]

RIN 2127-AC59

Federal Motor Vehicle Safety Standards Lamps, Reflective Devices, and Associated Equipment

AGENCY: National Highway Traffic Safety Administration (NHTSA), DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice proposes a new type of standardized replaceable light source to be used in replaceable bulb headlamps systems on motor vehicles. Following the nomenclature presently used, the light source, which has a trade designation as 9007, would be known as "HB5". The new source would employ a base similar to that of the HB1, but would not be interchangeable with it. Like the HB1, it would have two filaments. The filaments, however, would be positioned axially, rather than transversely as with the HB1. This could allow use of a reflector with a lesser vertical height, resulting in a headlamp of lower profile, allowing lower front ends with the potential to improve fuel economy through reduction of aerodynamic drag. Headlamps with HB5 light sources would be designed to provide the photometrics presently specified in Standard No. 108.

This notice grants and implements a petition for rulemaking by Ford Motor Co.

DATES: The comment closing date for the proposal is August 14, 1989. Any request for an extension of time in which to comment must be received not later than 10 days before that date (49 CFR 553.19). The proposed effective date for the amendment is 30 days after publication of the final rule in the Federal Register.

ADDRESS: Comments should refer to the docket number of notice number of the notice and be submitted to: Docket Section, Room 5109, Nassif Building, 400 Seventh Street, SW., Washington, DC 20590 (Docket hours are from 8 a.m. to 4 p.m.).

FOR FURTHER INFORMATION CONTACT: Jere Medlin, Office of Rulemaking, NHTSA (202-366-5276).

SUPPLEMENTARY INFORMATION: On June 2, 1983, NHTSA amended Motor Vehicle Safety Standard No. 108, *Lamps Reflective Devices, and Associated Equipment*, to allow, for the first time, the use of a replaceable bulb headlamp system (48 FR 24690). This action completed rulemaking on a petition submitted by Ford Motor Company. Subsequently, the light source was designated "HB1", to distinguish it from additional light sources that were incorporated into the standard (50 FR 19961). HB1 contains both an upper and lower beam filament, and thus far has been used in headlamp systems comprised of two lamps.

Ford has not petitioned NHTSA for rulemaking to amend Standard No. 108 to permit use of another dual filament light source. For the reasons discussed below, NHTSA grants the Ford petition, and proposes the adoption of the light source that would be known as "HB5".

The petitioner ascribes the following benefits to HB5. The two filaments are oriented axially (rather than transversely as in the HB1) for more efficient light distribution. Ford says that it achieves greater efficiency by reason of the axial filament position, thereby improving the optical relationship between the filaments and the reflector. With a typical parabolic reflector, the HB5, because of its axial filament configuration, permit more

effective use of the reflector area and allows the design of headlamps with small vertical dimensions than are practicable with the HB1 bulb. Installation of lower profile lamps, in turn, encourages the design of lower front ends with reduction in aerodynamic drag, with has the protential of improving fuel economy.

Ford also explains that the design of the base, although similar to that of the HB1, differs sufficiently that HB1 and HB5 could not be interchanged in a given headlamp body. Other features of the HB5 are that the lower beam filament is designed to operate at a maximum of 60 watts, and the upper beam filament at a maximum of 70 watts. As the agency moves toward more performance oriented lighting requirements, it believes that compliance with any of the existing photometric prescriptions is appropriate, thus, a headlamp using the HB5 would be designed to conform to the photometric specifications presently incorporated in Standard No. 108, those of its Figure 15 or figure 17, or Table 1 of SAE Standard J579 DEC84 *Sealed Beam Headlamp Units for Motor Vehicles.*

As with some other standardized replaceable light sources, the HB5 is designed to use a seal on the capsule, as suggested by Ford, to assure proper centering of the filament in order to meet the photometric requirements, and to protect the interior of the lamp housing from the environment.

Assessment of Impacts and Request for Comments

NHTSA has preliminarily considered the economic impacts of this rulemaking proposal and has made a tentative determination that it is not major within the meaning of Executive Order 12291 "Federal Regulation," or significant under Department of Transportation regulatory policies and procedures. Therefore, neither a regulatory impact analysis nor a full regulatory evaluation is required. However, a regulatory evaluation has been prepared and is in the public docket. Since use of the proposed light source is optional, the proposal would not impose additional requirements or costs but would permit manufacturers greater flexibility in the use of headlighting systems.

NHTSA has analyzed this proposal for the purposes of the National Environmental Policy Act. The proposal may have a small positive effect on the human environment since the weight and quantity of materials used in the manufacture of headlamps would be reduced.

The agency has also considered the impacts of this proposal in relation to the Regulatory Flexibility Act. I certify that this proposal would not have a significant impact upon a substantial number of small entities. Accordingly, no initial regulatory flexibility analysis has been prepared. Manufacturers of motor vehicles and headlamps, those affected by the proposal, are generally not small businesses within the meaning of the Regulatory Flexibility Act. Finally, small organizations and governmental jurisdictions would not be significantly affected since the price of new vehicles and headlamps will be minimally impacted.

This action has been analysed in accordance with the principles and criteria contained in Executive Order 12612, and it has been established that the proposed rulemaking does not have sufficient Federalism implications to warrant the preparation of a Federalism assessment.

Interested persons are invited to submit comments on the proposal. It is requested but not required that 10 copies be submitted.

All comments must be limited not to exceed 15 pages in length (49 CFR 553.21). Necessary attachments may be appended to these submissions without regard to the 15-page limit. This limitation is intended to encourage commenters to detail their primary arguments in a concise fashion.

If a commenter wishes to submit certain information under a claim of confidentiality, three copies of the complete submission, including purportedly confidential information, should be submitted to the Chief Counsel, NHTSA, at the street address given above, and seven copies from which the purportedly confidential information has been deleted should be submitted to the docket section. A request for confidentiality should be accompanied by a cover letter setting forth the information specified in the agency's confidential business information regulation (49 CFR Part 512).

All comments received before the close of business on the closing date indicated above, will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. However, the rulemaking action may proceed at any time after that date, and comments received after the closing date and too late for consideration in regard to the action will be treated as suggestions for future rulemaking. The NHTSA will continue to file relevant material as it becomes available in the docket after the closing date, and it is recommended that interested persons continue to examine the docket for new material.

Those persons desiring to be notified upon receipt of their comments in the rules docket should enclose, in the envelope with their comments, a self-addressed stamped postcard. Upon receiving the comments, the docket supervisor will return the postcard by mail.

List of Subjects in 49 CFR Part 571

Imports, Motor vehicle safety, Motor vehicles.

PART 571—[AMENDED]

In consideration of the foregoing, it is proposed that 49 CFR 571.108 Motor Vehicle Safety Standard No. 108, *Lamps, Reflective Devices, and Associated Equipment* be amended as follows:

1. The authority citation for Part 571 would continue to read as follows:

Authority: 15 U.S.C. 1392, 1401, 1403, 1407; delegation of authority at 49 CFR 1.50.

§ 571.108 [Amended]

2. Paragraph S7.5 would be revised to read as follows:

S7.5 *Replaceable Bulb Headlamp System.* Each replaceable bulb headlamp system shall be designed to conform to the following requirements:

(a) The system shall provide only two lower beams and two upper beams and shall incorporate not more than two standardized replaceable light sources in each headlamp.

(b) The photometrics as specified in paragraph (c) through (e) of this section, using any standardized light source of the Type intended for use in such system.

(c) The test requirements of section 4.1 and 4.1.4 of SAE J1383 APR85, using the photometric requirements specified in paragraphs (d) and (e) of this section. The term "aiming plane" means "aiming reference plane," or an appropriate vertical plane defined by the manufacturer as required in paragraph S7.7.1. A ¼ degree reaim tolerance is permitted for any test point. The test points 10U–90U shall be measured from the normally exposed surface of the lens face.

(d) For a headlamp equipped with one or two Type HB1 light sources, one or two Type HB2 light sources, or one or two Type HB5 light sources, the following requirements apply: (1) There shall be no mechanism that allows adjustment of an individual light source, or, if there are two light sources, independent adjustment of each reflector. (2) The lower and upper beams of a headlamp system consisting of two

lamps, each containing two light sources, shall be provided as follows:

(i) The lower beam shall be provided in one of the following ways:

(A) By the outboard light source (or upper one if arranged vertically) designed to conform to:

(*1*) The lower beam requirements of Table 1 of SAE Standard J579 DEC84, if the light sources in the headlamp system are only Type HB1 or Type HB5; or

(*2*) The lower beam requirements of Figure 17, if the light sources are Type HB2; or

(B) By both light sources in the headlamp, designed to conform to the lower beam requirements specified above for their Type.

(ii) The upper beam shall be provided in one of the following ways:

(A) By the inboard light source (or the lower one if arranged vertically) designed to conform to:

(*1*) The upper beam requirements of Table 1 of SAE Standard J579 DEC84, if the light sources in the headlamp system are only Type HB1 or Type HB5; or

(*2*) The upper bean requirements of Figure 17, if the light sources are Type HB2; or

(B) By both light sources in the headlamp, designed to conform to the lower beam photometrics specified for their Type.

(3) The lower and upper beams of a headlamp system consisting of four lamps, each containing a single light source, shall be provided as follows:

(i) The lower beam shall be provided by the outboard lamp (or the upper one if arranged vertically), designed to conform to:

(A) The lower beam requirements of Table 1 of SAE Standard J579 DEC84, if the light sources in the headlamp system are only Type HB1 or Type HB5; or

(B) The lower beam requirements of Figure 15, if the light sources are any combination other than two Type HB1s or two Type HB5s; and the lens of each such headlamp shall be marked with the letter "L".

(ii) The upper beam shall be provided by the inboard lamp (or the lower one if arranged vertically), designed to conform to:

(A) The upper beam requirements of Table 1 of SAE Standard J579 DEC84, if the light sources in the headlamp system are only Type HB1 or Type HB5; or

(B) The upper beam requirements of Figure 15, if the light sources are any combination other than two Type HB1s or two Type HB5s; and the lens of each such headlamp shall be marked with the letter "U."

(e) The following requirements apply to a headlamp system equipped with any combination of light sources except two Type HB1s or two Type HB5s:

(1) There shall be no mechanism that allows adjustment of an individual light source, or, if there are two light sources, independent adjustment of each reflector.

(2) The lower and upper beams of a headlamp system consisting of two lamps, each containing two light sources (in any combination except two Type HB1s or two Type HB5s) shall be provided only as follows:

(i) The lower beam shall be provided in one of the following ways:

(A) By the outboard light source (or the uppermost if arranged vertically) designed to conform to the lower beam requirements of Figure 17; or

(B) By both light sources, designed to conform to the lower beam requirements of Figure 17.

(ii) The upper beam shall be provided in one of the following ways:

(A) By the inboard light source (or the lower one if arranged vertically) designed to conform to the upper beam requirements of Figure 17; or

(B) By both light sources, designed to conform to the upper beam requirements of Figure 17.

(3) The lower and upper beams of a headlamp system consisting of four lamps, using any Type light source except a Type HB1 or a Type HB5, each containing only a single light source, shall be provided only as follows:

(i) The lower beam shall be produced by the outboard lamp (or upper one if arranged vertically), designed to conform to the lower beam requirements of Figure 15. The lens of each such headlamp shall be permanently marked with the letter "L."

(ii) The upper beam shall be produced by the inboard lamp (or lower one if arranged vertically), designed to conform to the upper beam requirements of Figure 15. The lens of each such headlamp shall be marked with the letter "U."

(f) Each lens reflector unit manufactured as replacement equipment shall be designed to conform to the requirements of paragraphs (d) and (e) of this section when any standardized replaceable light source appropriate for such unit is inserted in it.

(g) The lens of each replaceable bulb headlamp using any Type light source, except HB1 used singly or dually, within a headlamp system on a motor vehicle, shall permanently display the Type designation for that light source on the lens in front of each light source.

(h) The system shall be aimable in accordance with paragraph S7.7.

(i) Each headlamp shall meet the requirements of paragraphs S7.4 (k) and (1), except that the sentence in (k) to verify sealing according to S8.10 *Sealing* does not apply.

3. Paragraph S7.6 would be revised to read as follows:

S7.6 *Standardized Replaceable Light Sources.* Each standardized replaceable light source shall be designed to conform to the following requirements:

(a) A Type HB1 light source shall be designed to conform to the dimensions specified in Figure 3 and shall incorporate a silicone O-ring. Its maximum power on the lower beam shall be 50 watts, and on the upper beam, 70 watts. Its luminous flux in lumens shall be 700±15% on the lower beam and 1200±15% on the upper beam.

(b) A type HB2 light source shall be designed to conform to the dimensions specified in Figure 23. Its maximum power on the lower beam shall be 66 watts, and on the upper beam, 75 watts. Its luminous flux in lumens shall be 1000 plus or minus 10% on the lower beam, and 1650 plus or minus 10% of the upper beam.

(c) A Type HB3 light source shall be designed to conform to the dimensions specified in Figure 19. Its maximum power on the upper beam shall be 70 watts. Its luminous flux in lumens shall be 1700±12% on the upper beam.

(d) A Type HB4 light source shall be designed to conform to the dimensions specified in Figure 20. Its maximum power shall be 60 watts on the lower beam, and its luminous flux in lumens on the lower beam shall be 1000±15%.

(e) A Type HB5 light source shall be designed to conform to the dimensions specified in Figure 24. Its maximum power shall be 60 watts on the lower beam, and 70 watts on the upper beam. Its luminous flux in lumens shall be 100±12% on the lower beam, and 1350±12% on the upper beam.

(f) The Filament of a light source shall be seasoned before measurement of maximum power and luminous flux.

(g) Measurement of maximum power and luminous flux shall be made with the direct current test voltage regulated within one quarter of one percent. The test voltage shall be design voltage, 12.8v. The measurement of luminous flux shall be in accordance with the Illuminating Engineering Society of North America, LM–45; *IES Approved Method for Electrical and Photometric Measurements of General Service Incandescent Filament Lamps* (April 1980), shall be made with the black cap installed on Type HB1, Type HB2, and Type HB4, and shall be made with the electrical conductor and light source base shrouded with an opagque white

colored cover, except for the portion normally located within the interior of the lamp housing. The measurement of lumunous flux for the Types HB3 and HB4 shall be with the base covered with a white cover shown in Figures 19–1 and 20–1. The white covers are used to eliminate the likelihood of incorrect lumen measurement that will occur should the reflectance of the light source base and electrical connector be low.

(h) The capsule, lead wires and/or terminals, and seal on each Type HB1, Type HB3, Type HB4, and Type HB5 light source shall be installed in the base so as to provide an airtight seal. Such a seal exists when no air bubbles shall appear on the low pressure (connector) side after the light source has been immersed in water for one minute while inserted in a cylindrical aperture of 1.350 to 1.346 in. (34.30 to 34.2 mm) (Type HB1 and Type HB5), or 0.796±0.004 in (20.22±0.10 mm) Type HB3), or 0.875±0.004 in (22.2±0.1 mm) (Type HB4) and subjected to a minimum air pressure of 70kPa (10 P.S.I.G.) on the glass capsule side.

(i) After the force deflection test conducted in accordance with S9, the permanent deflection of the glass envelope shall not exceed 0.005 in. (0.13 mm) in the direction of the applied force.

(j) A general tolerance shall apply to Figure 3 as follows: ±0.004 in. (0.10 mm) to all linear dimensions and ±1 degree 00 minutes to all angular dimensions except for referenced dimensions and unless otherwise specified.

(k) Each standardized light source manufactured on or after [the effective date of the rule), shall be marked with the symbol DOT horizontally or vertically, which shall constitute the certification required by 15 U.S.C. 1403. Its base shall be marked with its HB Type designation, and with the manufacturer's or importer's name, or trademark registered with the U.S. Patent Office.

4. Figure 8 would be revised to add to the Table: HB5 44.50±.25 mm (1.75±0.10 in.)

5. New Figures 24–1 through 24–9 and 25 would be added as follows:

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FIGURE 24-1
SPECIFICATION FOR THE HB5
REPLACEABLE BULB

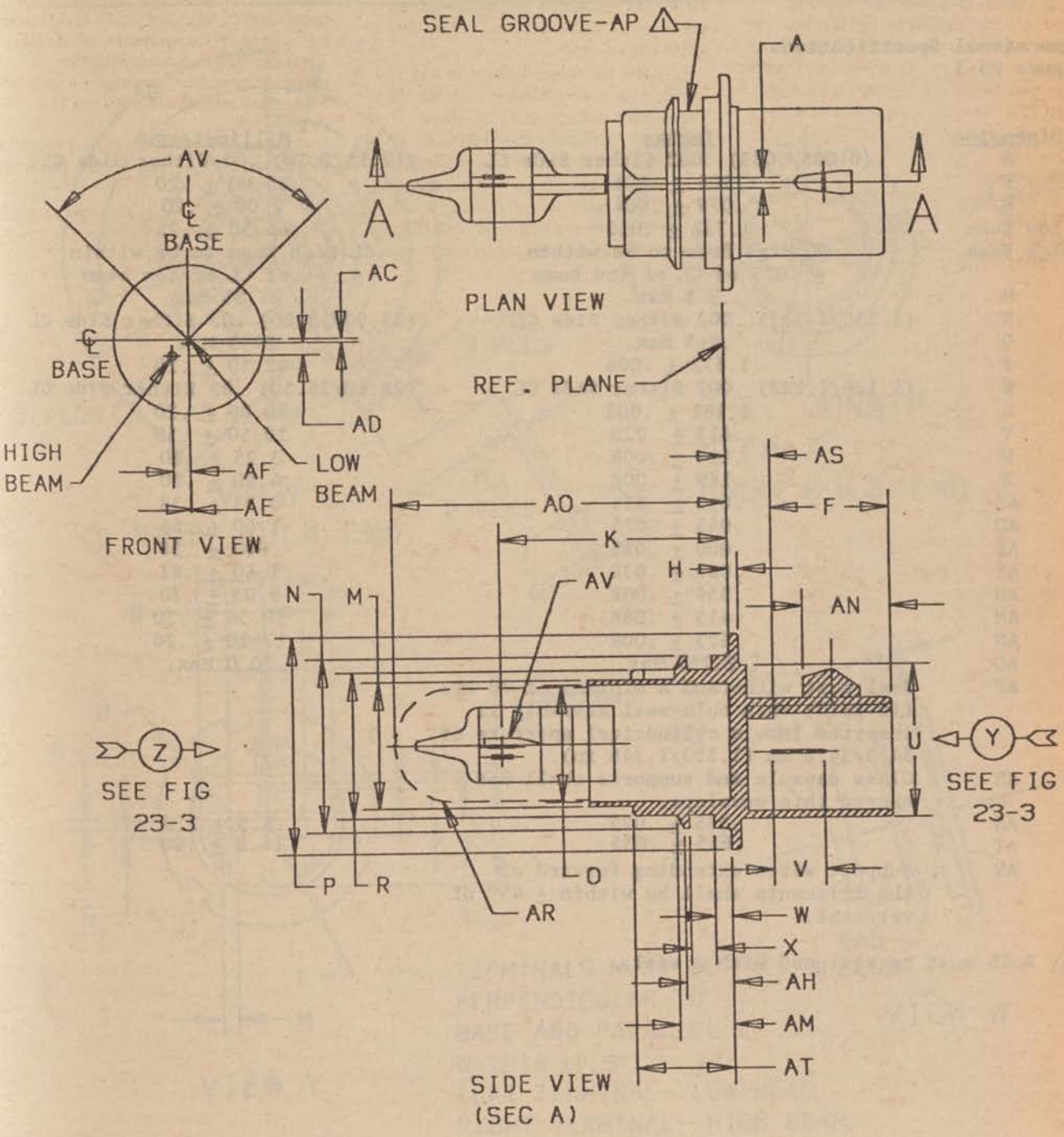


Figure 24-2

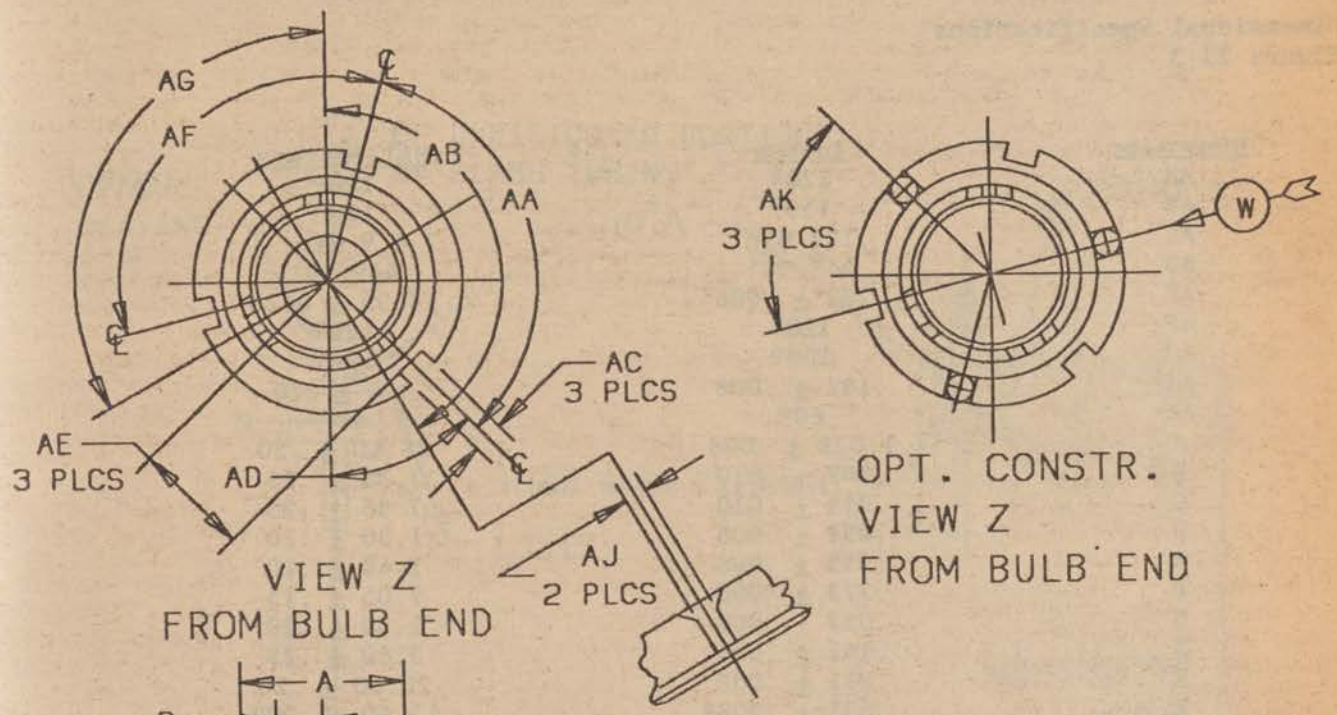
SPECIFICATION FOR THE HB5
REPLACEABLE BULB

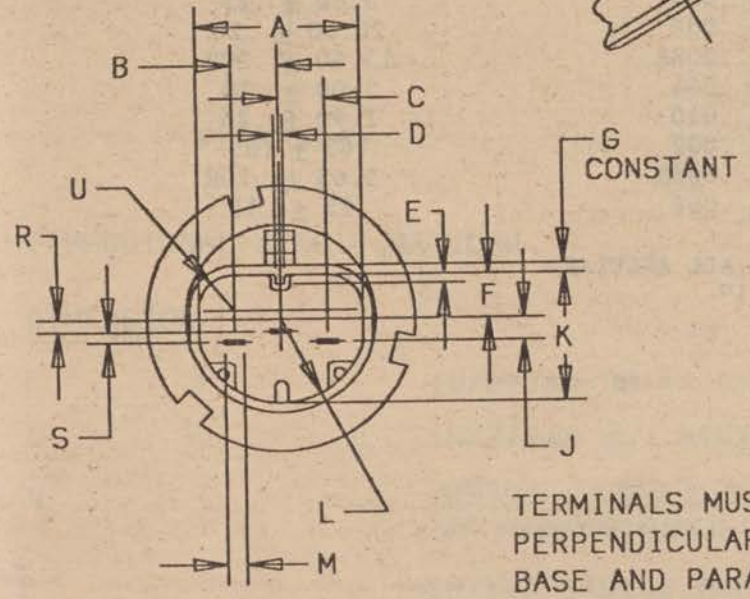
Dimensional Specifications
Figure 23-1

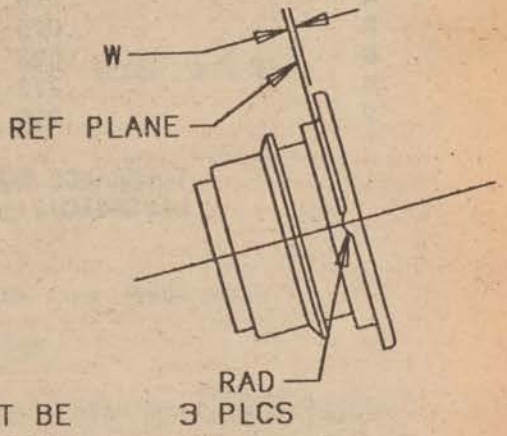
Dimension	Inches	Millimeters
A	(0.085/.083) .002 Either Side CL	(2.15/2.10) .05 Either Side CL
F	.906 ± .008	23.00 ± .20
H	.079 ± .004	2.00 ± .20
K Low Beam	1.752 ± .010	44.50 ± .25
High Beam	CL High Beam to be within ± .025 of CL of low beam	CL High Beam to be within ± .64 of CL of low beam
M	.978 Max.	24.85 Max.
N	(1.335/1.331) .002 Either Side CL	(33.90/33.80) .05 Either Side CL
O	.965 Max.	24.5 Max.
P	1.673 ± .008	42.50 ± .20
R	(1.126/1.122) .002 Either Side CL	(28.60/28.50) .05 Either Side CL
U	1.181 ± .008	30.00 ± .20
V	.413 ± .020	10.50 ± .50
W	.128 ± .008	3.25 ± .20
X	.189 ± .008	4.80 ± .20
AC	.015 ± .015	0.38 ± .38
AD	.063 ± .025	1.60 ± .64
AE	.000 ± .015	.000 ± .38
AF	.063 ± .032	1.60 ± .81
AH	.356 ± .008	9.05 ± .20
AM	.415 ± .008	10.54 ± .20
AN	.673 ± .008	17.10 ± .20
AO	2.756 Max.	70.0 Max.
AP	Seal must withstand a minimum of 70 kPa (10 PSIG) when bulb-seal assembly is inserted into a cylindrical aperture of 34.3/34.2 mm (1.350/1.346 in).	
AR	Glass capsule and supports shall not exceed this envelope.	
AS	.335 ± .079	8.5 ± 2.0
AT	.665 ± .035	16.9 ± .90
AV	Support wires extending forward of the filaments shall be within ± 45° of vertical.	

⚠1 Bulb must be equipped with a seal.

FIGURE 24-3
SPECIFICATION FOR THE HB5
REPLACEABLE BULB







TERMINALS MUST BE PERPENDICULAR TO BASE AND PARALLEL WITHIN ±1.5°
LEFT TERMINAL- LOW BEAM
RIGHT TERMINAL- HIGH BEAM
CENTER TERMINAL-GRD

Figure 24-4

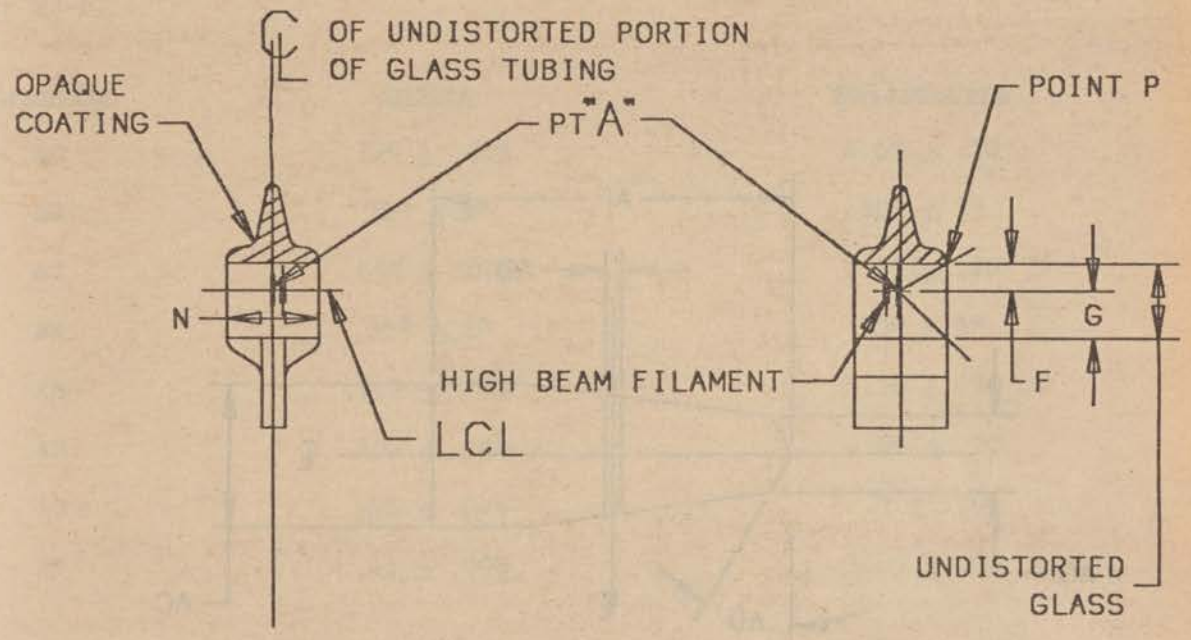
SPECIFICATION FOR THE HB5
REPLACEABLE BULB

Dimensional Specifications
Figure 23-3

Dimension	Inches	Millimeters
AA	120°	120°
AB	150°	150°
AC	.193 Min.	4.9 Min.
AD	44° 30'	44° 30'
AE	.722 ± .008	18.35 ± 0.20
AF	120°	120°
AG	120°	120°
AJ	.142 ± .008	3.6 ± .20
AK	60°	60°
A	1.028 ± .008	26.10 ± .20
B	.289 ± .010	7.35 ± .25
C	.289 ± .010	7.35 ± .25
D	.051 ± .008	1.30 ± .20
E	.055 ± .008	1.40 ± .20
F	.278 ± .006	7.05 ± .15
G	.059 ± .008	1.50 ± .20
J	.142 ± .010	3.60 ± .25
K	.811 ± .008	20.60 ± .20
L	.535 ± .008R	13.60 ± .20R
M	.118 ± .004	3.00 ± .10
R	.075 ± .010	1.90 ± .25
S	.025 ± .002	.63 ± .05
U	.222 ± .008R	5.65 ± .20R
W	.010 ± .006	.25 ± .15

TOLERANCE FOR ALL ANGULAR
DIMENSIONS ± 1°

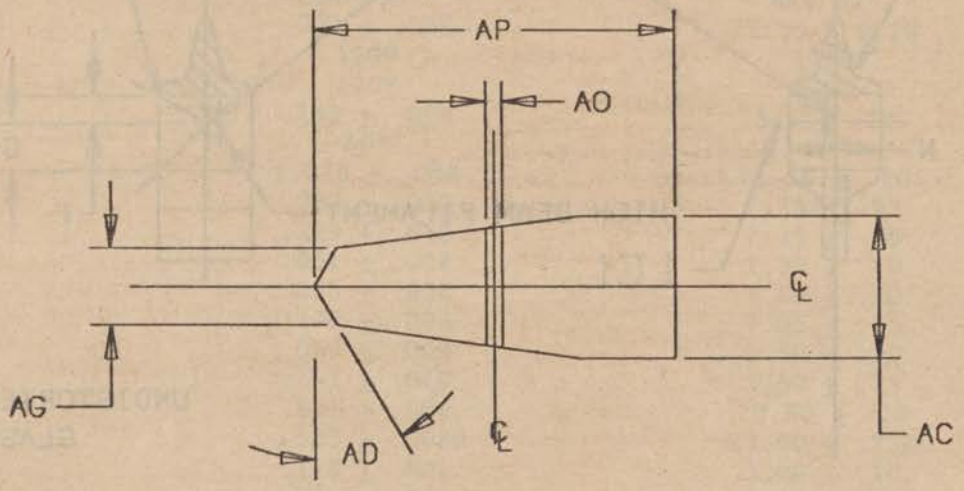
FIGURE 24-5
SPECIFICATION FOR THE HB5
REPLACEABLE BULB



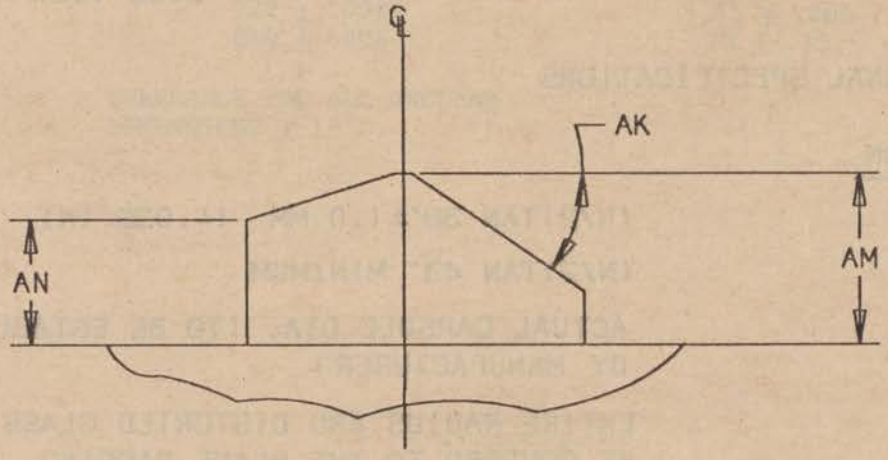
DIMENSIONAL SPECIFICATIONS

DIMENSION	
F	(N/2)TAN 38°±1.0 MM (±.039 IN)
G	(N/2)TAN 43° MINIMUM
N	ACTUAL CAPSULE DIA. (TO BE ESTABLISHED BY MANUFACTURER)
P	ENTIRE RADIUS AND DISTORTED GLASS SHALL BE COVERED TO THE PLANE PASSING THROUGH POINT "P" PERPENDICULAR TO THE GLASS CAPSULE CENTERLINE.

FIGURE 24-6
SPECIFICATION FOR THE HB5
REPLACEABLE BULB
LOCKING FEATURE



EXPLODED PLAN VIEW MUST BE FREE OF FLASH



EXPLODED SIDE VIEW

Figure 24-7

SPECIFICATION FOR THE HB5
REPLACEABLE BULB

LOCKING FEATURE

Dimensional Specifications
Figure 23-6

Dimension	Inches	Millimeters
AC	.179 ± .008	4.55 ± .20
AD	30° ± 3°	30° ± 3°
AG	.098 ± .008	2.50 ± .20
AK	35° ± 3°	35° ± 3°
AM	.217 ± .008	5.50 ± .20
AN	.157 ± .008	4.00 ± .20
AO	.02 ± .008	.5 ± .20
AP	.45 ± .008	11.4 ± .20

FIGURE 24-8
SPECIFICATION FOR THE HB5
REPLACEABLE BULB

BULB HOLDER

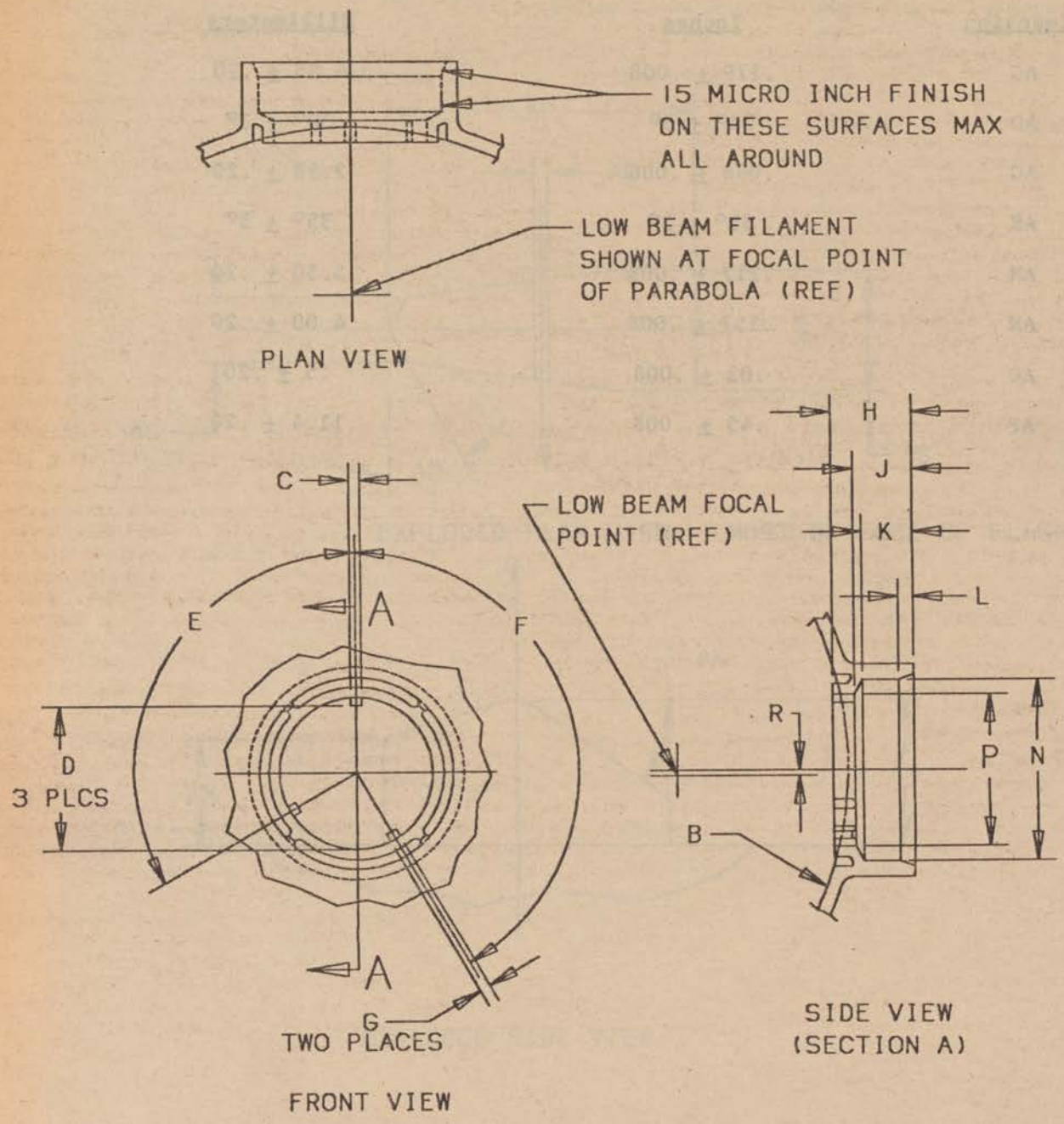


Figure 24-9

SPECIFICATION FOR THE HB5
REPLACEABLE BULB

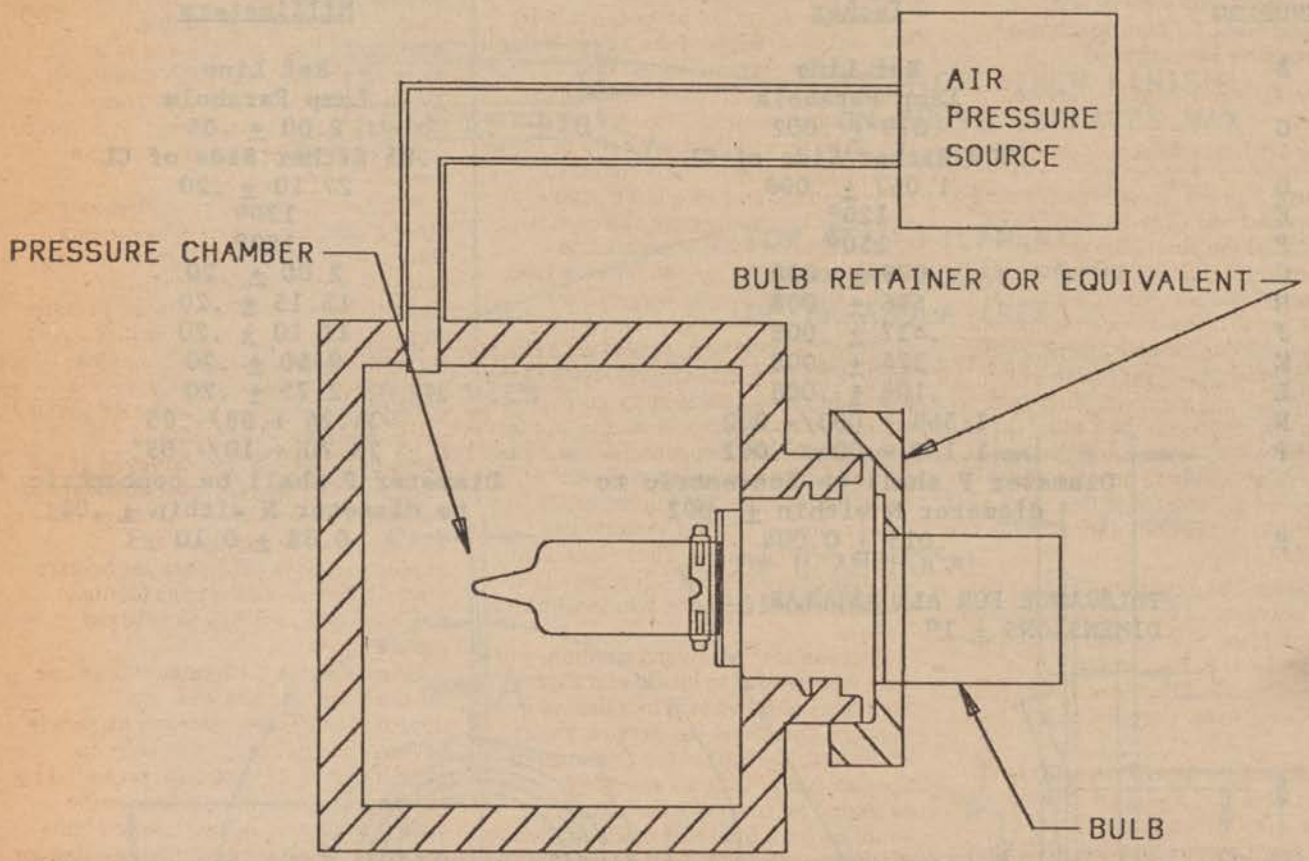
BULB HOLDER

Dimensional Specifications
Figure 23-8

Dimension	Inches	Millimeters
B	Ref Line Lamp Parabola	Ref Line Lamp Parabola
C	.079 ± .002 .002 Either Side of CL	2.00 ± .05 .05 Either Side of CL
D	1.067 ± .008	27.10 ± .20
E	120°	120°
F	150°	150°
G	.079 ± .008	2.00 ± .20
H	.596 ± .008	15.15 ± .20
J	.437 ± .008	11.10 ± .20
K	.374 ± .008	9.50 ± .20
L	.108 ± .008	2.75 ± .20
N	1.348 +.003/-.002	34.24 +.08/-.05
P	1.130 +.004/-.002 Diameter P shall be concentric to diameter N within ± .002	28.70 +.10/-.05 Diameter P shall be concentric to diameter N within ± .05
R	.015 ± 0.004	0.38 ± 0.10

TOLERANCE FOR ALL ANGULAR
DIMENSIONS ± 1°

FIGURE 25
PRESSURE CHAMBER



BULB APERTURE MANUFACTURED TO DIMENSIONS AS REFERENCED BELOW:

BULB TYPE	APERTURE DIAMETER	
	INCHES	MILLIMETERS
HB1 ,HB5	1.350/1.346	34.3/34.2
HB3	0.796 ±.004	20.22 ± 0.10
HB4	0.875± .004	22.22 ± 0.10

BILLING CODE 4910-59-C

June 22, 1989.

Barry Felrice,

Associate Administrator for Rulemaking.

[FR Doc. 89-15240 Filed 6-26-89; 9:10 am]

BILLING CODE 4910-59-M

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AA10

Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rule To List Boerhavia mathisiana as Endangered

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Withdrawal of proposed rule.

SUMMARY: The Service is withdrawing the proposed rule (July 10, 1987; 52 FR 26033) to list the plant, *Boerhavia mathisiana* (Mathis spiderling), as an endangered species. New data reveal that the range of *Boerhavia mathisiana* extends into Tamaulipas and San Luis Potosi, Mexico, and that the species does not face the degree of threats in Mexico that it does in the United States. The Service has determined that this species is not likely to become either endangered or threatened throughout all or a significant portion of its range in the foreseeable future.

ADDRESSES: The complete file for this notice is available for public inspection, by appointment, during normal business hours, at the U.S. Fish and Wildlife Service Ecological Services Field Office, 6300 Ocean Drive, Corpus Christi, Texas 78412.

FOR FURTHER INFORMATION CONTACT: Robyn Cobb, U.S. Fish and Wildlife Service, c/o Corpus Christi State University, Campus Box 338, 6300 Ocean Drive, Corpus Christi, Texas 78412 (512/888-3346 or FTS 529-3346).

SUPPLEMENTARY INFORMATION:

Background

The proposed rule to list *Boerhavia mathisiana* as an endangered species was published in the **Federal Register** on July 10, 1987 (52 FR 26033). This proposal was supported by biological information (Gardner and O'Brien 1986, Turner 1983) indicating the species was extremely limited in distribution and subject to a variety of threats. At the time of the proposal, *Boerhavia mathisiana* was known from only two localities, one in San Patricio County, Texas, and the other approximately 7 miles south in adjacent Live Oak County. Fewer than 250 plants were believed to exist. The caliche (limestone) outcrop habitat of *Boerhavia mathisiana* at these localities is threatened by destruction from gravel mining, road building, and commercial and residential development.

A newspaper notice, inviting general public comment, was published in the *Corpus Christi Caller-Times* on August 1, 1987. Comments of support were received from the Texas Natural Heritage Program and the Texas Parks and Wildlife Department. A neutral comment that provided no additional biological information was received from a private citizen.

A comment on the proposed rule by Ms. Jackie M. Poole of the Texas Natural Heritage Program indicated that specimens of *Boerhavia mathisiana* from Tamaulipas, Mexico, are present in the herbarium of the University of Texas at Austin. The specimens collected between 1947 and 1962 were mostly identified originally only as *Boerhavia.* Six specimens were annotated as *Boerhavia mathisiana* in January 1986, by Dr. Richard Spellenberg of New Mexico State University during his study of the Nyctaginaceae (four o'clock family) for the Chihuahuan Desert Flora. Two additional specimens were annotated as *Boerhavia mathisiana* by Poole during her inspection of the other material. The specimens were all collected within a 125 kilometer (78 mile) radius of Ciudad Victoria in southern Tamaulipas. These localities are approximately 500 kilometers (310 miles) disjunct from the two localities in Texas.

Because of this new information, more time was needed to locate and assess the status of *Boerhavia mathisiana* in Mexico. Therefore, the Service, under section 4(b)(6)(B)(i) of the Endangered Species Act of 1973, as amended, extended for 6 months the 1-year deadline for a final rule on *Boerhavia mathisiana* (July 14, 1988; 53 FR 26616). A newspaper notice, announcing the extension, was published in the *Corpus Christi Caller-Times* on July 26, 1988. The Texas Parks and Wildlife Department supported the decision to extend the comment period.

The Service contracted with Mr. Rafael Corral of New Mexico State University, Las Cruces, New Mexico, to investigate the status of *Boerhavia mathisiana* in Mexico (Corral 1988). Mr. Corral and a field assistant spent July 16-25, 1988, searching for *Boerhavia mathisiana* in previously known localities and other potential habitat in the states of Tamaulipas and San Luis Potosi. Five of the eight former collection sites were located but no plants were found. At one site, the present vegetation was too dense and tall to provide suitable habitat. At several sites the soil was extremely dry, so if plants were present their foliage likely had dried out, making the plants very difficult to find.

Boerhavia mathisiana was found at four new localities, three in Tamaulipas and one in San Luis Potosi. These sites represent a known Mexican range for the species extending approximately 275 kilometers (170 miles) north to south and approximately 175 kilometers (110 miles) east to west. At the new sites, *Boerhavia mathisiana* grows on thin soils over limestone, in limestone cracks, or in linestone rubble. Associated vegetation is low to tall thorn scrub typical of the Tamaulipan Thorn-Scrub Floristic Subprovince (Takhtajan 1986). *Boerhavia mathisiana* grows both under shrubs and in the open.

Boerhavia mathisiana is abundant at three of the four sites. Twelve plants were observed in about 2 hectares (4.9 acres) at the least abundant site. Approximately 1,000 plants per hectare were estimated in 4 hectares (9.9 acres) surveyed at the second site and the population extended far beyond the survey limits. Approximately 500 plants per hectare were estimated in 2-3 hectares (4.9-7.4 acres) surveyed at the third site. Plants were most abundant at the fourth site where 4-5 hectares (9.9-12.4 acres) were surveyed and approximately 9,000 plants per hectare were estimated. Sometimes plants at this site were as dense as 8-10 per square meter.

Grazing is the predominant land use for the sites. The site with approximately 500 plants per hectare is severely overgrazed, by *Boerhavia mathisiana* is growing both protected by shrubs and in the open where cattle walk and graze. The site where plants are most abundant is partly occupied by a field of henequen (*Agave fourcroydes*). Here, *Boerhavia mathisiana* occurs in the field itself, on mounds of limestone gravel removed from the field, on mounds of soil around fence posts, and in areas around the field where the soils are less disturbed.

Plants appear to be reproducing successfully at all sites. Flowering and fruiting plants were observed at all sites, as well as plants with both thick and thin root stocks, which is taken as an indication that the populations contain plants of various ages.

Finding and Withdrawal

Data collected by Corral in July 1988, indicate *Boerhavia mathisiana* is thriving in Tamaulipas and San Luis

Potosi, Mexico. Plants are growing in both natural and highly disturbed habitats. In addition, the populations in Mexico are not subject to the threats described for the populations in Texas. Urban development is unlikely at the rural Mexican localities and stone is abundant in the region making it unlikely the Mexican sites will be destroyed by stone or gravel mining. Further, *Boerhavia mathisiana* appears to tolerate grazing, which is the predominant land use for most of the species' rocky limestone habitat. Under these circumstances, it is apparent that *Boerhavia mathisiana* is not endangered throughout all or a significant portion of its range. Consideration was given to listing the species as threatened, but the Service determined that this action was not necessary because of the number of plants found, the lack of threats in Mexico, and the successful reproduction observed at all sites. Therefore, in compliance with section 4(b)(6)(B)(ii) of the Endangered Species Act of 1973, as amended, the Service withdraws its proposed rule of July 10, 1987 (52 FR 26033), to list *Boerhavia mathisiana* F.B. Jones (Mathis spiderling) as endangered.

References Cited

Corral, R. 1988. Status report on *Boerhavia mathisiana*. U.S. Fish and Wildlife Service, Albuquerque, New Mexico. 21 pp.

Gardner, S. and R. O'Brien. 1986. Status survey update on *Boerhavia mathisiana*. U.S. Fish and Wildlife Service, Albuquerque, New Mexico. 9 pp.

Takhtajan, A. 1986. Floristic regions of the world. University of California Press, Berkeley, California. 552 pp.

Turner, B.L. 1983. Status Survey on *Boerhavia mathisiana*. U.S. Fish and Wildlife Service, Albuquerque, New Mexico. 9 pp.

Author

The author of this notice is Charles McDonald, U.S. Fish and Wildlife Service, 3530 Pan American Highway NE, Suite D, Albuquerque, New Mexico 87107 (505/883–7877 or FTS 474–7877).

Authority: The authority for this action is the Endangered Species Act (16 U.S.C. 1531 *et seq.*; Pub. L. 93–205, 87 Stat. 884; Pub. L. 94–359, 90 Stat. 911; Pub. L. 95–632, 92 Stat. 3751; Pub. L. 96–159, 93 Stat 1225; Pub. L. 97–304, 96 Stat. 1411; Pub. L. 100–478, 102 Stat. 2306; Pub. L. 100–653, 102 Stat. 3825); Pub. L. 99–625, 100 Stat. 3500, unless otherwise noted.

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Dated: June 7, 1989.

Susan Recce Lamson,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 89–15416 Filed 6–28–89; 8:45 am]

BILLING CODE 4310–55–M

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50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Findings on Petitions To List Four Puerto Rican Waterfowl and Sherman's Fox Squirrel

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of petition findings.

SUMMARY: The Service announces three 12-month findings for petitions to amend the Lists of Endangered and Threatened Wildlife and Plants. All three of the requested actions have been determined to be warranted but precluded by other actions to amend the lists.

DATES: The findings reported in this notice were made from December 1988 to March 1989. Comments and information may be submitted until further notice.

ADDRESSES: Information, comments, or questions regarding the petition findings for the Puerto Rican waterfowl may be submitted to the Caribbean Field Office, U.S. Fish and Wildlife Service, P.O. Box 491, Boqueron, Puerto Rico 00622 (telephone 809/851–7297); and for Sherman's fox squirrel to the Jacksonville Field Office, U.S. Fish and Wildlife Service, 3100 University Boulevard South, Suite 120, Jacksonville, Florida 32216 (telephone 904/791–2580, FTS 946–2580). The petitions, findings, supporting data, and comments are available for public inspection, by appointment, during normal business hours at the addresses listed above.

FOR FURTHER INFORMATION CONTACT: Hilda Diaz-Soltero at the Caribbean Field Office, or Mr. David Wesley at the Jacksonville, Florida, Field Office (telephone numbers are listed above under "**ADDRESSES**").

SUPPLEMENTARY INFORMATION:

Background

Section 4(b)(3)(B) of the Endangered Species Act of 1973, as amended in 1982 (16 U.S.C. 1531 *et seq.*), requires that, for any petition to revise the Lists of Endangered and Threatened Wildlife and Plants that contains substantial scientific or commercial information, the U.S. Fish and Wildlife Service (Service) should make a finding within 12 months of the date of receipt of the petition on whether the petitioned action is (a) not warranted, (b) warranted, or (c) warranted, but precluded from immediate proposal by other pending proposals. Section 4(b)(3)(C) requires that petitions for which the action requested is found to be "warranted but precluded by other actions to amend the lists" should be treated as though resubmitted on the date of such finding, i.e., requiring a subsequent finding to be made within 12 months. Such 12-month findings are to be published promptly in the **Federal Register.**

A petition to add the white-cheeked pintail, *Anas bahamensis*, to the List of Endangered and Threatened Wildlife was contained in a memorandum from the refuge staff of Caribbean Islands National Wildlife Refuge. It was dated November 21, 1985, and was accepted for consideration on November 22, 1985. The petition contained documentation of a serious island-wide decline in this species in Puerto Rico since the 1950's, from a former condition of being one of the most abundant waterfowl there. Habitate losses and illegal taking were suggested as causes for the decline. The Service found at 90 days that the petition presented substantial information that the requested action may be warranted, and the finding was reported in the **Federal Register** for August 20, 1986 (51 FR 29671). That publication also initiated formal status review for the white-cheeked pintail. A 12-month finding for this species determined that the action requested was warranted but precluded, and was reported in the **Federal Register** on July 1, 1987 (52 FR 24485). A subsequent 12-month finding that the requested action was warranted but precluded by work on other species having higher priority for listing was reported in the **Federal Register** for October 4, 1988 (53 FR 38969).

Review of the available evidence by Service biologists continues to indicate that listing of this species is warranted, but precluded by work on species having higher priority for listing. The status of this duck is generally comparable to that of the three other waterfowl species now under petition for Federal listing from the Puerto Rican Department of Natural Resources (see next petition finding below). The action requested by this petition for the white-cheeked pintail has again been determined to be warranted according to the best information available, but precluded by work on other species having higher priority for listing.

In a petition, dated December 27, 1984, and received January 3, 1985, the Service was requested by the Department of Natural Resources of the Commonwealth of Puerto Rico to list the

Puerto Rican populations of the following three species of waterfowl: Caribbean coot, *Fulica caribea*; ruddy duck, *Oxyura jamaicensis*; West Indian whistling duck, *Dendrocygna arborea*.

All three of the above waterfowl species have declined significantly in Puerto Rico, but information on their status throughout the rest of their respective ranges and the relationships between various island stocks is still sketchy. An administrative finding that the action requested may be warranted was announced in a **Federal Register** notice published on July 5, 1985 (50 FR 27637). Subsequent 12-month findings that the requested action was warranted but precluded by work on other species having higher priority for listing were reported in the **Federal Register** for August 20, 1986 (51 FR 29671), July 1, 1987 (52 FR 24485) and for October 4, 1988 (53 FR 38969). The action requested by this petition for the three Puerto Rican waterfowl species was again determined to be warranted according to the best information available, but precluded by work on other species having higher priority for listing.

In a petition dated November 21, 1987, and received by the Service on November 27, 1987, the Service was requested by Mr. Reed F. Noss to list Sherman's fox squirrel, *Sciurus niger shermani*, as a threatened species with critical habitat. The petition cited the species' category 2 listing on the most recent vertebrate notice of review (September 18, 1985, 50 FR 37458), some status work conducted by the petitioner, and other data in the possession of Florida Natural Areas Inventory in support of the action requested. Formal status review for this species was initiated by the 1982 Vertebrate Notice of Review. An administrative finding that the action requested may be warranted was made on March 1, 1988. A **Federal Register** notice announced the 90-day petition finding on July 19, 1988 (53 FR 31723). A 12-month finding has subsequently been made that the action requested in respect to Sherman's fox squirrel is warranted but precluded by work on other species having higher priority for listing.

Section 4(b)(3)(B)(iii) of the Act states that petitioned actions may be found to be warranted but precluded by other listing actions when it is also found that the Service is making expeditious progress in revising the lists. Expeditious progress is being made in listing endangerd and threatened species and is reported annually in the **Federal Register**. The most recent progress report was published on December 29, 1988 (53 FR 52746).

Author

This notice was prepared by Thomas W. Turnipseed, Division of Endangered Species, U.S. Fish and Wildlife Service, 75 Spring St., SW., Atlanta, Georgia 30303 (404/331–3583 or FTS 242–3583).

Authority: The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*; Pub. L. 93–204, 87 Stat. 884; Pub. L. 94–359, 90 Stat. 911; Pub. L. 95–632, 92 Stat. 8751; Pub. L. 96–159, 93 Stat. 1225; Pub. L. 97–304, 96 Stat. 1411; Pub. L. 100–478, 102 Stat. 2306; Pub. L. 100–653, 102 Stat. 3825), unless otherwise noted.

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Dated: June 12, 1989.

Susan Recce Lamson,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 89–15417 Filed 6–28–89; 8:45 am]

BILLING CODE 4310–55–M

Notices

Federal Register
Vol. 54, No. 124
Thursday, June 29, 1989

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

DEPARTMENT OF AGRICULTURE

Forms Under Review by Office of Management and Budget

June 23, 1989.

The Department of Agriculture has submitted to OMB for review the following proposals for the collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. Chapter 35) since the last was published. This list is grouped into new proposals, revisions, extensions, or reinstatements. Each entry contains the following information:

(1) Agency proposing the information collection; (2) Title of the information collection; (3) Form number(s), if applicable; (4) How often the information is requested; (5) Who will be required or asked to report; (6) An estimate of the number of responses; (7) An estimate of the total number of hours needed to provide the information; (8) An indication of whether section 3504(h) of Pub. L. 96–511 applies; (9) Name and telephone number of the agency contact person.

Questions about the items in the listing should be directed to the agency person named at the end of each entry. Copies of the proposed forms and supporting documents may be obtained from: Department Clearance Officer, USDA, OIRM, Room 404–W Admin. Bldg., Washington, DC 20250 (202) 447–2118.

Revision

Agricultural Stabilization and Conservation Service

Report of Acreage/and Highly Erodible Land and Wetland Conservation Certification
AD–1026, ASCS–578, ASCS-492, CCC–21
Annually
Farms; 3,003,538 responses; 1,601,38 hours; not applicable under 3504(h)
Robert Eaddy (202) 382–9883

Food and Nutrition Service

Food Stamp Redemption Certificate
Form FNS 278B
On occasion
Businesses or other for-profit; 23,184,800 responses; 463,696 hours; not applicable under 3504(h)
Jordan Benderly (703) 756–3756

Extension

Food and Nutrition Service

Emergency Food Stamp Assistance for Victims of Disasters
FNS 447
On occasion
Individuals or households; State or local governments; 4,690 responses; 874 hours; not applicable under 3504(h)
Paul Jones (703) 756–3476

Extension

Food and Nutrition Service

7 CFR Part 215—Special Milk Program for Children
None
Recordkeeping; Monthly; Quarterly; Annually
States or local governments; Businesses or other for-profit; Non-profit institutions; Small businesses or organizations; 181,586 responses; 814,089 hours; not applicable under 3504(h)
Marian L. Stroud (703) 756–3598

Animal and Plant Health Inspection Service

Report of Violation, PPQ Form 518
PPQ 518
On occasion
Individuals or households; Farms: Businesses or other for-profit; Non-profit institutions; Small businesses or organizations; 600 responses; 102 hours; not applicable under 3504(h)
E. Elliot Crooks (301) 436–8271

Donald E. Hulcher,
Acting Departmental Clearance Officer.

[FR Doc. 89–15315 Filed 6–28–89; 8:45 am]
BILLING CODE 3410–01–M

Animal and Plant Health Inspection Service

[Docket No. 89–112]

Availability of Environmental Assessment and Finding of No Significant Impact Relative to Issuance of a Permit to Field Test Genetically Engineered Plant-Associated Micro-Organisms; Correction

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Notice; correction.

SUMMARY: We are correcting an editorial error that appeared in a notice published on May 19, 1989 (54 FR 21643–31644, Docket Number 89–075). The notice advised the public that an environmental assessment and finding of no significant impact had been prepared by the Animal and Plant Health Inspection Service relative to the issuance of a permit to Crop Genetics International, to allow the field testing of genetically engineered plant-associated micro-organisms in the States of Illinois, Maryland, Minnesota and Nebraska. In the last line under the heading "**FOR FURTHER INFORMATION CONTACT,**" the accession number was incorrectly stated as "89–355–01." The correct accession number is "88–355–01."

FOR FURTHER INFORMATION CONTACT: Dr. Sally McCammon, Biotechnologist, Biotechnology Permit Unit, Biotechnology, Biologics, and Environmental Protection, Animal and Plant Health Inspection Service, U.S. Department of Agriculture, Room 844, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, (301) 436–7612.

Done at Washington, DC, this 23rd day of June 1989.

James W. Glosser,
Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 89–15400 Filed 6–28–89; 8:45 am]
BILLING CODE 3410–34–M

Forest Service

Management Guidelines and Inventory Protocols for the Mexican Spotted Owl in the Southwestern Region

AGENCY: Forest Service, USDA.

ACTION: Notice, adoption of interim policy.

SUMMARY: Because of concern for the habitat needs of the Mexican spotted owl (*Strix occidentalis lucida*), the Regional Forester, Southwestern Region of the U.S. Forest Service, is issuing interim management guidelines to provide protection for the Mexican spotted owl, while allowing for continued, but modified, multiple-use activities within occupied Mexican spotted owl habitat, including limited timber harvest. These guidelines are being issued as interim policy in the Forest Service Manual while the Southwestern Region collects more information on this sensitive species to provide a better understanding of their habitat preferences and other characteristics of the population.

Concern about the habitat needs and population viability of the Mexican spotted owl led the Regional Forester, Southwestern Region, to classify it as a sensitive species on all National Forest System lands in Arizona and New Mexico in 1987. The U.S. Fish and Wildlife Service currently classifies the Mexican spotted owl as a Candidate II species, defined as one for which there is not sufficient information to determine whether listing as a threatened or endangered species is warranted. Unlike the northern spotted owl (*S. o. caurina*), which is found in British Columbia, Washington, Oregon and northern California, the Mexican spotted owl is not being considered for listing as a threatened species by the U.S. Fish and Wildlife Service.

These interim management guidelines provide direction for Southwestern Regional forests to use when Mexican spotted owls are found on National Forest System lands, especially when found in an area where timber sales or other ground disturbing activities exist or are proposed. The guidelines call for Mexican spotted owl territories to be identified and habitat provided whenever and wherever a Mexican spotted owl is located. The guidelines also provide standard definitions to use when determining habitat suitability and owl occupancy, and methodology to use to establish and manage a Mexican spotten owl territory.

Besides issuing the management guidelines, this interim policy also provides an inventory protocol to standardize methods used during inventory work in suitable Mexican spotted owl habitat. The protocol ensures consistency across the Region in the effort necessary to obtain complete coverage of all suitable habitat while still providing reasonable assurance all occupied Mexican spotted owl habitat is identified.

The guidelines were developed and recommended by the Mexican spotted owl Task Force, an informal group with representatives from Federal and State agencies, Mexican spotted owl researchers, and interested publics from within New Mexico and Arizona. This task force will continue to provide recommendations to the Regional Forester, Southwestern Region on Mexican spotted owl management. The task force will review the findings of current studies being conducted by the Southwestern Region and the comments received by the Region concerning these guidelines when providing recommendations to the Regional Forester during future revisions of these guidelines.

This interim policy is being published under Forest Service regulations at 36 CFR 216, Involving the Public in the Formulation of Forest Service Directives. It is being published in advance of giving the public an opportunity to comment because of the immediate need to protect occupied Mexican spotted owl habitat while gathering additional data about the Mexican spotted owl during this field season. However, the Forest Service welcomes comments on this interim policy. These comments will be used when making future revisions to the management guildelines.

DATES: This policy is effective June 30, 1989. Comments on the guidelines must be received on or before September 1, 1989.

ADDRESS: Direct comments to: David F. Jolly, Regional Forester, 2670, Southwestern Region, USDA Forest Service, 517 Gold Avenue SW, Albuquerque, New Mexico 87102.

FOR FURTHER INFORMATION CONTACT: William D. Zeedyk, Director, Wildlife and Fisheries or Keith W. Fletcher, Assistant Threatened, Endangered and Sensitive Species Program Manager (505) 842–3260 or 842–3267. Direct requests for a complete copy of the guidelines to Keith W. Fletcher at the above address.

SUPPLEMENTARY INFORMATION:

Background and Need for Guidelines

The Mexican spotted owl has been known to inhabit forested areas within Arizona since the 1870's and in New Mexico since at least the 1920's. Other than sightings and collections made during the 1920's, little information had been collected on the Mexican spotted owl until the 1980's.

Beginning in the early 1980's the Southwestern Region's interest in this species increased. Several of the National Forests in the Southwestern Region were proposing changes in timber harvest methods and increased harvesting on steeper ground with their draft Forest Plans. Because of the Mexican spotted owls' apparent preference for mixed conifer stands, which are found primarily on north-facing slopes and in canyons, and because of the lack of information available on the Mexican spotted owl, the Southwestern Region initiated and funded a study to provide radio telemetry data on Mexican spotted owl habitat use and home range size. This study was completed in 1988 in conjunction with Northern Arizona University.

To improve our information base about this species, the Southwestern Region is continuing to inventory suitable habitat and conduct studies on the Mexican spotted owl. In 1988, the Region funded inventories on over 200,000 acres of National Forest System land and began several studies to provide information on the distribution and habitat preferences of this species. The Region received increased funding in 1989 and is inventorying over 400,000 acres of National Forest System Lands during the 1989 field season. In addition, the Region is funding several radio telemetry studies and a prey base relative density study to provide more information on habitat use, home range size and the use and availability of prey species.

In January 1988, the Regional Forester formed the Mexican spotted owl Task Force. Representatives from the Forest Service, State and Federal wildlife agencies, Mexican spotted owl researchers, the environmental community and timber industry were asked to make recommendations on Mexican spotted owl habitat management within the Southwestern Region. During the course of the next one and one-half years, the task force developed a set of guidelines based on the most current research available for the species. These guidelines were developed to maintain sufficient suitable Mexican spotted owl habitat within each territory to ensure continued occupancy and reproduction by Mexican spotted owls while still allowing for continued, but modified management activities to occur in occupied habitat, including limited timber harvest.

During the course of the inventory work conducted in 1988 it became evident a consistent method of inventorying Mexican spotted owl habitat throughout the Region was

needed. The inventory protocol, being issued as an interim directive to the Forest Service Manual, is to be used during the 1989 field season. This protocal will be reviewed at the end of the field season to incorporate changes found necessary or desirable to provide a consistent, efficient and economical method of searching potential Mexican spotted owl habitat to determine the presence or absence of Mexican spotted owls prior to management activities occurring in an area.

Key Features of the Interim Guildelines

There are three categories identified in the interim management guidelines. Each category gives direction necessary to establish and manage a Mexican spotted owl territory no matter what phase of the National Environmental Policy Act of 1969 (NEPA) process the activity is at the time a Mexican spotted owl is found.

The guidelines allow for territories to overlap in all three categories where owls are found in close proximity to one another, but core areas (key nesting, feeding and roosting habitat) cannot overlap. The acreage figure for management activities which presently occur or are proposed within the area of territory overlap count toward the maximum acreage limit where activities are allowed for each territory.

The core area size for all Southwestern Region forests except the Lincoln National Forest in southeast New Mexico in 450 acres. Because of special circumstances and an apparent high density of owls in the Sacramento Mountains of the Lincoln National Forest, the core area for territories established on National Forest lands in the Sacramento Mountains is a minimum of 300 acres for all three categories.

Category I of the interim guidelines is used when a Mexican spotted owl is found in an area where no NEPA decision document has been signed for a proposed activity or where no activity has been proposed. Here, a 2,000 acre territory shall be established for known nest and roost sites or where multiple sightings occur in an area but no nest nor roost has been found. Within a 450 acre core area within the territory, no activities shall be allowed except road building and then only when the NEPA documentation and decision document indicate that no other feasible route is available. Management activities are allowed in up to 516 of the remaining 1550 (2,000−450) acres of the territory. On a case by case basis, this 516 acres where activities are allowed can be expanded to a maximum of 775 acres. The intent is to limit management activities within a territory to a maximum of 516 acreas. However, this additional 259 (775−516) acres provides some degress of flexibility when dealing with difficult situations that occur on occasion.

Category II of the interim guidelines is used when a Mexican spotted owl is found in an area where there is a signed NEPA decision document but the activity is not yet under contract. The guidelines are the same as identified for Category I activities except that the 516 acres where activities are allowed can be expanded to a maximum of 775 acres when the timber sale volume identified in the environmental and decision documents can not be met in the 516 acre area. All other aspects remain as identified in Category I. This Category also requires NEPA decision documents be supplemented, corrected, or revised as appropriate.

Category III of the interim guidelines is used when a Mexican spotted owl is found in a area where activities are under contract. Here, the guidelines call for establishing a 2,000 acre territory and 450 acre core area as in Category I. No limit is set on the acreage where activities can occur for those activities identified in the contract. Timber sale contracts with harvest units within the core area shall be modified to restrict further harvest activities from occurring within the core area.

All unharvested volume within the core area shall be replaced with volume from other stands within the sale area boundary where it is silviculturally and environmentally acceptable to do so. On occasion, situations may arise where it is economically or environmentally unfeasible to replace all unharvested volume. NEPA decision documents shall be supplemented, corrected, or revised as appropriate.

Summary of the Inventory Protocol

The objectives of the Southwestern Region's Mexican spotted owl Inventory Protocol are to: standardize the survey methods used in the Region; ensure an adequate search effort is conducted in suitable Mexican spotted owl habitat to identify general areas where territories would be placed and to locate nest and roost sites to aid in identifying core areas; provide reasonable assurance of the absence of Mexican spotted owls prior to any management activities occurring in an area; provide standard forms for collection and compilation of inventory, monitoring and suitable habitat stand characteristic data; and, to coordinate a Regional Mexican spotted owl data base.

The protocol provides standard definitions of terms used during inventory work. It provides the methods used to design survey routes, conduct the field outings, complete follow-up visits and complete all record keeping. It also requires a second year of inventory be completed for all sales selling after Fiscal Year (FY) 1990, and encourages a second year of inventory for sales selling prior to FY 1991, within funding and staffing levels.

Summary of Management Guidelines and Inventory Protocol

These management guidelines and inventory protocol, issued through an interim directive at Forest Service Manual 2676.2, are in keeping with the provisions of the National Cooperative Agreement on Mexican spotted owl Management signed December 1987 between the Forest Service and the U.S. Fish and Wildlife Service, and later signed by the Bureau of Land Management and National Park Service. Analysis by the Forest Service indicates there will be little or no reduction in the amount of timber offered for harvest or under contract during the 1 year life of this interim directive on any given Forest in the Region, nor will the guidelines preclude other activities described in the Forest Plans.

David F. Jolly,

Regional Forester.

Date: June 23, 1989.

[FR Doc. 89-15346 Filed 6-28-89; 8:45 am]

BILLING CODE 3410-11-M

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

Permits; Foreign Fishing

This document publishes for public review and comment a summary of applications received by the Secretary of State. The applications request permits for foreign vessels to fish in the Exclusive Economic Zone under the Magnuson Fishery Conservation and Management Act (Magnuson Act, 16 U.S.C. 1801 *et seq.*). Send comments on applications to:

NOAA—National Marine Fisheries Service, Office of Fisheries Conservation and Management, Operations Support and Analysis Division, 1335 East West Highway, Silver Spring, Maryland 20910.

or, to the appropriate Regional Fishery Management Council reviewing applications, as listed below:

Douglas G. Marshall, Executive Director, New England Fishery Management Council, 5 Broadway (Route 1), Saugus, MA 01906, 617/231-0422.

John C. Bryson, Executive Director, Mid-Atlantic Fishery Management Council, Federal Building Room 2115, 320 South New Street, Dover, DE 19901, 302/674/2331.

Robert K. Mahood, Executive Director, South Atlantic Fishery Management Council, Southpark Building, Suite 306, 1 Southpark Circle, Charleston, SC 29407, 803/571-4366.

Miguel A. Rolon, Executive Director, Caribbean Fishery Management Council, Banco De Ponce Building, Suite 1108, Hato Rey, PR 00918, 809/753-6910.

Wayne E. Swingle, Executive Director, Gulf of Mexico Fishery Management Council, Lincoln Center, Suite 881, 5401 West Kennedy Blvd., Tampa, FL 33609, 813/228-2815.

Lawrence D. Six, Executive Director, Pacific Fishery Management Council, Metro Building, Suite 420, 2000 SW. First Avenue, Portland, OR 97201, 503/326-6352.

Clarence Pautzke, Executive Director, North Pacific Fishery Management Council, P.O. Box 103136, Anchorage, AK 99510, 907/271-2809.

Kitty M. Simonds, Executive Director, Western Pacific Fishery Management Council, 1164 Bishop Street, Room 1405, Honolulu, HI 96813, 808/523-1368.

For further information contact John D. Kelly or Robert A. Dickinson (Office of Fisheries Conservation and Management, 301-427-2337).

The Magnuson Act requires the Secretary of State to publish a notice of receipt of applications for foreign fishing permits, summarizing the contents of the applications in the **Federal Register**. The National Marine Fisheries Service, under the authority granted in a memorandum of understanding with the Department of State effective November 29, 1983, issues this notice on behalf of the Secretary of State.

Individual vessel applications summarized below were received from the Governments of Denmark and the Union of Soviet Socialist Republics.

Dated: June 23, 1989.

David S. Crestin,

Deputy Director, Office of Fisheries Conservation and Management.

Fishery codes and designations of Regional Fishery Management Councils which review applications for individual fisheries are as follows:

Code	Fishery	Regional fishery management councils
ABS	Atlantic billfish and Sharks.	New England, Mid-Atlantic, South Atlantic, Gulf of Mexico, Caribbean.
BSA	Bering Sea and Aleutian Islands Groundfish.	North Pacific.
GOA	Gulf of Alaska Groundfish.	North Pacific.
NWA	Northwest Atlantic Ocean.	New England, Mid-Atlantic.
SNA	Snail (Bering Sea)	North Pacific.
WOC	Pacific Coast Groundfish (Washington, Oregon and California).	Pacific.
PBS	Pacific billfishes, Oceanic Sharks, Wahoo, and Mahi-mahi.	Western Pacific.

Activity codes which specify categories of fishing operations applied for are as follows:

Activity code	Fishing operations
1	Catching, processing and other support.
2	Processing and other support only
3	Other support only
*	Vessel supporting U.S. vessels [Joint Venture (JV)]
**	Cargo transport vessels with fish finding equipment on board receive an activity code "2" to enable them to scout as well as perform other support activities
Pending	Number to be assigned at a later date

The Government of the Union of Soviet Socialist Republics submitted an application to take 5,750 metric tons of silver hake in a JV operation in the Northwest Atlantic Ocean. The designated U.S. partner for the JV is Mayflower International, Ltd.

Nation, vessel name (vessel type)	Application number	Fishery	Activity
Government of Denmark			
New Zealand Reefer (Cargo Transport).	DA-89-0011.	BSA, GOA, WOC.	3
Nippon Reefer (Cargo Transport).	DA-89-0012.	BSA, GOA, WOC.	3
Government of the Union of Soviet Socialist Republics			
Kulikovo (Cargo Transport).	UR-89-0820.	NWA	3

[FR Doc. 89-15336 Filed 6-28-89; 8:45 am]

BILLING CODE 3510-22-M

National Technical Information Service

Intent To Grant Exclusive Patent License

The National Technical Information Service (NTIS), U.S. Department of Commerce, intends to grant to Gilead Sciences, having a place of business at 344 Lakeside Dr., Foster City, CA 94404, an exclusive license in the United States and certain foreign countries to practice the invention entitled "Method of Treatment of Hepatitis," U.S. Patent Application Serial Number 7-351,502. The patent rights in this invention have been assigned to the United States of America, as represented by the Secretary of Interior.

The intended exclusive license will be royalty-bearing and will comply with the terms and conditions of 35 U.S.C. 209 and 37 CFR 404.7. The intended license may be granted unless, within sixty days from the date of this published Notice, NTIS receives written evidence and argument which establishes that the grant of the intended license would not serve the public interest.

A copy of the instant patent application may be purchased from the NTIS Sales Desk by telephoning (703) 487-4650 or by writing to the Order Department, NTIS 5285 Port Royal Road, Springfield, VA 22161.

Inquiries, comments, and other materials relating to the proposed license must be submitted to Papan Devnani, Office of Federal Patent Licensing, NTIS, Box 1423, Springfield, VA 22151.

Douglas J. Campion,

Associate Director, Office of Federal Patent Licensing, National Technical Information Service, U.S. Department of Commerce.

[FR Doc. 89-15365 Filed 6-28-89; 8:45 am]

BILLING CODE 3510-04-M

Intent To Grant Exclusive Patent License

The National Technical Information Service (NTIS), U.S. Department of Commerce, intends to grant to Gilead Sciences, having a place of business at 344 Lakeside Dr., Foster City, CA 94404, an exclusive license in the United States and certain foreign countries to practice the invention entitled "Novel Oligonucleotides with 5' Linked Chemical Groups, Methods of Production Thereof and Use Thereof", U.S. Patent Application Serial Number 7-340,073. The patent rights in this

invention have been assigned to the United States of America, as represented by the Secretary of Interior.

The intended exclusive license will be royalty-bearing and will comply with the terms and conditions of 35 U.S.C. 209 and 37 CFR 404.7. The intended license may be granted unless, within sixty days from the date of this published Notice, NTIS receives written evidence and argument which establishes that the grant of the intended license would not serve the public interest.

A copy of the instant patent application may be purchased from the NTIS Sales Desk by telephoning (703) 487–4650 or by writing to the Order Department, NTIS 5285 Port Royal Road, Springfield, VA 22161.

Inquiries, comments, and other materials relating to the proposed license must be submitted to Papan Devnani, Office of Federal Patent Licensing, NTIS, Box 1423, Springfield, VA 22151.

Douglas J. Campion,

Associate Director, Office of Federal Patent Licensing, National Technical Information Service, U.S. Department of Commerce.

[FR Doc. 89–15366 Filed 6–28–89; 8:45 am]

BILLING CODE 3510–04–M

COMMISSION OF FINE ARTS

Meeting

The Commission of Fine Arts' next scheduled meeting is Wednesday, 26 July 1989 at 10:00 a.m. at the Commission's offices at 708 Jackson Place, NW., Washington, DC 20006 to discuss various projects affecting the appearance of Washington, DC, including buildings, memorials, parks, etc.; also matters of design referred by other agencies of the government. Handicapped persons should call the offices (566–1066) for details concerning access to meetings.

Inquiries regarding the agenda and requests to submit written or oral statements should be addressed to Mr. Charles H. Atherton, Secretary, Commission of Fine Arts, at the above address or call the above number.

Dated in Washington, DC, 22 June 1989.

Please note Commission meeting date of Wednesday, 26 July, a departure from our usual meeting date of the third Thursday of each month.

Charles H. Atherton,

Secretary.

[FR Doc. 89–15364 Filed 6–28–89; 8:45 am]

BILLING CODE 6330–01–M

DEPARTMENT OF DEFENSE

GENERAL SERVICES ADMINISTRATION

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Federal Acquisition Regulation (FAR); Information Collection Under Office of Management and Budget Review

AGENCIES: Department of Defense (DOD), General Services Administration (GSA), and National Aeronautics and Space Administration (NASA).

ACTION: Notice.

SUMMARY: Under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. Chapter 35), the Federal Acquisition Regulation (FAR) Secretariat has submitted to the Office of Management and Budget (OMB) a request to review and approve a revision of a currently approved information collection requirement concerning SF 294, Subcontracting Report for Individual Contracts.

ADDRESS: Send comments to Ms. Eyvette Flynn, FAR Desk Officer, Room 3235, NEOB, Washington, DC 20503.

FOR FURTHER INFORMATION CONTACT: Ms. Victoria Moss, Office of Federal Acquisition and Regulatory Policy, (202) 523–5168.

SUPPLEMENTARY INFORMATION: a. *Purpose:* In accordance with the Small Business Act 15 U.S.C. 631 *et seq.*) contractors receiving a contract for more than $10,000 agree to have small and small disadvantaged business concerns participate in the performance of the contract as far as practicable. Contractors receiving a contract or a modification to a contract expected to exceed $500,000 ($1,000,000 for construction) must submit a subcontracting plan that provides maximum practicable opportunites for small and small disadvantaged business concerns. Specific elements required to be included in the plan are specified in the section 8(d) of the Small Business Act and implemented in FAR 19.7.

In conjunction with these plans, contractors must submit semiannual reports of their progress on SF 294, Subcontracting Report for Individual Contracts.

A satisfactory subcontracting plan is required before a contract exceeding $500,000 ($1,000,000 for construction) can be awarded. The contracting officer must examine the information in the proposed plan to determine if the plan is in compliance with the Small Business Act and the FAR. In addition, the information is used for policy and management control purposes.

Information submitted on SF 294 is used to assess contractors' compliance with their subcontracting plans.

b. *Annual reporting burden:* The annual reporting burden is estimated as follows: Respondents, 1,533; responses per respondent, 34.47; total annual responses, 52,850; preparation hours per response, 5.73; and total response burden hours, 303.108.

c. *Annual recordkeeping burden:* The annual recordkeeping burden is estimated as follows: Recordkeepers, 1,533; hours per recordkeeper, 121; and total recordkeeping burden hours, 185.556.

Obtaining Copies of Proposals: Requester may obtain copies from General Services Administration, FAR Secretariat (VRS), Room 4041, Washington, DC 20405, telephone (202) 523–4755. Please cite OMB Control No. 9000–0006, SF 294, Subcontracting Report for Individual Contracts.

Dated: June 21, 1989.

Margaret A. Willis,

FAR Secretariat.

[FR Doc. 89–15368 Filed 6–28–89; 8:45 am]

BILLING CODE 6820–61–M

DEPARTMENT OF DEFENSE

Corps of Engineers, Department of the Army

Regulatory Program of the Corps of Engineers, Categorical Exclusions

AGENCY: Corps of Engineers, Department of the Army, DoD.

ACTION: Notice, request for comment.

SUMMARY: The nationwide permit in 33 CFR 330.5(a)(23) published by the Corps of Engineers in its rules published on November 13, 1986, provided for authorization of certain Federal activities that are categorically excluded from environmental documentation provided certain conditions are met. The U.S. Coast Guard has requested the Corps concurrence in that agency's revised categorical exclusions for the purpose of authorization under Nationwide Permit 23. The Corps of Engineers is soliciting comments on this proposal which will be used in making final decisions on this matter.

DATES: Comments may be submitted until July 31, 1989.

ADDRESS: HQ USACE, CECW-OR, Washington, DC 20314–1000.

FOR FURTHER INFORMATION CONTACT: Mr. Ralph Eppard or Mr. Sam Collinson at (202) 272–1783.

SUPPLEMENTARY INFORMATION: The U.S. Coast Guard has requested that the Office of the Chief of Engineers concur

in their categorical exclusion determination for the purpose of authorizing those activities by the nationwide permit published at 33 CFR 330.5(a)(23). That permit reads: Activities, work and discharges undertaken, assisted, authorized, regulated, funded, or financed, in whole or in part, by another federal agency or department where that agency or department has determined, pursuant to the CEQ Regulation for Implementing the Procedural Provisions of the National Environmental Policy Act (40 CFR Part 1500 et seq.), that the activity, work, or discharge is categorically excluded from environmental documentation because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the human environment, and the Office of the Chief of Engineers (ATTN: DAEN–CWO–N) has been furnished notice of the agency's or department's application for the categorical exclusion and concurs with that determination.

That permit is subject to conditions listed at 33 CFR 330.5(b) and the management practices listed at 33 CFR 330.6. Upon concurrence by the Chief of Engineers, such activities categorically excluded by the Coast Guard, with any special conditions imposed by the Chief of Engineers, will be authorized by nationwide permit No. 23. Those categorical exclusions which may be subject to Department of the Army permit authority are listed below. Comments are invited on the appropriateness of authorizing the Coast Guard's categorically excluded activities under the subject nationwide permit and if necessary, any conditions that should be imposed to insure that the activities comply with the provisions of the Clean Water Act.

The U.S. Coast Guard's previous list of categorical exclusions were approved for authorization by nationwide permit No. 23. The revised list of categorical exclusions is similar to those previously authorized with only minor changes to those that would be authorized by nationwide permit No. 23.

List of Those U.S. Coast Guard Categorical Exclusions Which May Be Subject to Department of The Army Permit Authority

Categorical Exclusions (CE)

a. Routine repair, renovation, and maintenance actions of a limited scope as well as minor additions to existing buildings which do not result in a substantial change in functional use. Examples of these actions are equipment purchases, custodial actions, painting, minor interior or exterior repair and rehabilitation, replacement of existing structures, roads, buildings, and utilities, as well as maintenance of floating and fixed aids to navigation, etc.

b. Demolition of architectural structures not protected under the National Historic Preservation Act.

c. Actions performed as a part of Coast Guard operations to carry out statutory authority in the areas of maritime safety, protection of the environment, or military readiness (e.g., disestablishment or reduction in the size of anchorage areas where no significant comments are received, establishment of security zones, search and rescue, law and treaty enforcement, removal of oil or hazardous substances, military operations to maintain proficiency, actions to protect public safety, establishment of floating and minor fixed aids to navigation except electronic sound signals, etc.).

d. Actions to lease, acquire or construct facilities for Coast Guard personnel and activities in areas currently zoned for that purpose. Such facilities are to be consistent with or approved by the local land use authority (e.g., lease or purchase of existing buildings without changing functional use, purchase or construction of housing in an approved residential subdivision, replacement in-kind of a building or buildings where the cumulative environmental impact is determined to be minimal, etc.).

e. Outleasing of historic lighthouse properties as outlined in the Memorandum of Agreement between the U.S. Coast Guard, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers.

f. Maintenance dredging of small navigation projects and boat facilities using existing disposal sites or involving less than 5,000 cubic yards of uncontaminated (passes elutriate testing) dredge material to be placed in an upland site or in an area designated by the Army Corps of Engineers for dredge disposal.

g. Bridge Administration Program actions which can accurately be described as one of the following:

(1) Reconstruction or modification of an existing bridge structure on essentially the same alignment or location. This is not to include bridges with historic significance or bridges providing access to undeveloped barrier islands and beaches;

(2) Construction of pipeline bridges for transporting potable water;

(3) Construction of pedestrian, bicycle, and/or equestrian bridges and stream gaging cableways used to transport people;

(4) Temporary replacement of a bridge which commences immediately after the occurrence of a natural disaster or catastrophic failure where such bridge project is related to public safety, health and welfare;

(5) Promulgation of operating requirements or procedures for drawbridges.

(6) Identification of advance approval waterways under 33 CFR Section 115.70.

(7) Any Bridge Program action which is classified as a categorical exclusion by another Department of Transportation operating administration acting as the lead agency for such an action.

h. Review of studies, reports, analyses, etc., of legislative proposals not originating in DOT and relating to matters which are not the primary responsibility of the Coast Guard.

i. Planning and technical studies which do not contain recommendations for authorization or funding for future construction, but may recommend further study. This does not exclude consideration of environmental matters in the studies.

j. Excessing of Coast Guard real property to the General Services Administration and other Federal departments and agencies.

k. Exchanges of excess real property and interests therein for property required for project purposes. (Environmental documentation would be required for any Coast Guard actions on the newly acquired property.)

l. Administrative actions or procedural regulations and policies which clearly do not have any environmental impacts.

m. Restrictions on Categorical Exclusions. The above activities do not qualify as categorical exclusions if the Coast Guard determines they are likely to involve: (1) Significant cumulative impacts on the environment; (2) substantial controversy because of effects on the human environment; (3) impacts which are more than minimal on properties protected under section 4(f) of the DOT act or findings which would result in a Finding of Adverse Affect on properties protected under Section 106 of the National Historic Preservation Act; or (4) inconsistencies with any Federal, state, or local law or administrative determination relating to the environment.

Dated: May 22, 1989.

Wilbur T. Gregory, Jr.,

Colonel, Corps of Engineers, Executive Director of Civil Works.

[FR Doc. 89-15150 Filed 6-28-89; 8:45 am]

BILLING CODE 3710-08-M

DEPARTMENT OF EDUCATION

Notice of Proposed Information Collection Requests

AGENCY: Department of Education.

ACTION: Notice of proposed information collection requests.

SUMMARY: The Director, Office of Information Resources Management, invites comments on the proposed information collection requests as required by the Paperwork Reduction Act of 1980.

DATES: Interested persons are invited to submit comments on or before July 31, 1989.

ADDRESSES: Written comments should be addressed to the Office of Information and Regulatory Affairs, Attention: Jim Houser, Desk Officer, Department of Education, Office of Management and Budget, 726 Jackson Place, NW., Room 3208, New Executive Office Building, Washington, DC 20503. Requests for copies of the proposed information collection requests should be addressed to Margaret B. Webster, Department of Education, 400 Maryland Avenue, SW., Room 5624, Regional Office Building 3, Washington, DC 20202.

FOR FURTHER INFORMATION CONTACT: Margaret B. Webster (202) 732-3915.

SUPPLEMENTARY INFORMATION: Section 3517 of the Paperwork Reduction Act of 1980 (44 U.S.C. Chapter 35) requires that the Office of Management and Budget (OMB) provide interested Federal agencies and the public an early opportunity to comment on information collection requests. OMB may amend or waive the requirement for public consultation to the extent that public participation in the approval process would defeat the purpose of the information collection, violate State or Federal law, or substantially interfere with any agency's ability to perform its statutory obligations.

The Director, Office of Information Resources Management, publishes this notice containing proposed information collection requests prior to submission of these requests to OMB. Each proposed information collection, grouped by office, contains the following:

(1) Type of review requested, e.g., new, revision, extension, existing or reinstatement; (2) Title; (3) Frequency of collection; (4) The affected public; (5) Reporting burden; and/or (6) Recordkeeping burden; and (7) Abstract. OMB invites public comment at the address specified above. Copies of the requests are available from Margaret Webster at the address specified above.

Dated: June 23, 1989.

Carlos U. Rice,

Director, for Office of Information Resources Management.

Office of Elementary and Secondary Education

Type of Review: Reinstatement
Title: Application for Grants under the Women's Educational Equity Act (WEEA) Program
Frequency: Annually
Affected Public: Individuals or households; State or local government
Reporting Burden:
Responses: 400
Burden Hours: 6,400
Recordkeeping Burden:
Recordkeepers: 0
Burden Hours: 0
Abstract: This form will be used by applicants to apply for funding under the Women's Educational Equity Act (WEEA) Program. The Department uses the information to make grant awards.

Office of Elementary and Secondary Education

Type of Review: Reinstatement
Title: Application for Disaster Assistance
Frequency: On Occasion
Affected Public: State and local governments
Reporting Burden:
Responses: 250
Burden Hours: 500
Recordkeeping Burden:
Recordkeepers: 0
Burden Hours: 0
Abstract: This form will be used by local educational agencies to apply for Federal assistance in case of certain disasters under section 7 of Pub. L. 81-874, as amended and/or section 16 of Pub. L. 81-815, as amended. The Department uses the information to make grant awards.

Office of Planning, Budget and Evaluation

Type of Review: New
Title: National Study of Title II of the Education for Economic Security Act
Frequency: One time only
Affected Public: State or local governments; non-profit institutions
Reporting Burden:
Responses: 2,364
Burden Hours: 1,546
Recordkeeping Burden:
Recordkeepers: 0
Burden Hours: 0
Abstract: This study will describe how federal funds are used under the Title II program and determine the program's effectiveness. The Department will use the data to evaluate the program and provide information for subsequent reauthorizations.

Office of Postsecondary Education

Type of Review: Extension
Title: Federal Loan Transaction Statement
Frequency: Monthly
Affected Public: Businesses or other for-profit
Reporting Burden:
Responses: 920
Burden Hours: 920
Recordkeeping Burden:
Recordkeepers: 184
Burden Hours: 230
Abstract: This form is used by lenders to report changes in the status of existing borrowers of Federal Insured Student Loans (FISL). The Department uses the information to correct records on FISL loans.

[FR Doc. 89-15335 Filed 6-28-89; 8:45 am]

BILLING CODE 4000-01-M

ENVIRONMENTAL PROTECTION AGENCY

[PF-518; FRL-3610-1]

Pesticide Tolerance Petitions

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: This notice announces the filing of pesticide petitions proposing the establishment of tolerances and/or regulations for residues of certain pesticide chemicals in or on certain agricultural commodities.

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. 246, 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 Rm. 246 at the address given above, from 8 a.m. to 4 p.m., Monday through Friday, excluding legal holidays.

FOR FURTHER INFORMATION CONTACT: By mail: Registration Division (TS–767C), Attn: Product Manager (PM) named in the petition, Environmental Protection Agency, Office of Pesticide Programs, 401 M St., SW., Washington, DC 20460.

In person, contact the PM named in each petition at the following office location/telephone number:

Product manager	Office location/ telephone number	Address
Dennis Edwards (PM 12).	Rm. 202, CM #2, 703–557–2386.	1921 Jefferson Davis Hwy., Arlington, VA.
Phil Hutton (PM 17).	Rm. 207, CM #2, 703–557–2690.	Do.
Lois Rossi (PM 21).	Rm. 227, CM #2, 703–557–1900.	Do.
Lawrence Schnaubelt (PM 23).	Rm. 237, CM #2, 703–557–1830.	Do.
Robert Taylor (PM 25).	Rm. 237, CM #2 703–557–1800.	Do.

SUPPLEMENTARY INFORMATION: EPA has received pesticide (PP) and/or food and feed additive (FAP) petitions as follows proposing the establishment and/or amendment of tolerances or regulations for residues of certain pesticide chemicals in or on certain agricultural commodities.

Initial Filings

1. *PP 9F3755.* BASF Corp., Chemicals Division, 100 Cherry Hill Rd., Parsippany, NJ 07054, proposes to amend 40 CFR Part 180 by establishing a regulation to permit the residues of the herbicide 3,7-dichloro-8-quinolinecarboxylic acid in or on rice at 5.0 ppm, rice straw at 12.0 ppm, milk at 0.05 ppm, fat, meat and meat byproduct of cattle, goats, hogs, horses, and sheep at 0.05 ppm, fat and meat of poultry at 0.05 ppm, meat byproduct of poultry at 0.10 ppm, and eggs at 0.05 ppm. The proposed analytical method for determining residues is liquid gas chromatography. (PM 25)

2. *PP 9F3758.* Ciba-Geigy Corp., Agricultural Division, P.O. Box 18300, Greensboro, NC 27419, proposes to amend 40 CFR 180.434 by establishing a regulation to permit the residues of the fungicide 1–[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]methyl]-1H-1,2,4-triazole and its metabolities determined as 2,4-dichlorobenzoic acid and expressed as parent compound equivalents in or on wild rice at 0.50 ppm and stone fruit at 1.0 ppm. The proposed analytical method for determining residues is gas chromatography. (PM 21)

3. *PP 9F3761.* Monsanto Co., 1101 17th St., NW., Washington, DC 20036, proposes to amend 40 CFR 180.364 by establishing a regulation to reexpress the glyphosate tolerances as written in 40 CFR 180.364 to include the application of the monoammonium salt of glyphosate and its metabolite aminomethyl-phosphonic acid. The proposed analytical method for determining residues is high-performance liquid chromatography. (PM 25)

4. *PP 9F3762.* BASF Corp., Chemicals Division, 100 Cherry Hill Rd., Parsippany, NJ 07054, proposes to amend 40 CFR 180.380 by establishing a regulation to permit the residues of the fungicide 3-(3,5-dichloro-phenyl)-5-ethenyl-5-methyl-2,4 oxazolidinedione and its metabolities containing the 3,5-dichloroaniline moiety in or on succulent beans (seed and pod) at 3.0 ppm. The proposed analytical method for determining residues is gas chromatography. (PM 21)

5. *PP 9F3763.* E. I. DuPont DeNemours & Co., Inc., Agricultural Products Department, Barley Mill Plaza, Walker's Mill 6–174, Wilmington, DE 19880–6260, proposes to amend 40 CFR Part 180 by establishing a regulation to permit the residues of the herbicide 2-[[(4,6-dimethoxypyrimidin-2-yl) aminocarbonyl]-aminosulfonyl]-N,N-dimethyl-3-pyridinecarboxamide monohydrate (DPX–V9360) in or on field corn (grain, forage, fodder, and silage) at 0.1 ppm. The proposed analytical method for determining residues is gas chromatography. (PM 25)

6. *PP 9F3764.* Dow Chemical U.S.A., P.O. Box 1706, Midland, MI 48641–1706, proposes to amend 40 CFR Part 180 by establishing a regulation to permit the residues of the herbicide haloxyfopmethyl, 2-(4-((3-chloro-5-(trifluoromethyl)-2-pyridinyl)oxy)phenoxy)propanoate, and its metabolite haloxyfop, 2-(4-((3-chloro-5-(trifluoromethyl)-pyridinyl)oxy)phenoxy) propanoic acid, free and conjugated, all expressed as haloxyfop in or on apples at 0.05 ppm. The proposed analytical method for determining residues is gas chromatography. (PM 23)

7. *PP 9F3766.* Sandoz Crop Protection Corp., 1300 East Touhy Ave., Des Plaines, IL 60018, proposes to amend 40 CFR Part 180 by establishing a regulation to permit the residues of the herbicide norflurazon, 4-chloro-5-(methylamino)-2-(alpha, alpha, alpha-trifluoro-m-tolyl-3-(2H)-pyridazinone, and its desmethyl metabolite, 4-chloro-5-(amino)-2-(alpha, alpha, alpha-trifluoro-m-tolyl)-3-(2H)-pyridazinone, in or on alfalfa forage at 3.0 ppm, alfalfa hay at 5.0 ppm, alfalfa seed at 0.1 ppm, and asparagus at 0.05 ppm. The proposed analytical method for determining residues is gas chromatography. (PM 23)

8. *FAP 9H5573.* Zoecon Corp., A Sandoz Co., 12200 Denton Drive, Dallas, TX 75234, proposes to amend 40 CFR Part 185 by establishing a regulation to permit the residues of the insecticide hydroprene in food commodities exposed during treatment of food-handling establishments. (PM 17)

9. *FAP 9H5583.* BASF Corp., Chemicals Division, 100 Cherry Hill Rd., Parsippany, NJ 07054, proposes to amend 40 CFR Part 186 by establishing a regulation to permit the residues of the herbicide 3,7-dichloro-8-quinoline-carboxylic acid in or on rice bran at 15.0 ppm. The proposed analytical method for determining residues is liquid gas chromatography. (PM 25)

10. *FAP 9H5584.* E.I. DuPont DeNemours & Co., Inc., Agricultural Products Department, Barley Mill Plaza, Walker's Mill 6–174, Wilmington, DE 19880–6260, proposes to amend 40 CFR 185.4100 by establishing a regulation to permit the residues of the insecticide methomyl (S-methyl-N-[(methyl-carbomyl)oxy]thioacetimidate) in or on dried hops at 12.0 ppm. The proposed analytical method for determining residues is gas chromatography. (PM 12)

11. *FAP 9H5585.* BASF Corp., Chemicals Division, 100 Cherry Hill Rd., Parsippany, NJ 07054, proposes to amend 40 CFR 186.1850 by establishing a regulation to permit the residues of the fungicide 3-(3,5-dichloro-phenyl)-5-ethenyl-5-methyl-2,4 oxazolidinedione and its metabolites containing the 3,5-dichloroaniline moiety in or on cannery waste of succulent beans at 10.0 ppm. The proposed analytical method for determining residues is gas chromatography. (PM 21)

Authority: 7 U.S.C. 136a.

Dated: June 16, 1989.

Anne E. Lindsay,

Director, Registration Division, Office of Pesticide Programs.

[FR Doc. 89-15413 Filed 6-28-89; 8:45 am]

BILLING CODE 6560-50-M

[OPTS-59266A, 59269A; FRL 3609-5]

Certain Chemicals; Approval of Test Marketing Exemptions

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: This notice announces EPA's approval of applications for test marketing exemptions (TMEs) under section 5(h)(1) of the Toxic Substances Control Act (TSCA) and 40 CFR 720.38. EPA has designated these applications as TME-89-3, TME-89-4 and TME-89-8.

EFFECTIVE DATE: June 21, 1989.

FOR FURTHER INFORMATION CONTACT: Robert Wright, III, Premanufacture Notice Management Branch, Chemical Control Division (TS-794), Office of Toxic Substances, Environmental Protection Agency, Rm. E-613, 401 M St. SW., Washington, DC 20460, (202) 382-7800.

SUPPLEMENTARY INFORMATION: Section 5(h)(1) of TSCA authorizes EPA to exempt persons from premanufacture notification (PMN) requirements and permit them to manufacture or import new chemical substances for test marketing purposes if the Agency finds that the manufacture, processing, distribution in commerce, use, and disposal of the substances for test marketing purposes will not present any unreasonable risk of injury to health or the environment. EPA may impose restrictions on test marketing activities and may modify, revoke or deny a test marketing exemption upon receipt of information which casts significant doubt on its finding that the test marketing activity will not present any unreasonable risk of injury.

EPA hereby approves TME-89-3, TME-89-4 and TME-89-8. EPA has determined that test marketing of the new chemical substances described below, under the conditions set out in the TME applications, and for the time period and restrictions specified below, will not present any unreasonable risk of injury to health or the environment. Production volumes, use, and the number of customers must not exceed that specified in the applications as amended. All other conditions and restrictions described in the applications, and amendments thereto and in this notice must be met.

The following additional restrictions apply to TME-89-3, TME-89-4 and TME-89-8. A bill of lading accompanying each shipment must state that the use of the substances are restricted to that approved in the TMEs. In addition, the applicant shall maintain the following records until five years after the date they are created, and shall make them available for inspection or copying in accordance with section 11 of TSCA:

1. Records of the quantity of the TME substances produced and the date of manufacture.

2. Records of dates of the shipments to each customer and the quantities supplied in each shipment.

3. Copies of the bill of lading that accompanies each shipment of the TME substances.

T-89-3

Date of Receipt: October 31, 1988.

Notice of Receipt: November 28, 1988 (53 FR 47867).

Applicant: Confidential.

Chemical: (G) Trialkylalkylene-heterocyclazolium derivative of copper-heterocyclanine, mixed salt.

Use: Fiber dye.

Production Volume: Confidential.

Number of Customers: Confidential.

Worker Exposure: None.

Test Marketing Period: 2 Years.

Risk Assessment: EPA identified no significant health concerns for the test market substances. EPA identified environmental concerns for the TME substance, based on analogy to cationic dyes, and a concern concentration level of 2 parts per billion was established. These concerns were mitigated when the submitter amended the TME application with specific site information which resulted in the surface water concentration never exceeding the established concern concentration level. Therefore, the test market substance will not present any unreasonable risk of injury to health or the environment.

Public Comments: None.

T-89-4

Date of Receipt: October 31, 1988.

Notice of Receipt: November 28, 1988 (53 FR 47867).

Applicant: Confidential.

Chemical: (G) Alkylalkylene-heterocyclazolium derivative of copper-heterocyclanine, mixed salt.

Use: Paper dye.

Production Volume: Confidential.

Number of Customers: Confidential.

Worker Exposure: None.

Test Marketing Period: 2 Years.

Risk Assessment: EPA identified no significant health concerns for the test market substances. EPA identified environmental concerns for the TME substance, based on analogy to cationic dyes, and a concern concentration level of 2 parts per billion was established. These concerns were mitigated when the submitter amended the TME application with specific site information which resulted in the surface water concentration never exceeding the established concern concentration level. Therefore, the test market substance will not present any unreasonable risk of injury to health or the environment.

Public Comments: None.

T-89-8

Date of Receipt: February 22, 1989.

Notice of Receipt: March 29, 1989 (54 FR 12953).

Applicant: Confidential.

Chemical: (G) Methimidaz substituted Cu Phthal.

Use: (G) Paper dye Intermediate used in further manufacture of a dye.

Production Volume: Confidential.

Number of Customers: Confidential.

Worker Exposure: None.

Test Marketing Period: 2 Years.

Risk Assessment: EPA identified no significant health or environmental concerns for the test market substance. Therefore, the test market substance will not present any unreasonable risk of injury to health or the environment.

Public Comments: None.

The Agency reserves the right to rescind approval or modify the conditions and restrictions of an exemption should any new information come to its attention which casts significant doubt on its finding that the test marketing activities will not present any unreasonable risk of injury to health or the environment.

Dated: June 21, 1989.

John W. Melone,

Director, Chemcial Control Division, Office of Toxic Substances.

[FR Doc. 89-15415 Filed 6-28-89; 8:45 am]

BILLING CODE 6560-50-M

FEDERAL COMMUNICATIONS COMMISSION

Technical Subgroup of Radio Advisory Committee; Meeting

June 22, 1989.

The Technical Subgroup of the Advisory Committee on Radio Broadcasting will reconvene at 10 a.m. on Thursday, July 13, 1989, in the Vincent Wasilewski Room of the

National Association of Broadcasters, 1771 N Street, NW., Washington, DC.

As decided and announced at the June 14, 1989 meeting of the Subgroup, this next session will be a continuation of that meeting, and will address the same agenda, which is set out below.

At the forthcoming July 13, 1989 session, the Subgroup will continue its consideration of:

—Adjacent channel interference standards for AM stations;
—Engineering standards for FM broadcasting; and
—Other business relating to radio broadcasting.

The Subgroup's meetings are continuing ones, and may be resumed after each session as decided by the participants. All meetings of the Radio Advisory Committee and the Technical Subgroup, are open to the public. All interested persons are invited to participate.

For further information, please call Wallace Johnson, Chairman of the Technical Subgroup, at (703) 824–5660.

Donna R. Searcy,

Secretary, Federal Communications Commission.

[FR Doc. 89–15323 Filed 6–28–89; 8:45 am]

BILLING CODE 6712–01–M

[Report No. 1785]

Petitions for Reconsideration and Clarification of Actions in Rule Making Proceedings

June 22, 1989–G4.

Petitions for reconsideration and clarification have been filed in the Commission rule making proceeding listed in this Public Notice and published pursuant to 47 CFR 1.429(e). The full text of these documents are available for viewing and copying in Room 239, 1919 M Street, NW., Washington, DC, or may be purchased from the Commission's copy contractor International Transcription Service (202–857–3800). Oppositions to these petitions must be filed July 17, 1989. See § 1.4(b)(1) of the Commission's rules (47 CFR 1.4(b)(1)). Replies to an opposition must be filed within 10 days after the time for filing oppositions has expired.

Subject: Provision of Access for 800 Service. (CC Docket No. 86–10, RM–510) Number of petitions received: 15.

Subject: Policy and Rules Concerning Rates for Dominant Carriers. (CC Docket No. 87–313) Number of petitions received: 18.

Subject: Revision of Application for Construction Permit for Commercial Broadcast Stations, FCC Form 301. (Gen Docket No. 88–328) Number of petitions received: 1.

Subject: Amendment of the Commission's Rules to improve the quality of the AM Broadcast Service by reducing adjacent channel interference and by eliminating restictions pertaining to the protected daytime contour. (MM Docket No. 88–276, RM's 5532 & 6174) Number of petitions received: 1.

Donna R. Searcy,

Secretary, Federal Communications Commission.

[FR Doc. 89–15324 Filed 6–28–89; 8:45 am]

BILLING CODE 6712–01–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.

Title: Jacksonville Terminal Agreement.

Parties:

Jacksonville Port Authority
Trailer Marine Transport Corporation (TMT)

Synopsis: The Agreement provides TMT with the exclusive use of 24 acres at the Talleyrand Dock and Terminal in Jacksonville. The Agreement provides that TMT will pay charges for dockage, wharfage, terminal use and land rental. The term of the Agreement is for one year and provides for four additional one-year renewal options.

Title: Virginia International Terminals Terminal Agreement.

Parties:

Virginia International Terminals, Inc. (VIT)
Hapag Lloyd (America) Inc. (HL)

Synopsis: The Agreement provides HL with non-exclusive use of VIT's terminal facilities at Norfolk and Portsmouth (facilities). VIT will furnish HL services connected with HL's terminal operations. The Agreement also provides rates on dockage, wharfage and portainer rental charges conditioned on HL's guarantee for the movement of a minimum of 200,000 tons annually through the facilities each year of the Agreement's three year term. If HL fails to move 200,000 tons through the facilities each year, VIT's volume incentive rates will not apply.

Title: City of Kodiak Terminal Agreement.

Parties:

City of Kodiak
Kodiak Oil Sales, Inc. (KOS)

Synopsis: The Agreement provides KOS a five-year lease of an easement for the location and maintenance of a pipeline to transport petroleum products between KOS's facilities located on the Tideland Tract and the City of Kodiak Pier II.

Dated: June 23, 1989.

Joseph C. Polking,

Secretary.

[FR Doc. 89–15304 Filed 6–28–89; 8:45 am]

BILLING CODE 6730–01–M

FEDERAL RESERVE SYSTEM

Agency Forms Under Review

June 23, 1989.

Background

Notice is hereby given of final approval of proposed information collection(s) by the Board of Governors of the Federal Reserve System (Board) under OMB delegated authority, as per 5 CFR 1320.9 (OMB Regulation on Controlling Paperwork Burdens on the Public)

FOR FURTHER INFORMATION CONTACT:

Federal Reserve Board Clearance Officer—Frederick J. Schroeder—Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC 20551 (202–452–3822)

OMB Desk Officer—Gary Waxman—Office of Information and Regulatory Affairs, Office of Management and Budget, New Executive Office Building, Room 3208, Washington, DC 20503 (202–395–7340)

Final approval under OMB delegated authority of the extension, with revision, of the following reports:

Report title: Report of Selected Borrowings; Daily Telephone Report of Selected Borrowings; and Report of Repurchase Agreements on U.S. Government and Federal Agency Securities with Specified Holders.

Agency form number: FR 2415, FR 2415a, and FR 2415t.
OMB Docket number: 7100–0074.
Frequency: Daily and Weekly.
Reporters: Depository institutions.
Annual reporting hours: 25,584.
Estimated average hours per response: 3.75 (FR 2415); 0.33 (FR 2415a); 0.75 (FR 2415t).
Estimated number of respondents: 112 (FR 2415); 15 (FR 2415a); 63 (FR 2415t).
Small businesses are affected.
General description of report: This information collection is voluntary (12 U.S.C. 248(a), 353 *et seq.*) and is given confidential treatment (5 U.S.C. 552b(4) and b(8).

This package of reports collects information on selected nonreservable borrowings. The weekly FR 2415 and 2415t, submitted by large commercial banks and thrifts, respectively, collect data on overnight and term repurchase agreements by type of customer. The data are necessary for the construction of the monetary aggregates. In addition, the FR 2415 obtains data on federal funds transactions and repurchase agreement lending. The FR 2415a collects information on repurchase agreements and federal funds from the large money center banks and subsequently provides the Open Market Trading Desk with timely information on these transactions for their market assessments.

Board of Governors of the Federal Reserve System, June 23, 1989.
William W. Wiles,
Secretary of the Board.

[FR Doc. 89–15348 Filed 6–28–89; 8:45 am]
BILLING CODE 6210–01–M

First of America Bancorporation—Illinois, Inc., et al; Formations of, Acquisitions by, and Mergers of Bank Holding Companies; and Acquisitions of Nonbanking Companies

The companies listed in this notice have applied under § 225.14 of the Board's Regulation Y (12 CFR 225.14) for the Board's approval under section 3 of the Bank Holding Company Act (12 U.S.C. 1842) to become a bank holding company or to acquire voting securities of a bank or bank holding company. The listed companies have also applied under § 225.23(a)(2) of Regulation Y (12 CFR 225.23(a)(2)) for the Board's approval under section 4(c)(8) of the Bank Holding Company Act (12 U.S.C. 1843(c)(8)) and § 225.21(a) of Regulation Y (12 CFR 225.21(a)) to acquire or control voting securities or assets of a company engaged in a nonbanking activity that is listed in § 225.25 of Regulation Y as closely related to banking and permissible for bank holding companies, or to engage in such an activity. Unless otherwise noted, these activities will be conducted throughout the United States.

The applications are available for immediate inspection at the Federal Reserve Bank indicated. Once the application has been accepted for processing, it will also be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing on the question whether consummation of the proposal can "reasonably be expected to produce benefits to the public, such as greater convenience, increased competition, or gains in efficiency, that outweigh possible adverse effects, such as undue concentration of resources, decreased or unfair competition, conflicts of interests, or unsound banking practices." Any request for a hearing on this question must be accompanied by a statement of the reasons a written presentation would not suffice in lieu of a hearing, identifying specifically any questions of fact that are in dispute, summarizing the evidence that would be presented at a hearing, and indicating how the party commenting would be aggrieved by approval of the proposal.

Unless otherwise noted, comments regarding each of these applications must be received at the Reserve Bank indicated or the offices of the Board of Governors not later than July 21, 1989.

A. Federal Reserve Bank of Chicago (David S. Epstein, Vice President) 230 South LaSalle Street, Chicago, Illinois 60690:

1. *First of America Bancorporation—Illinois, Inc.*, Libertyville, Illinois; to acquire 100 percent of the voting shares of Midwest Financial Group, Inc., Peoria, Illinois; thereby indirectly acquire BancMiwest McLean County, National Association, Bloomington, Illinois; First National Bank in Champaign, Champaign, Illinois; the DeKalb Bank National Association, DeKalb, Illinois; Citizens National Bank of Decatur, Decatur, Illinois; First Trust Bank National Association, Kankakee, Illinois; First National Bank of Morton, Morton, Illinois; Commercial National Bank of Peoria, Peoria, Illinois; United Bank of Illinois, National Association, Rockford, Illinois; and Illinois National Bank of Springfield, Springfield, Illinois.

In connection with this application, Applicant has also applied to acquire Midwest Financial Mortgage Company, Midwest Financial Life Insurance Company, Midwest Financial Group Brokerage Services, Inc., and Midwest Financial Investment Management Company, all of Peoria, Illinois; and thereby engage in marketing and servicing loans secured by mortgages on real estate pursuant to § 225.25(b)(1), underwriting as reinsurer, credit life and credit and accident and health insurance directly related to extensions of credit pursuant to § 225.25(b)(8)(i), securities brokerage pursuant to § 225.25(b)(15), and investment or financial advice pursuant to § 225.25(b)(4) of the Board's Regulation Y.

2. *First of America Bank Corporation*, Kalamazoo, Michigan; to acquire 100 percent of the voting shares of Midwest Financial Group, Inc., Peoria, Illinois; thereby indirectly acquire BancMidwest McLean County, National Association, Bloomington, Illinois; First National Bank in Champaign, Champaign, Illinois, the DeKalb Bank National Association, DeKalb, Illinois; Citizens National Bank of Decatur, Decatur, Illinois; First Trust Bank National Association, Kankakee, Illinois; First National Bank of Morton, Morton, Illinois; Commercial National Bank of Peoria, Peoria, Illinois; United Bank of Illinois, National Association, Rockford, Illinois; and Illinois National Bank of Springfield, Springfield, Illinois.

In connection with this application, Applicant has also applied to acquire Midwest Financial Mortgage Company, Midwest Financial Life Insurance Company, Midwest Financial Group Brokerage Services, Inc., and Midwest Financial Investment Management Company, all of Peoria, Illinois; and thereby engage in marketing and servicing loans secured by mortgages on real estate pursuant to § 225.25(b)(1), underwriting as reinsurer, credit life and credit and accident and health insurance directly related to extensions of credit pursuant to § 225.25(b)(8)(i), securities brokerage pursuant to § 225.25(b)(15), and investment or financial advice pursuant to § 225.25(b)(4) of the Board's Regulation Y.

B. Federal Reserve Bank of Minneapolis (James M. Lyon, Vice President) 250 Marquette Avenue, Minneapolis, Minnesota 55480:

1. *Community First South Dakota Bankshares, Inc.*, Fargo, North Dakota; to acquire 100 percent of the voting shares of Community First Minnesota Bankshares, Inc., Fargo, North Dakota, thereby indirectly acquire Community First National Bank of Benson, Benson, Minnesota; American National Bank of Little Falls, Little Falls, Minnesota; Community First National Bank of Marshall, Marshall, Minnesota; Community First State Bank of Paynesville, Paynesville, Minnesota; Community First National Bank of

Wheaton, Wheaton, Minnesota; and Community First National Bank of Windom, Windom, Minnesota.

In connection with this application, Applicant has also applied to acquire Community First Service Corporation, Fargo, North Dakota; and thereby engage in providing data processing and data transmission services as permitted under § 225.25(b)(7) of the Board's Regulation Y.

Board of Governors of the Federal Reserve System, June 23, 1989.

William W. Wiles,

Secretary of the Board.

[FR Doc. 89-15349 Filed 6-28-89; 8:45 am]

BILLING CODE 6210-01-M

Osterreichische Landerbank Aktiengeselischaft: Notice of Application To Engage de Novo in Permissible Nonbanking Activities

The company listed in this notice has filed an application under § 225.23(a)(1) of the Board's Regulation Y (12 CFR 225.23(a)(1)) for the Board's approval under section 4(c)(8) of the Bank Holding Company Act (12 U.S.C. 1843(c)(8)) and § 225.21(a) of Regulation Y (12 CFR 225.21(a)) to commence or to engage *de novo*, either directly or through a subsidiary, in a nonbanking activity that is listed in § 225.25 of Regulation Y as closely related to banking and permissible for bank holding companies. Unless otherwise noted, such activities will be conducted throughout the United States.

The application is available for immediate inspection at the Federal Reserve Bank indicated. Once the application has been accepted for processing, it will also be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing on the question whether consummation of the proposal can "reasonably be expected to produce benefits to the public, such as greater convenience, increased competition, or gains in efficiency, that outweigh possible adverse effects, such as undue concentration of resources, decreased or unfair competition, conflicts of interests, or unsound banking practices." Any request for a hearing on this question must be accompanied by a statement of the reasons a written presentation would not suffice in lieu of a hearing, identifying specifically any questions of fact that are in dispute, summarizing the evidence that would be presented at a hearing, and indicating how the party commenting would be aggrieved by approval of the proposal.

Comments regarding the application must be received at the Reserve Bank indicated or the offices of the Board of Governors not later than July 20, 1989.

A. **Federal Reserve Bank of New York** (William L. Rutledge, Vice President) 33 Liberty Street, New York, New York 10045:

1. *Osterreichische Landerbank Aktiengeselischaft*, Vienna, Austria; to engage *de novo* through Unnamed Subsidiary, New York, New York; in making, acquiring, or servicing loans or other extensions of credit (including letters of credit and drafts) such as would be made, for example, by the following types of companies: (1) consumer finance, (2) credit card, (3) mortgage, (4) commercial finance, and (5) factoring, pursuant to § 225.25(b)(1) of the Board's Regulation Y.

Board of Governors of the Federal Reserve System, June 23, 1989.

William W. Wiles,

Secretary of the Board.

[FR Doc. 89-15350 Filed 6-28-89; 8:45 am]

BILLING CODE 6210-01-M

FEDERAL RETIREMENT THRIFT INVESTMENT BOARD

Employee Thrift Advisory Council; Open Meeting

In accordance with section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), a notice is hereby given of the following committee meeting:

Name: Employee Thrift Advisory Council.

Time and date: 10:00 a.m., July 12, 1989.

Place: Fifth Floor Conference Room, Federal Retirement Thrift Investment Board, 805 Fifteenth Street, NW., Washington, DC.

Status: Open.

Matters to be considered: Approval of the minutes of the March 14, 1989, meeting; report of the Executive Director on the status of the Thrift Savings Plan; legislation; investment policy of the Fixed Income Investment Fund; and new business.

Any interested person may attend, appear before, or file statements with the Council. For further information contact John J. O'Meara, Committee Management Officer, on (202) 523-6367.

Date: June 23, 1989.

Francis X. Cavanaugh,

Executive Director.

[FR Doc. 89-15314 Filed 6-28-89; 8:45 am]

BILLING CODE 6760-01-M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Family Support Administration; Delegation of Authority

Notice is hereby given that I have granted to the Assistant Secretary for Family Support (ASFS), Family Support Administration (FSA), all authorities vested in me under section 121(c) (4), of the Immigration Reform and Control Act of 1986, Pub.L. 99-603. This authority allows the ASFS to approve or disapprove States's requests for waivers from participation in the SAVE program. It is subject to the Health Care Financing Administration's staff input into the final decision as well as concurrence with the final decision ultimately signed and issued by the ASFS.

This delegation excludes authority to issue regulations or submit reports to Congress. It is effective upon the date of signature. In addition, I hereby affirm and ratify any actions taken by the ASFS or other FSA officials which, in effect, involved the exercise of this authority prior to the effective date of this delegation.

Louis W. Sullivan,

Secretary.

Date: June 16, 1989.

[FR Doc. 89-15320 Filed 6-28-89; 8:45 am]

BILLING CODE 4150-04-M

Centers for Disease Control

CDC Advisory Committee for Elimination of Tuberculosis; Meeting

In accordance with section 10(a)(2) of the Federal Advisory Committee Act (5 U.S.C. App. 2), the Centers for Disease Control (CDC) announces the following committee meeting.

Name: Advisory Committee for Elimination of Tuberculosis (ACET)

Time and Date: 8:00 a.m.—4:30 p.m.—July 26, 1989: 8:00 a.m.—2:30 p.m.—July 27, 1989.

Place: Executive II & III Conference Rooms, Lanier Plaza Conference Center, 418 Armour Drive, NE., Atlanta, Georgia 30324.

Status: Open.

Purpose: This Committee advises and makes recommendations to the Secretary, Department of Health and Human Services, the Assistant Secretary for Health, and the Director, CDC, regarding feasible goals for eliminating tuberculosis. Specifically, the Committee makes recommendations regarding policies, strategies, objectives, and priorities, addresses the

development of new technologies and their subsequent application, and reviews progress toward elimination.

Matters to be Discussed: Tuberculosis control among the foreign-born, tuberculosis control in nursing homes, and statements on preventive therapy and screening. Agenda items are subject to change as priorities dictate.

Contact Person For More Information: Dixie E. Snider, Jr., M.D., Director, Division of Tuberculosis Control, and Executive Secretary, ACET, Center for Prevention Services, CDC, 1600 Clifton Road, NE., Mailstop E-10, Altlanta, Georgia 30333, Telephones: FTS: 236-2501; Commercial: 404/639-2501.

Dated: June 22, 1989.

Elvin Hilyer,

Associate Director for Policy Coordination, Centers for Disease Control.

[FR Doc. 89-15345 Filed 6-28-89; 8:45 am]

BILLING CODE 4160-18-M

Food and Drug Administration

[Docket No. 89D-0140]

Test for Residual Moisture for Biological Products; Availability

AGENCY: Food and Drug Administration.

ACTION: Notice.

SUMMARY: The Food and Drug Administration (FDA) is announcing the availability of a draft guideline that discusses test procedures, testing results, and recommended standards for determining residual moisture in dried biological products. Elsewhere in this issue of the **Federal Register**, FDA is proposing to amend the general biological products standards concerning the test for residual moisture for these products.

DATES: Comments by August 28, 1989.

ADDRESSES: Submit written requests for single copies of the draft guideline to the Congressional, International, and Consumer Affairs Staff (HFB-142), Park Bldg., Rm. 158, 5600 Fishers Lane, Rockville, MD 20857, 301-443-7532. Send two self-addressed adhesive labels to assist that office in processing your requests. Submit written comments on the draft guideline to the Dockets Management Branch (HFA-305), Food and Drug Administration, Rm. 4-62, 5600 Fishers Lane, Rockville, MD 20857. Requests and comments should be identified with the docket number found in brackets in the heading of this document. A copy of the draft guideline and received comments are available for public examination in the Dockets Management Branch between 9 a.m. and 4 p.m., Monday through Friday.

FOR FURTHER INFORMATION CONTACT: Joan C. May, Center for Biologics Evaluation and Research (HFB-740), Food and Drug Administration, 8800 Rockville Pike, Bethesda, MD 20892, 301-496-4570.

SUPPLEMENTARY INFORMATION: Elsewhere in this issue of the **Federal Register**, FDA is proposing to amend requirements for the test for residual moisture found in the general biological products standards (21 CFR Part 610.13). FDA is revising the regulations to reflect more recent scientific knowledge and experience for determining residual moisture levels in dried biological products. Concurrently, FDA is announcing the availability of a draft guideline that discusses test procedures, testing results, and recommended standards for determing residual moisture in biological freeze-dried products.

This notice of availability of the draft guideline for determining residual moisture levels in dried biological products is announced under 21 CFR 10.90(b), which provides for use of guidelines to establish procedures of general applicability that are not legal requirements but are acceptable to the agency. A person who follows the guideline is assured that his or her conduct will be acceptable to the agency. A person may also choose to use alternative procedures or standards even though they are not provided for in the guideline. A person who chooses to do so may discuss the matter further with the agency to prevent expenditure of money and effort for work that the agency may later determine to be unacceptable.

Interested persons may submit written comments to the Dockets Management Branch (address above). FDA will consider such comments in determining whether further amendments to the guideline are warranted. Two copies of all comments are to be submitted, except that individuals may submit one copy. Comments are to be identified with the docket number found in brackets in the heading of this document. The draft guideline and received comments may be seen in the office above between 9 a.m. and 4 p.m., Monday through Friday.

Dated: June 12, 1989.

Alan L. Hoeting,

Acting Associate Commissioner for Regulatory Affairs.

[FR Doc. 89-15357 Filed 6-28-89; 8:45 am]

BILLING CODE 4160-01-M

Health Resources and Services Administration

Advisory Commission on Childhood Vaccines; Meeting

In accordance with section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), announcement is made of the following National Advisory body scheduled to meet during the month of July 1989.

Name: Advisory Commission on Childhood Vaccines.

Date and Time: July 26-27, 1989, 9:00 a.m.-5:00 p.m.

Place: Conference Room D., Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857, the meeting is open to the public.

Purpose: The Commission: (1) Advises the Secretary on the implementation of the Program, (2) on its own initiative or as the result of the filing of a petition, recommends changes in the Vaccine Injury Table, (3) advises the Secretary in implementing the Secretary's responsibilities under section 2127 regarding the need for childhood vaccination products that result in fewer or no significant adverse reactions, (4) surveys Federal, State, and local programs and activities relating to the gathering of information on injuries associated with the administration of childhood vaccines, including the adverse reaction reporting requirements of section 2125(b), and advises the Secretary on means to obtain, compile, publish, and use credible data related to the frequency and severity of adverse reactions associated with childhood vaccines, and (5) recommends to the Director of the National Vaccine Program research related to vaccine injuries which should be conducted to carry out the National Vaccine Injury Compensation Program.

Agenda: Agenda items for the meeting will include presentations and discussions on: the adverse reaction reporting system; overviews from the U.S. Claims Court, the Department of Justice, and the Department of Health and Human Services regarding their respective roles in the implementation of the Vaccine Injury Compensation Program; smallpox vaccine policy; and the vaccine injury material distribution activity.

Public comment will be permitted on at the end of each meeting day. Oral presentation will be limited to 5 minutes per public speaker. Persons interested in providing an oral presentation should submit a written request, along with a copy of their presentation, by July 14th to Ms. Rosemary Havill, Vaccine Injury

Compensation Program, Bureau of Health Professions, Room 4–101, Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857, Telephone (301) 443–6593.

Requests should contain the name, address, telephone number, and any business or professional affiliation of the person desiring to make an oral presentation. Groups having similar interests are requested to combine their comments and present them through a single representative. The allocation of time may be adjusted to accommodate the level of expressed interest. The Vaccine Injury Compensation Program will notify each presenter by mail or telephone of their assigned presentation time. Persons who do not file an advance request for presentation, but desire to make an oral statement, may sign up in conference room "D" before 10:00 a.m., July 26 and 27, 1989. These persons will be allocated time as time permits.

Anyone requiring information regarding the subject Council should contact Ms. Rosemary Havill, Vaccine Injury Compensation Program, Bureau of Health Professions, Room 4–101, Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857, Telephone (301) 443–6593.

Agenda Items are subject to change as priorities dictate.

Date: June 23, 1989.

Jackie E. Baum,

Advisory Committee Management Officer, HRSA.

[FR Doc. 89–15358 Filed 6–28–89; 8:45 am]

BILLING CODE 4160–15–M

National Vaccine Injury Compensation Program; List of Petitions Received

AGENCY: Public Health Service, HHS.

ACTION: Notice.

SUMMARY: The Public Health Service (PHS) is publishing this notice of petitions received under the National Vaccine Injury Compensation Program ("the Program"), as required by section 2112(b)(2) of the PHS Act, as amended. While the Secretary of Health and Human Services is named as the respondent in all proceedings brought by the filing of petitions for compensation under the Program, the United States Claims Court is charged by statute with responsibility for considering and acting upon the petitions.

FOR FURTHER INFORMATION CONTACT: For information about requirements for filing petitions, and the Program generally, contact the Clerk, United States Claims Court, 717 Madison Place, NW., Washington, DC 20005, (202) 633–7257. For information on the Public Health Service's role in the Program, contact the Director, Vaccine Injury Compensation Program, Parklawn Building, 5600 Fishers Lane, Room 4–101, Rockville, MD 20857, (301) 443–6593.

SUPPLEMENTARY INFORMATION: The Program provides a system of no-fault compensation for certain individuals who have been injured by specified childhood vaccines. Subtitle 2 of Title XXI of the PHS Act, 42 U.S.C. 300aa–10 *et seq.*, provides that those seeking compensation are to file a petition with the U.S. Claims Court and to serve a copy of the petition on the Secretary of Health and Human Services, who is named as the respondent in each proceeding. The Secretary has delegated his responsibility under the Program to PHS. The Claims Court is directed by statute to appoint special masters to take evidence, conduct hearings as appropriate, and to submit to the Court proposed findings of fact and conclusions of law.

A petition may be filed with respect to injuries, disabilities, illnesses, conditions, and deaths resulting from vaccines described in the Vaccine Injury Table set forth at section 2114 of the PHS Act. This Table lists for each covered childhood vaccine the conditions which will lead to compensation and, for each condition, the time period for occurrence of the first symptom or manifestation of onset or of significant aggravation after vaccine administration. Compensation may also be awarded for conditions not listed in the Table and for conditions that are manifested after the time periods specified in the Table, but only if the petitioner shows that the condition was caused by one of the listed vaccines.

Section 2112(b)(2) of the PHS Act, 42 U.S.C. 300aa–12(b)(2), requires that the Secretary publish in the **Federal Register** a notice of each petition filed. Set forth below is a list of petitions received by PHS from May 23 through June 12, 1989. Section 2112(b)(2) also provides that the special master "shall afford all interested persons an opportunity to submit relevant, written information" relating to the following:

1. The existence of evidence "that there is not a preponderance of the evidence that the illness, disability, injury, condition, or death described in the petition is due to factors unrelated to the administration of the vaccine described in the petition," and

2. Any allegation in a petition that the petitioner either:

(a) "sustained, or had significantly aggravated, any illness, disability, injury, or condition not set forth in the Vaccine Injury Table (see section 2114 of the PHS Act) but which was caused by" one of the vaccines referred to in the table, or

(b) "sustained, or had significantly aggravated, any illness, disability, injury, or condition set forth in the Vaccine Injury Table the first symptom or manifestation of the onset or significant aggravation of which did not occur within the time period set forth in the Table but which was caused by a vaccine" referred to in the Table.

This notice will also serve as the special master's invitation to all interested persons to submit written information relevant to the issues described above in the case of the petitions listed below. Any person choosing to do so should file an original and three (3) copies of the information with the Clerk of the U.S. Claims Court at the address listed above (under the heading "For Further Information Contact"), with a copy to PHS addressed to Director, Bureau of Health Professions, 5600 Fishers Lane, Room 8–05, Rockville, MD 20857. The Court's caption (Petitioner's Name v. Secretary of Health and Human Services) and the docket number assigned to the petition should be used as the caption for the written submission.

Chapter 35 of Title 44, United States Code, related to paperwork reduction, does not apply to information required for purposes of carrying out the Program.

List of Petitions

1. John M. Gunnels and Brenda Lee Seman on Behalf of Jessica Lee Gunnels, Wandotte, Kansas, Claims Court Docket No. 89–56 V
2. Ann Essex on Behalf of Melanie Essex, Reno, Nevada, Claims Court Docket No. 89–57 V
3. Hugh Hammond and Sarah Hammond on Behalf of Amy Hammond, Fulton County, Ohio, Claims Court Docket No. 89–58 V
4. Rose Craft Ross and William H. Kirkland on Behalf of Jeffrey Craft, New Orleans, Louisiana, Claims Court Docket No. 89–59 V
5. Ann Tom on Behalf of Manchester Tom, Honolulu, Hawaii, Claims Court Docket No. 89–60 V and 89–61 V

Dated: June 23, 1989.

John H. Kelso,

Acting Administrator.

[FR Doc. 89–15359 Filed 6–28–89; 8:45 am,

BILLING CODE 4160–15–M

DEPARTMENT OF THE INTERIOR

Office of the Secretary

[516DM6, Appendix 9]

National Environmental Policy Act; Proposed Implementing Procedures

AGENCY: Department of the Interior.

ACTION: Notice of proposed additional instructions for the Bureau of Reclamation.

SUMMARY: This notice announces a proposed additional categorical exclusion in the appendix to the Department's National Environmental Policy Act (NEPA) procedures for the Bureau of Reclamation. The proposed categorical exclusion pertains to activities conducted pursuant to the Disaster Assistance Act of 1988.

DATE: Comments due July 31, 1989.

ADDRESS: Comments to the Manager, Environmental Services, Bureau of Reclamation, Code D-5150, P.O. Box 25007, Denver, CO, 80225-007.

FOR FURTHER INFORMATION CONTACT: Director, Office of Environmental Project Review, telephone (202) 343-3891. For Bureau of Reclamation, contact Dr. Wayne Deason, Manager, Environmental Services, address above, telephone (303) 236-9336.

SUPPLEMENTARY INFORMATION: The proposed additional categorical exclusion in the appendix to the Departmental Manual (516DM6, Appendix 9) would exclude certain activities under the Disaster Assistance Act of 1988 from the NEPA process. Section 412, Part 1—Reclamation States Drought Assistance, Subtitle B—Emergency Drought Authority, Title IV—Water-Related Assistance of the act provides:

Sec. 412. Assistance During Drought

The Secretary of the Interior, acting under the authorities of the Federal Reclamation Laws (the act of June 17, 1902 (32 Stat. 388), and acts supplementary thereto and amendatory thereof) and other appropriate authorities of the Secretary shall—

(1)(A) Perform studies to identify opportunities to augment, make use of, or conserve water supplies available to Federal Reclamation Projects and Indian water resources developments, which studies shall be completed no later than March 1, 1990; and

(B) Consistent with existing contractual arrangements and state law, and without further authorization, undertake construction management, and conservation activities that will mitigate or can be expected to have an effect in mitigation losses and damages resulting from drought conditions in 1987, 1988, or 1989, which construction shall be completed by December 31, 1989; and

(2) Assist willing buyers in their purchase of available water supplies from willing sellers and redistribute such water based upon priorities to be determined by the Secretary consistent with state law, with the objective of minimizing losses and damages resulting from drought conditions in 1987, 1988, and 1989.

The Department has reviewed the range of possible activities authorized by Sec. 412 of the act and proposes to add a categorical exclusion as subparagrpah 9.4.E(4) to Appendix 9. The excluded activities would be limited to those areas: already developed or impacted by farming; involving minor construction, repair, replacement or modification of facilities; and where impacts are expected to be local in nature. These activities have been determined not to have significant effects on the quality of the human environment and not to involve unresolved conflicts concerning alternative uses of available resources. However, if any of the exceptions to categorical exclusion listed in Appendix 2 to 516DM2 apply to individual actions within this proposed exclusion, an enviormental document must be prepared (516DM2.3.A.).

Appendix 9 must be taken in conjunction with the Department's procedures (516DM1-6) and the Council on Environmental Quality's regulations implementing the procedural provisions of NEPA (40 CFR 1500-1508). The Department's procedures were published in the **Federal Register** on April 29, 1980 (45 FR 27541) and revised on May 21, 1984 (49 FR 21437). Appendix 9 for the Bureau of Reclamation was published on April 21, 1983 (48 FR 17151).

Comments on this proposed addition to Appendix 9 which are received by July 31, 1989, will be carefully considered in preparing the final addition.

Comments received after that date will also be considered to the extent practicable.

Outline

Chapter 6(516DM6) Managing the NEPA Process

Appendix 9—Bureau of Reclamation

9.4 Categorical Exclusions.

Date: June 20, 1989.

John H. Farrell,

Acting Director, Office of Environmental Project Review.

516DM6, Appendix 9

Bureau of Reclamation

9.4 Categorical Exclusions

* * * * *

E. Grant and Loan Activities

* * *

4. Disaster Assistance Act studies, construction, management, conservation, loans, water purchasing assistance, and water distribution where the activity is confined to areas already impacted by farming or development; is limited to minor construction or repair, replacement, or modifications of existing facilities, and the impacts are expected to be local in nature.

[FR Doc. 89-15327 Filed 6-28-89; 8:45 am]

BILLING CODE 4310-10-M

Bureau of Land Management

[NV-010-09-4130-09]

Elko District, Nevada

AGENCY: Bureau of Land Management.

ACTION: Notice of intent to prepare an environmental impact statement on an amendment to a mining plan of operations for the Goldstrike mine, Elko and Eureka Counties, Nevada; and notice of scoping period and public meetings.

SUMMARY: Pursuant to section 102(2)(c) of the National Environmental Policy Act of 1969 and 43 CFR Part 3809, the Bureau of Land Management will be directing the preparation of an environmental impact statement to be prepared by a third-party contractor on the impacts of a proposed amendment to an existing Plan of Operations for gold mining by Barrick Goldstrike Mines Inc., in Eldo and Eureka counties, Nevada. The Bureau invites comments and suggestions on the scope of the analysis.

DATES: Scoping meetings will be held July 19, 1989 at the Bureau of Land Management, Elko District Office, 3900 E. Idaho, Elko NV., and on July 20, 1989 at the Holiday Inn, 1000 E. 6th St., Reno, NV., to identify issues and concerns to be addressed in the environmental impact statement (EIS) and to encourage public participation in the environmental review process. Both meetings are scheduled from 7:00 pm-9:00 pm. Representatives of Barrick Goldstrike Mines Inc. will be available to answer questions about the Plan of

Operations amendment. Additional scoping meetings may be held as appropriate. Written comments on the Plan of Operations amendment and the scope of the EIS will be accepted until Septen ber 5, 1989. A draft environmental impact statement (DEIS) is expected to be completed by March 1990 and made available for public review and comment. At that time a Notice of Availability of the DEIS will be published in the **Federal Register.** The comment period on the DEIS will be 60 days from the date the Notice of Availability is pubished.

ADDRESS: Scoping comments may be sent to the District Manager, Bureau of Land Management, P.O. Box 831, Elko, NV 89801. ATTN: Goldstrike Coordinator.

FOR FURTHER INFORMATION CONTACT: For additional information, write to the above address or call Nancy Phelps-Dailey at (702) 738–4071.

SUPPLEMENTARY INFORMATION: Barrick Goldstrike Mines Inc. of Elko, Nevada has submitted an amendment to its existing Plan of Operations for the Goldstrike Mine located in Township 35 North, Range 49 East and Township 36 North, Range 50 East; approximately 25 miles northwest of the town of Carlin, Nevada. The presently authorized operation includes open-pit mines, heap leach facilities, a crushing and agglomeration plant, administrative and maintenance buildings, an oxide mill and a tailings impoundment involving approximately 2,400 acres, including approximately 1800 acres of public land. The proposed action is to expand the Goldstrike Mine open pit mining and increase milling operations from approximately 6,000 tons per day to approximately 12,700 tons per day. While much of the proposed expansion is expected to the confined to previously disturbed areas, additional disturbance is anticipated on approximately 35 acres of private land and approximately 1,770 acres of public land.

A Notice of Intent to prepare an environmental document on the Plan of Operations amendment was published in the **Federal Register** on page 15815, April 19, 1989. The Notice did not specify whether the document would be an environmental assessment or an EIS. Based on public comments and Bureau review of the Plan of Operations amendment, the Bureau has determined that the proposed action requires an EIS.

The issues expected to be analyzed in the EIS are impacts to cultural resources, wildlife and fisheries, water quantity and quality, air quality, soils and vegetation, social and economic values and cumulative impacts. Disciplines represented on the interdisciplinary team that will review the Plan amendment and environmental documentation include: wildlife, recreation, geology, cultural resources, soil, water and air quality, range management, lands and realty and land use planning.

A range of alternatives, stipulations and mitigation measures, including but not limited to alternative reclamation measures, monitoring requirements and the no-action alternative, will be considered to evaluate and minimize environment impacts and to assure that the proposed action does not result in undure or unnecessary degradation of public lands.

Federal, state and local agencies and other individuals or organizations who may be interested in or affected by the Bureau's decision on the amended Plan of Operations are invited to participate in the scoping process with respect to this environmental analysis. These entities and individuals are also invited to submit comments on the DEIS.

It is important that those interested in the Plan of Operations amendment participate in the scoping and commencing processes. To be most helpful, comments should be as specific as possible. Federal court decisions have established that entities and individuals must structure their participation in the environmental review process so that it is meaningful and alerts the agency to the reviewer's position and contention and that objections that could have been raised at the draft stage may be waived if not raised until after completion of the final EIS. This is to ensure that substantive comments and objections are made available to the agency at a time when it can meaningfully consider and respond to them in the final EIS.

After the comment period ends on the DEIS, the comments will be analyzed and considered by the Bureau in preparing the final EIS. In the final EIS, the Bureau is required to respond to the comments received (40 CFR 1503.4). The responsible official will consider the comments, responses, and environmental consequences discussed in the EIS, and the applicable laws, regulations, and policies in making a decision regarding the proposal. The responsible official will document the decision and reasons for the decision in the Record of Decision. That decision will be subject to appeal under 43 CFR Part 4.

Date: June 23, 1989.

Rodney Harris,

District Manager.

[FR Doc. 89–15361 Filed 6–28–89; 8:45 am]

BILLING CODE 4310–HC–M

[CA–050–4410–04]

Intent To Prepare an Environmental Impact Statement on the South Fork Eel River Watershed and Associated Activity Level Management Plan

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of intent to prepare an Environmental Impact Statement and Management Plan for the South Fork Eel River Watershed and notice of scoping.

SUMMARY: Pursuant to section 102(2)(c) of the National Environmental Policy Act of 1969, the Bureau of Land Management Ukiah District, Arcata Resource Area, will be preparing a management plan and environmental impact statement on the activity plan for the South Fork of the Eel River. The management plan will address a total of 17,200 acres of public lands located in Mendocino County, in northern California. Activities analyzed in this plan and EIS are consistent with management decisions made in the Arcata RMP and the Red Mountain MFP for 7400 acres in the Elkhorn Ridge and Brush Mountain Blocks plus 2800 acres of acquired lands along the South Fork of the Eel River. The South Fork Eel River has been designated by the Secretary of the Interior and the Governor of California as Wild & Scenic. The Cahto Peak block (7,000 acres) will also be analyzed in this plan, including the Elder Creek ACEC which is managed in cooperation with The Nature Conservancy.

DATES: A 60 day public scoping period will begin with publication of this Notice and will end on August 30, 1989. Scoping meetings are being scheduled to solicit public input to ensure that public concerns are considered in the decision making process for management of the area. The scoping process will identify issues to be assessed in the development of the Draft EIS and identify affected or interested parties in this planning effort. Scoping meetings will be held beginning at the Laytonville Elementary School Multipurpose Room on Wednesday, August 2, 1989 beginning at 7 p.m. and at the Eureka Inn in the Colonade Room on Thursday, August 3, 1989, beginning at 7 p.m. Additional briefing meetings may be considered as appropriate. Written comments on the

proposal will be accepted until August 30, 1989.

ADDRESS: Written comments should be sent to the District Manager, Bureau of Land Management, 555 Leslie Street, Ukiah, California 95482, ATTN: EIS Team Leader.

FOR FURTHER INFORMATION CONTACT: Linda Hansen, Planning and Environmental Coordinator, Bureau of Land Management, 555 Leslie Street, Ukiah, California 95482; or John Lloyd, Arcata Resource Area Manager, Bureau of Land Management, 1125 16th Street, Room 219, Arcata California 95521.

SUPPLEMENTARY INFORMATION: The activity plan will be prepared with a multi-resource approach through the use of an interdisciplinary team under the direction of the team leader. The plan will be developed utilizing maximum public involvement to ensure public input is considered in making decisions. Special emphasis will also be placed on working with local groups and organizations who have in the past expressed an interest in BLM activity in the area of Elkhorn Ridge and Cahto Peak.

Anticipated issues and environmental resources of concern include: Impacts from timber Management, Impacts from recreational use, management direction for the wild and scenic river, impacts on spotted owl habitat, management of the Elder Creek ACEC, impacts from communication sites on Cahto Peak and Impacts to Native American ancestral/ceremonial areas.

The following environmental factors will also be analyzed in the EIS: water quality, soil erosion, visual resources, wildlife values, fisheries, old growth forests, recreation use and cultural resources.

Linda D. Hansen,

Acting District Manager, Ukiah.

Date: June 22, 1989.

[FR Doc. 89-15328 Filed 6-28-89; 8:45 am]

BILLING CODE 4310-40-M

Geothermal Resource Areas; Baltazore; NV

June 22, 1989.

AGENCY: Bureau of Land Mangement, Interior.

ACTION: Declassification of the Baltazor known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Baltzaor Known Geothermal Resources Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada, Baltazor Known Geothermal Resource Area

Mt. Diablo Meridian, Nevada

T. 46 N., R. 28 E.
Secs. 11–14, 23–25;
T. 47 E., R. 29 E.
Secs. 24, 25.

The above area aggregates 5,537.25 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89-15380 Filed 6-28-89; 8:45 am]

BILLING CODE 4310-HC-M

Geothermal Resource Areas; Colado; NV

June 22, 1989.

AGENCY: Bureau of Land Mangement, Interior.

ACTION: Declassification of the Colado known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Colado Known Geothermal Resources Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada, Colado Known Geothermal Resource Area

Mt. Diablo Meridian, Nevada

T. 28 N., R. 32 E.
Sec. 34.

The above area aggregates 640.00 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89-15383 Filed 6-28-89; 8:45 am]

BILLING CODE 4310-HC-M

Geothermal Resource Areas; Darrough Hot Springs; NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Darrough Hot Springs known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Darrough Hot Springs Known Geothermal Resources Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada, Darrough Hot Springs Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 11 N., R. 42 E.
Secs. 1, 12, 13;
T. 11 N., R. 43 E.
Secs. 5–9, 16–20.

The above area aggregates 8,363.18 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89-15381 Filed 6-28-89; 8:45 am]

BILLING CODE 4310-HC-M

Geothermal Resource Areas; Double Hot Springs; NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Double Hot Springs known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Double Hot Springs Known Geothermal Resources Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada, Double Hot Springs Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 35½ N., R. 26 E.
Secs. 25, 26, 33–36;
T. 35½ N., R. 27 E.
Secs. 30, 31;
T. 36 N., R. 26 E.
Secs. 3–10, 15–18, 20–23, 26–29, 32–34.
T. 37 N., R. 26 E.
Secs. 4, 9, 10, 15, 16, 20–22, 28–33.

The above area aggregates 29,325.70 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89-15369 Filed 6-28-89; 8:45 am]

BILLING CODE 4310-HC-M

Geothermal Resource Area; Elko Hot Springs, NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Elko Hot Springs known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1979 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Elko Hot Springs known geotheramal resources area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada, Elko Hot Springs Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 34 N., R. 55 E.
Secs. 14–17, 20–23, 26–29, 33, 34.

The above area aggregates 8,960.00 acres, more or less.

Edward F. Spang,

State Director, Nevada

[FR Doc. 89–15370 Filed 6–28–89; 8:45 am]

BILLING CODE 4310-HC-M

Geothermal Resource Area; Fly Ranch; NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Fly Ranch known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Fly Ranch known geothermal resources area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada, Fly Ranch Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 33 N., R. 23 E.
Secs. 1, 2, 11, 12;
T. 34 N., R. 23 E.
Secs. 1, 2, 9–16, 22–27, 34–36;
T. 34 N., R. 24 E.
Secs. 6–8, 16–21, 29- 31.

The above area aggregates 20,662.66 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89–15371 Filed 6–28–89; 8:45 am]

BILLING CODE 4310-HC-M

Geothermal Resource Areas; Gerlach; NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Deletion from the Gerlach known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the following lands are hereby deleted from the Gerlach Known Geothermal Resource Area.

EFFECTIVE DATE: July 1, 1989.

Nevada, Gerlach Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 31 N., R. 23 E.
Secs. 3–5, 8;
T. 32 N., R. 23 E.
Secs. 8, 17, 20, 24–29, 32–36;
T. 32 N., R. 24 E.
Secs. 6;
T. 33 N., R. 23 E.
Secs. 25, 26, 35, 36;
T. 33 N., R. 24 E.
Secs. 30.

The above area aggregates 15,217.50 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89–15385 Filed 6–28–89; 8:45 am]

BILLING CODE 4310-HC-M

Geothermal Resource Areas; Hot Springs Point; NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Hot Springs Point known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Hot Springs Point Known Geothermal Resources Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada, Hot Springs Point Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 29 N., R. 48 E.
Secs. 1, 2, 10–12, 14, 15, 22;
T. 30 N., R. 48 E.
Secs. 25, 26, 35, 36;
T. 30 N., R. 49 E.
Secs. 16, 30.

The above area aggregates 8,549.00 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89–15372 Filed 6–28–89; 8:45 am]

BILLING CODE 4310-HC-M

Classification of Public Lands; Kyle Hot Springs; NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Kyle Hot Springs known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Kyle Hot Springs Known Geothermal Resources Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada, Kyle Hot Springs Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 29 N., R. 36 E.,
Secs. 1, 2, 11, 12.

The above area aggregates 2,561.00 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89–15373 Filed 6–28–89; 8:45 am]

BILLING CODE 4310-HC-M

Classification of Public Lands; Leach Hot Springs, NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Leach Hot Springs known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Leach Hot Springs Known Geothermal Resources Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada, Leach Hot Springs Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 31 N., R. 38 E.,
Secs. 1, 2, 12;
T. 31 N., R. 39 E.,
Secs. 5–7;
T. 32 N., R. 38 E.,
Secs. 13, 14, 23–26, 35, 36;
T. 32 N., R. 39 E.,
Secs. 18, 19, 29–32.

The above area aggregates 12,846.21 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89–15374 Filed 6–28–89; 8:45 am]

BILLING CODE 4310–HC–M

Geothermal Resource Areas; Moana; NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Moana known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Moana Known Geothermal Resources Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada

Moana Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 19 N., R. 19 E.,
Secs. 13, 22–26, 35, 36.

The above area aggregates 5,120.00 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89–15382 Filed 6–28–89; 8:45 am]

BILLING CODE 4310–HC–M

Geothermal Resource Areas; Pinto Hot Springs; NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Pinto Hot Springs known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Pinto Hot Springs Known Geothermal Resources Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada

Pinto Hot Springs Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 40 N., R. 28 E.
Secs. 16–21, 27–34.

The above area aggregates 8,065.00 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89–15384 Filed 6–28–89; 8:45 am]

BILLING CODE 4310–HC–M

Classification of Public Lands; Ruby Valley; NV

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Ruby Valley known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Ruby Valley Known Geothermal Resources Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada, Ruby Valley Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 31 N., R. 59 E.
Secs. 2, 3, 10–13, 15;
T. 32 N., R. 59 E.
secs. 34, 35.

The above area aggregates 5,743.00 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89–15375 Filed 6–28–89; 8:45 am]

BILLING CODE 4310–HC–M

Classification of Public Lands; Soldier Meadow, NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Soldier Meadow known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Soldier Meadow Known Geothermal Resources Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada, Soldier Meadow Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 40 N., R. 24 E.
Secs. 12–14, 23, 24, 26, 35;
T. 40 N., R. 25 E.
Secs. 7, 18.

The above area aggregates 5,966.00 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89–15376 Filed 6–28–89; 8:45 am]

BILLING CODE 4310–HC–M

Geothermal Resource Area; Trego; NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Trego known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Trego Known Geothermal Resources Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada

Trego Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 34 N., R. 25 E.
Sec. 25;
T. 34 N., R. 26 E.
Secs. 1, 2, 10–13, 29–32.

The above area aggregates 7,013.00 acres, more or less.

Edward F. Spang.

State Director, Nevada.

[FR Doc. 89–15377 Filed 6–28–89; 8:45 am]

BILLING CODE 4310-HC-M

Geothermal Resource Areas: Warm Springs; NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Warm Springs known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Goethermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Warm Springs Known Geothermal Resources Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada; **Warm Springs Known Geothermal Resources Area**

Mt. Diablo Meridian, Nevada

T. 4 N., R. 50 E.
Secs. 19–21, 28–30.

The above area aggregates 3,812.00 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89–15378 Filed 6–28–89; 8:45 am]

BILLING CODE 4310-HC-M

Geothermal Resource Areas: Wilson Hot Springs; NV

June 22, 1989.

AGENCY: Bureau of Land Management, Interior.

ACTION: Declassification of the Wilson Hot Springs known geothermal resources area, Nevada.

SUMMARY: Pursuant to the authority vested in the Secretary of the Interior by sec. 21(a) of the Geothermal Steam Act of 1970 (84 Stat. 1566, 1572; 30 U.S.C. 1020), the delegations of authority in 235 Department Manual 1.1k, Bureau of Land Management, the Wilson Hot Springs Known Geothermal Resource Area, which includes the following lands, is hereby declassified.

EFFECTIVE DATE: July 1, 1989.

Nevada; Wilson Hot Springs Known Geothermal Resources Area

Mt. Diablo Meridian, Nevada

T. 10 E., R. 25 E.,
Sec. 3;
T. 11 N., R. 25 E.,
Sec. 34.

The above area aggregates 1,294.00 acres, more or less.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89–15379 Filed 6–28–89; 8:45 am]

BILLING CODE 4310-HC-M

[OR-030-09-4212-13; GP9-259, OR 39525]

Realty Action, Exchange of Public Lands in Malheur County, OR

The following described lands have been determined to be suitable for disposal by exchange under section 206 of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1716:

Willamette Meridian

T. 23 S., R. 38 E.,
Sec. 31: lot 1, 2, 3, 4, NE¼, E½NW¼, NE¼SW¼, NW¼SE¼, E½SE¼;
Sec. 32: all;
Sec. 33: W½SE¼.
T. 24 S., R. 38 E.:
Sec. 4: lot 4.

The area described above aggregates 1332.51 acres in Malheur County, Oregon.

In exchange for these lands, the Federal Government will acquire the following described private lands from Walter T. McEwen:

Willamette Meridian

T. 24 S., R. 38 E.,
Sec. 11: S½W¼.
T. 25 S., R. 38 E.:
Sec. 13: SW¼SW¼;
Sec. 14: S½SE¼;
Sec. 15: SW¼NE¼;
Sec. 24: N½;
T. 24 S., R. 39 E.,
Sec. 19: SW¼SE¼;
Sec. 30: SE¼NE¼, W½E½, E½SW¼.
T. 25 S., R. 39 E.,
Sec. 3: NW¼SW¼;
Sec. 4: NE¼SE¼;
Sec. 19: lot 2.
T. 26 S., R. 39 E.,
Sec. 7: E½SE¼;
Sec. 8: S½SW¼, SW¼SE¼;
Sec. 17: N½NW¼, NW¼NE¼.

The area described above aggregates 1319.61 acres in Malheur County, Oregon.

The purpose of the land exchange is to facilitate resource management opportunities as identified in the Management Framework Plan for the Northern Malheur (Malheur) Resource Area. The exchange is needed to effect a land tenure adjustment in which intermingling lands will be separated into solid ownership blocks. The tenure adjustment is prerequisite to intensive resource management and conservation treatment on the lands involved. The public interest will be highly served by making this exchange.

The exchange will be subject to:

1. The reservation to the United States of a right-of-way for ditches and canals constructed by the authority of the United States. Act of August 30, 1890 (43 U.S.C. 945).

2. All other valid existing rights, including but not limited to any right, easement or lease of record. The valid existing rights of record are as follows: OR–18233—Irrigation Reservoir—Walter T. McEwen, and OR–23027—Powerline—Harney Electric Cooperative.

3. Grazing permits authorized under the Taylor Grazing Act of 1934, as amended (43 US.C. 315), will remain in effect until the end of the two year prior notification period, unless unconditionally waived by the permittee.

4. Non-Permanent improvement belonging to Star Mountain Ranch (Walter McEwen) on the offered lands may be removed within a period of time designated by the Authorized Officer. If not removed, the improvement will either be authorized by the Bureau of Land Management or become the property of the United States, with the exception of fences located on the boundary between the offered and private lands.

5. All minerals owned by Walter McEwen will be conveyed to United States in the exchange and United States will convey equal amount of mineral to Walter McEwen.

Publication of this notice in the **Federal Register** segregates the public lands described above from appropriation under the public land laws, including the mining laws, but not from exchange pursuant to Section 206 of the Federal Land Policy and Management Act of 1976. The segregative effect of this Notice will terminate upon issuance of patent or in two years, which ever occurs first.

Detailed information concerning the exchange, including the environmental analysis and record of public discussions, will be available for review at the Vale District Office, 100 East Oregon Street, Vale, Oregon 97918.

For a period of 45 days from the date of publication of this notice in the **Federal Register**, interested parties may

submit comments to the Vale District Manager at the above address. Objections will be reviewed by the State Director who may sustain, vacate, or modify this realty action. In the absence of any objections, this realty action will become the final determination of the Department of the Interior.

William C. Calkins,

District Manager.

June 22, 1989.

[FR Doc. 89-15386 Filed 6-28-89; 8:45 am]

BILLING CODE 4310-33-M

[OR-030-09-4212-13; GP9-260; OR 44787]

Exchange of Public Lands in Malheur County, OR

The following described lands have been determined to be suitable for disposal by exchange under section 206 of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1716:

Willamette Meridian

T. 17 S., R. 44 E.,
Sec. 14: NE¼, N½NW¼, SE¼NW¼, NE¼SW¼, N½SE¼.
T. 17 S., R. 45 E.,
Sec. 17: W½;
Sec. 18: lot 1, 2, 3, 4, E½W½,E½.

The area described above aggregates 1353.01 acres in Malheur County, Oregon.

In exchange for these lands, the Federal Government will acquire the following described private lands from OT Farms:

Willamette Meridian

T. 17 S., R. 45 E.,
Sec. 8: E½W½;
T. 18 S., R. 45E.,
Sec. 3: lot 1, 2, 3, 4, S½N½, S½.

The area described above aggregates 1319.61 acres in Malheur County, Oregon.

The purpose of the land exchange is to facilitate resource management opportunities as identified in the Management Framework Plan for the Northern Malheur (Malheur) Resource Area. The exchange is needed to effect a land tenure adjustment in which portion of the Oregon Trail is acquired by the United States and intermingling lands are separated into solid ownership blocks. The tenure adjustment is prerequisite to intensive resource management and conservation treatment on the lands involved. The public interest will be highly served by making this exchange.

The exchange will be subject to:

1. The reservation to the United States of a right-of-way for ditches and canals constructed by the authority of the United States. Act of August 30, 1890 (43 U.S.C. 945).

2. All other valid existing rights, including but not limited to any right, easement or lease of record. The valid existing rights of record are as follows: Malheur County Roads—Old Oregon Trail No. 751, Dry Gulch No. 531, Hillroad No. 681, and North Road D No 1109; Vale-Warm Springs Lateral Canal No. 430 Reserved to USA Act of 8-30-1890 and pioneer grave site (Oregon State law prohibits disturbance).

3. Grazing permits authorized under the Taylor Grazing Act of 1934, as amended (43 U.S.C. 315), will remain in effect until the end of the two year prior notification period, unless unconditionally waived by the permittee.

4. Non-permanent improvements belonging to OT Farms on the offered lands may be removed within a period of time designated by the Authorized Officer. If not removed, the improvements will either be authorized by the Bureau of Land Management or become the property of the United States, with the exception of fences located on the boundary between the offered and private lands.

5. All minerals owned by OT Farms will be conveyed to United States in the exchange and United States will convey equal amount of mineral to OT Farms.

Publication of this notice in the **Federal Register** segregates the public lands described above from appropriation under the public land laws, including the mining laws, but not from exchange pursuant to Section 206 of the Federal Land Policy and Management Act of 1976. The segregative effect of this Notice will terminate upon issuance of patent or in two years, whichever occurs first.

Detailed information concerning the exchange, including the environmental analysis and record of public discussions, will be available for review at the Vale District Office, 100 East Oregon Street, Vale, Oregon 97918.

For a period of 45 days from the date of publication of this notice in the **Federal Register**, interested parties may submit comments to the Vale District Manager at the above address. Objections will be reviewed by the State Director who may sustain, vacate, or modify this realty action. In the absence of any objections, this realty action will become the final determination of the Department of the Interior.

William C. Calkins,

District Manager.

June 22, 1989.

[FR Doc. 89-15387 Filed 6-28-89; 8:45 am]

BILLING CODE 4310-33-M

[ID-942-09-4730-12]

Filing of Plats and Survey; Idaho

The plats of survey of the following described lands were officially filed in the Idaho State Office, Bureau of Land Management, Boise, Idaho, effective 10:00 a.m., June 23, 1989.

The plat representing the dependent resurvey of portions of the west boundary, subdivisional lines and the meanders of the right bank of the Salmon River, and the subdivision of section 18, T. 23 N., R. 22 E., Boise Meridian, Idaho, Group No. 748, was accepted June 19, 1989.

This survey was executed to meet certain administrative needs of this Bureau.

All inquiries about this land should be sent to the Idaho State Office, Bureau of Land Management, 3380 Americana Terrace, Boise, Idaho 83706.

June 23, 1989.

Duane E. Olsen,

Chief Cadastral Surveyor for Idaho.

[FR Doc. 89-15388 Filed 6-28-89; 8:45 am]

BILLING CODE 4310-GG-M

[NV-920-09-4133-12]

Wilderness Study Areas; Availability of Mineral Survey Reports; Nevada

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of the availability of two (2) mineral survey reports produced by the U.S. Geological Survey/U.S. Bureau of Mines on two (2) Bureau of Land Management Wilderness Study Areas (WSAs) in Nevada. Announcement of a 60-day comment period to obtain previously unknown mineral information on the areas.

SUMMARY: The Federal Land Policy and Management Act (Pub. L. 94-579) requires the U.S. Geological Survey and the U.S. Bureau of Mines to conduct mineral surveys on certain Bureau of Land Management (BLM) WSAs to determine the mineral values, if any, that may be present. In Nevada, two (2) new reports on WSAs have been completed. This is the third set of reports to be released. This notice gives the public an opportunity to obtain the reports and to review and offer previously unknown mineral information on the WSAs. New public comment information/data will be screened by the BLM. The State Director of that agency may ask the Geological Survey or the Bureau of Mines to determine if the information contains significant new data or an interpretation

that was not available at the time the mineral survey report was prepared. Geological Survey or the Bureau of Mines would determine if additional field investigations should be undertaken. Recommendations for the designation of an area as wilderness will be made to the Secretary of the Interior by the BLM. The Secretary shall, in turn, make recommendations to the President who will advise Congress. A recommendation of the President for designation as wilderness shall become effective only if so provided by an Act of Congress.

DATES: The public review of the two (2) mineral survey reports named in this notice shall begin on July 10, 1989, and shall continue for 60 days (September 10, 1989).

ADDRESS: All data and written comments should be directed to the State Director (NV-920), Bureau of Land Management, P.O. Box 12000, Reno, Nevada 89520. Copies of the bulletins may be purchased from: Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, CO 80225, telephone (303-236-7476).

FOR FURTHER INFORMATION CONTACT: Jack Crowley, Minerals Division, (702) 328-6376, or Dave Wolf, Wilderness Coordinator, (702) 328-6283, Nevada State Office, Bureau of Land Management, P.O. Box 12000, 850 Harvard Way, Reno, Nevada 89520.

SUPPLEMENTARY INFORMATION: The two mineral reports available for review and for purchase are listed below. The price noted on bulletins is that charged by the Books and Open-File Reports Section, U.S. Geological Survey (303-276-7476) and includes third or fourth class mailing. Firest class or foreign mailings require an addition of ten percent.

Clover Mtns., WSA Lincoln County (USGS 1729-D).....$3.25
South McCullough WSA, Clark County (USGS 1730-C).....$2.00

The reports are also available for review in the offices of the BLM in Nevada. Those are in Reno, Elko, Winnemucca, Carson City, Ely, Las Vegas, Battle Mountain, Caliente and Tonopah. Libraries with copies include the Nevada State Library in Carson City; the Government Documents Section of the University of Nevada, Las Vegas, Library; and the Mines Library of the University of Nevada, Reno. Community libraries which have been sent copies are Fallon, Minden, Elko, Winnemucca, Pioche, Yerington, Hawthorne, Lovelock, Ely, Austin, Eureka, Caliente, Tonopah, Pahrump, Goldfield and Battle Mountain.

Upon receipt of additional mineral survey reports on Nevada WSAs, additional comment periods will be held.

Date: June 23, 1989.

Edward F. Spang,

State Director, Nevada.

[FR Doc. 89-15389 Filed 6-28-89; 8:45 am]

BILLING CODE 4310-HC-M

INTERNATIONAL TRADE COMMISSION

[Investigation No. 337-TA-276]

Certain Erasable Programmable Read Only Memories, Components Thereof, Products Containing Such Memories, and Processes for Making Such Memories; Commission Decision Denying Motion for Reconsideration

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the Commission has denied a motion for reconsideration filed by Intel Corporation, complainant in the above-captioned investigation.

FOR FURTHER INFORMATION CONTACT: Judith M. Czako, Esq., Office of the General Counsel, U.S. International Trade Commission, telephone 202-252-1093.

SUPPLEMENTARY INFORMATION: The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930 (19 U.S.C. 1337) and in section 210.60 of the Commission's Interim Rules of Practice and Procedure, 53 **Federal Register** 33073 (Aug. 29, 1988), to be codified at 19 CFR 210.60.

On March 16, 1989, the Commission issued its final determination in the above-captioned investigation. The Commission determined that there was a violation of section 337 in the unlicensed importation and sale of certain erasable programmable read only memories. The Commission determined that a limited exclusion order and cease and desist orders were the appropriate remedy. On March 30, 1989, complainant Intel Corporation filed a petition for reconsideration of six determinations made by the Commission in the course of reaching its final determination. Having considered Intel's petition for reconsideration, and the responses thereto, the Commission has determined that Intel has not demonstrated that reconsideration is warranted under the Commission's rules.

Notice of this investigation was published in the **Federal Register** of September 16, 1987 (52 FR 35004).

Copies of the Commission's Order and all other nonconfidential documents filed in connection with this investigation 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, 500 E Street SW., Washington, DC 20436, telephone 202-252-1000. Hearing-impaired persons are advised that information on the matter can be obtained by contacting the Commission's TDD terminal on 202-252-1810.

By order of the Commission.

Kenneth R. Mason,

Secretary.

Issued: June 20, 1989.

[FR Doc. 89-15339 Filed 6-28-89; 8:45 am]

BILLING CODE 7020-02-M

[Investigation No. 337-TA-276]

Institution of Advisory Opinion Proceeding

In the matter of Certain Erasable Programmable Read Only Memories, Components Thereof, Products Containing such Memories, and Processes for Making such Memories.

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the Commission has instituted an advisory opinion proceeding relating to the limited exclusion order issued on March 16, 1989, at the conclusion of the above-captioned investigation.

FOR FURTHER INFORMATION CONTACT: Judith M. Czako, Esq., Office of the General Counsel, U.S. International Trade Commission, telephone 202-252-1093.

SUPPLEMENTARY INFORMATION: The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930 (19 U.S.C. 1337) and in § 210.54 of the Commission's Interim Rules of Practice and Procedure, 53 **Federal Register** 33034, 33059 (Aug. 29, 1988), to be codified at 19 CFR 210.54.

On March 16, 1989, the Commission issued its final determination in the above-captioned investigation. The Commission determined that there was a violation of section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), in the unlicensed importation and sale of certain erasable programmable read only memories (EPROMs) by, *inter*

alia, Atmel Corporation. The Commission determined that a limited exclusion order and cease and desist orders were the appropriate remedy. The Commission's determination and orders became final on May 22, 1989, the President having determined to take no action with respect to the Commission's determination and orders.

On March 31, 1989, respondent Atmel filed two petitions for advisory opinions, concerning two of the patents its EPROMs had been found to infringe, U.S. Letters Patent 4,2323,394 (the '394 patent) and U.S. Letters Patent 4,519,050 (the '050 patent). In both petitions, Atmel stated that it had redesigned the infringing EPROMs to eliminate the elements determined to infringe, such that the designing products products no longer infringe either the '394 or '050 patents.

The Commission has examined the petitions for advisory opinions filed by Atmel and the responses thereto, and having found that the requests comply with the requirements for institution of an advisory opinion proceeding, determined to institute an advisory opinion proceeding and referred the requests to the Chief Administrative Law Judge for issuance of an initial opinon.

Copies of the Commission's Order and all the nonconfidential documents filed in connection with this investigation 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, 500 E Street SW., Washington, DC 20436, telephone 202–252–1000. Hearing-impaired persons are advised that information on the matter can be obtained by contacting the Commission's TDD terminal on 202–252–1810.

By order of the Commission.

Kenneth R. Mason,

Secretary.

Issued: June 23, 1989.

[FR Doc. 89–15310 Filed 6–28–89; 8:45 am]

BILLING CODE 7020–02–M

INTERSTATE COMMERCE COMMISSION

[Finance Docket No. 31480]

Wisconsin Central Ltd.; Purchase Exemption; Lake Superior & Ishpeming Railroad Co. Line Between Munising and Munising Junction, MI

AGENCY: Interstate Commerce Commission.

ACTION: Notice of exemption.

SUMMARY: The Interstate Commerce Commission, under 49 U.S.C. 10505, exempts from the requirements of 49 U.S.C. 11343–11345, the purchase from Lake Superior & Ishpeming Railroad Company and operation by Wisconsin Central Ltd. of approximately 5.5 miles of rail line and rail-related properties between milepost 0.00 at Munising and milepost 5.88 at Munising Junction, MI. The exemption is granted subject to appropriate labor protective conditions and an historic preservation condition.

DATES: This exemption is effective July 10, 1989. Petitions for reconsideration must be filed by July 25, 1989.

ADDRESSES: Send pleadings referring to Finance Docket No. 31480 to:

(1) Office of the Secretary, Case Control Branch, Interstate Commerce Commission, Washington, DC 20423.

(2) Petitioner's representatives: Janet H. Gilbert, Wisconsin Central Ltd., P.O. Box 5062, Rosemont, IL 60017.

William C. Sippel, 233 North Michigan Avenue, Suite 2400, Chicago, IL 60601.

FOR FURTHER INFORMATION CONTACT: Joseph H. Dettmar, (202) 275–7245 (TDD for hearing impaired: (202) 275–1721).

SUPPLEMENTARY INFORMATION: Additional information is contained in the Commission's decision. To purchase a copy of the full decision, write to, call, or pick up in person from: Dynamic Concepts, Inc., Room 2229, Interstate Commerce Commission Building, Washington, DC 20423. Telephone: (202) 289–4357/4359. (Assistance for the hearing impaired is available through TDD services (202) 275–1721.)

Decided: June 22, 1989.

By the Commission, Chairman Gradison, Vice Chairman Simmons, Commissioners Andre, Lamboley, and Phillips.

Noreta R. McGee,

Secretary.

[FR Doc. 89–15396 Filed 6–28–89; 8:45 am]

BILLING CODE 7035–01–M

NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

Records Schedules; Availability and Request for Comments

AGENCY: National Archives and Records Administration, Office of Records Administration.

ACTION: Notice of availability of proposed records schedules; request for comments.

SUMMARY: The National Archives and Records Administration (NARA) publishes notice at least once monthly of certain Federal agency requests for records disposition authority (records schedules). Records schedules identify records of sufficient value to warrant preservation in the National Archives of the United States. Schedules also authorize agencies after a specified period to dispose of records lacking administrative, legal, research, or other value. Notice is published for records schedules that (1) propose the destruction of records not previously authorized for disposal, or (2) reduce the retention period for records already authorized for disposal. NARA invites public comments on such schedules, as required by 44 U.S.C. 3303a(a).

DATES: Requests for copies must be received in writing on or before August 14, 1989. Once the appraisal of the records is completed, NARA will send a copy of the schedule. The requester will be given 30 days to submit comments.

ADDRESSES: Address requests for single copies of schedules identified in this notice to the Records Appraisal and Disposition Division (NIR), National Archives and Records Administration, Washington, DC 20408. Requesters must cite the control number assigned to each schedule when requesting a copy. The control number appears in parentheses immediately after the name of the requesting agency.

SUPPLEMENTARY INFORMATION: Each year U.S. Government agencies create billions of records on paper, film, magnetic tape, and other media. In order to control this accumulation, agency records managers prepare records schedules specifying when the agency no longer needs the records and what happens to the records after this period. Some schedules are comprehensive and cover all the records of an agency or one of its major subdivisions. These comprehensive schedules provide for the eventual transfer to the National Archives of historically valuable records and authorize the disposal of all other records. Most schedules, however, cover records of only one office or program or a few series of records, and many are updates of previously approved schedules. Such schedules also may include records that are designated for permanent retention.

Destruction of records requires the approval of the Archivist of the United States. This approval is granted after a thorough study of the records that takes into account their administrative use by the agency of origin, the rights and interests of the Government and of private persons directly affected by the Government's activities, and historical or other value.

This public notice identifies the Federal agencies and their subdivisions

requesting disposition authority, includes the control number assigned to each schedule, and briefly describes the records proposed for disposal. The records schedule contains additional information about the records and their disposition. Further information about the disposition process will be furnished to each requester.

Schedules Pending

1. Defense Contract Audit Agency (N1–372–89–1). Records relating to implementation of the Drug-Free Federal Workplace Program.

2. Defense Intelligence Agency (N1–373–89–6). Routine administrative support and logistics/engineering records (permanent records retained elsewhere).

3. Agency for International Development, USAID/Jamaica (N1–286–89–2). Reduced retention period for administrative records which sustained extensive hurricane damage.

4. Department of Education (N1–12–89–2). Routine administrative records of the former Office of the Assistant Secretary for Education, Department of Health, Education, and Welfare.

5. Federal Communications Commission, Common Carrier Bureau (N1–173–89–2). Cellular Radio Service Applications.

6. Department of Health and Human Services, Public Health Service (N1–90–89–3). General accounting ledger created by the U.S. Interdepartmental Social Hygience Board.

7. Department of Justice, Antitrust Division (N1–60–89–8). Records relating to requests that this Department participate in private antitrust suits as *amicus curiae.*

8. Department of Justice, Federal Bureau of Investigation (N1–65–89–5). Documentation whose destruction has been mandated by court order and whose continued maintenance may conflict with the Privacy Act.

9. Department of Justice, Federal Bureau of Investigation (N1–65–89–6). Documentation containing personal information whose destruction has been requested under the Privacy Act of 1974 by the subject of the files.

10. Department of Justice, Department of Foreign Claims Settlement Commission (N1–299–89–3). Facilitative correspondence of the China and Cuba Claims Programs.

11. National Archives and Records Administration, Office of Records Administration (N1–GRS–89–3). Revisions to General Records Schedules 20 and 23, covering printouts from disposable master files and data bases.

12. National Security Agency (N1–457–89–10). This NSA schedule is classified in the interest of national security pursuant to Executive Order 12356 and is further exempt from public disclosure pursuant to the National Security Act of 1947, 50 U.S.C. 403(d)[3], and Pub. L. 86–36.

13. Department of Transportation, United States Coast Guard (N1–26–89–1). Routine automated quarterly military justice work files (permanent information maintained elsewhere).

14. Department of Transportation, Federal Highway Administration, (N1–406–89–2). Copies of resolutions and routine administrative materials relating to the hearings held by the National Advisory Committee on Outdoor Advertising and Motorist Information.

15. Department of the Treasury, Bureau of Alcohol, Tobacco and Firearms, Office of Law Enforcement, headquarters and subordinate field offices (N1–436–88–4). Quarterly certification files and time and activity summary files relating to administratively uncontrollable overtime.

16. U.S. District Courts (N1–21–89–1). Reduction in retention period for disposable bankruptcy case files retired to Federal records centers before 1984.

Dated: June 22, 1989.

Don W. Wilson,

Archivist of the United States.

[FR Doc. 89–15329 Filed 6–28–89; 8:45 am]

BILLING CODE 7515–01–M

NATIONAL SCIENCE FOUNDATION

Meeting

The National Science Foundation announces the following meeting:

Name: Advisory Review Panel for Engineering Research Centers.

Date and Time: July 19, 20, and 21, 1989.

Place: Ramada Renaissance Hotel, 1143 New Hampshire Avenue NW., Washington, DC 20037.

Type of Meeting: Closed.

Contact Person: Marshall M. Lih, Division Director, Engineering Centers Division, National Science Foundation, 1800 G Street NW., Room 1121, Washington, DC 20037.

Purpose of Meeting: Proposal Review.

Agenda: To review and evaluate Engineering Research Center proposals requesting NSF support to establish a center to develop fundamental knowledge in engineering fields that will enhance the international competitiveness of U.S. industry and prepare engineers to contribute through better engineering practice.

Reason for Closing: The proposals being reviewed include information of a proprietary or confidential nature, including technical information; financial data, such as salaries; and personal information concerning individuals associated with the proposals. These matters are within exemptions 4 and 6 of the Government in the Sunshine Act.

M. Rebecca Winkler,

Committee Management Officer.

June 26, 1989.

[FR Doc. 89–15360 Filed 6–28–89; 8:45 am]

BILLING CODE 7555–01–M

NUCLEAR REGULATORY COMMISSION

[Docket No. 50–261]

Carolina Power & Light CO., H.B. Robinson Steam Electric Plant, Unit No. 2; Issuance of Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. NPF–23 issued to the Carolina Power & Light Company, for operation of H.B. Robinson Steam Electric Plant, Unit No. 2 located in Darlington County, South Carolina.

Environmental Assessment

Identification of Proposed Action

The proposed amendment would revise the provisions in the Technical Specifications (TS) relating to the minimum inventory of diesel generator fuel oil to be stored onsite. The proposed TS also include provisions for surveillance requirements on testing of the diesel generator fuel oil inventory. The proposed action was requested by the licensee's application dated November 30, 1988, as supplemented by a letter May 5, 1989.

The Need for the Proposed Action

The proposed changes are needed to ensure that sufficient diesel generator fuel oil will be available onsite for one diesel generator to operate at full load for seven days. The proposed TS would increase the minimum fuel oil inventory and resolve the inconsistency between the TS and Section 8.3.1.1.5.1 of the updated Final Safety Analysis Report.

Environmental Impacts of the Proposed Action

The Commission has completed its evaluation of the proposed revisions to the TS. The proposed revisions would require that a minimum fuel oil inventory be stored onsite. The TS proposed also impose surveillance requirements on testing and sampling of the diesel fuel oil inventory.

The safety considerations associated with the TS requirement to store onsite an increased minimum diesel fuel oil

have been evaluated by the NRC staff. The staff has concluded that such changes would have no adverse effect on plant safety. The existing capacities of the Unit 2 diesel generator fuel oil storage tank (25,000 gallons) and the Unit 1 I–C turbine fuel oil storage tanks (95,000 gallons) exceed the minimum fuel oil inventory requirements of the proposed TS. The proposed TS change to maintain an increased minimum fuel oil inventory in those tank does not impact on the combustible loading for the H.B. Robinson Steam Electric Plant, Unit No. 2, fire hazard analysis, which took into consideration the full capacities of the fuel oil storage tanks. Therefore, the proposed change will have no adverse effect on the probability or the consequences of any accident. No changes are being made in the types or amounts of any radiological effluents that may be released offsite and there is no significant increase in the allowable individual or cumulative occupational radiation exposure.

The staff has evaluated the potential non-radiological impact of reactor operation because of the required diesel fuel oil inventory storage onsite. The diesel fuel oil will be stored in existing on-site storage tanks. The license routinely has maintained an on-site diesel fuel inventory in excess of that in the proposed TS. The proposed changes to the TS do not affect non-radiological plant effluents and have no other environmental impact.

Therefore, the Commission concludes that there is no significant environmental impact associated with the proposed amendment.

Alternative to the Proposed Action

Since the Commission concluded that there are no significant environmental effects that would result from the proposed action, any alternatives with equal or greater environmental impacts need not be evaluated.

The principal alternative would be to deny the requested amendment. This would not reduce environmental impacts of plant operation and could result in reduced time period for diesel generator availability.

Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the "Final Environmental Statement related to the operation of H.B. Robinson Nuclear Steam-Electric Plant Unit 2," dated April 1975.

Agencies and Persons Consulted

The NRC reviewed the licensee's request and did not consult other agencies or persons.

Finding of No Significant Impact

The Commission has determined not to prepare an environmental impact statement for the proposed license amendment.

Based upon his foregoing environmental assessment, we conclude that the proposed action will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see the application for amendment dated November 30, 1988, as supplemented by letter dated May 5, 1989, which are available for public inspection at the Commission's Public Document Room, 2120 L Street, NW., Washington, DC and at the Hartsville Memorial Library, Home and Fifth Avenues, Hartsville, South Carolina 29535.

Dated at Rockville, Maryland, this 21st day of June 1989.

For the Nuclear Regulatory Commission

Elinor G. Adensam,

Director, Project Directorate II–I, Division of Reactor Projects I/II, Office of Nuclear Reactor Regulation.

[FR Doc. 89–15405 Filed 6–28–89; 8:45 am]

BILLING CODE 7590–01–M

[Docket No. 50–213]

Connecticut Yankee Atomic Power Co., Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of schedular and permanent exemptions from the requirements of 10 CFR Part 50, Appendix J to the Connecticut Yankee Atomic Power Company (CYAPCO or the licensee) for the Haddam Neck Plant, located at the licensee's site in Middlesex County, Connecticut.

Environmental Assessment

Identification of the Proposed Action

The proposed action would grant schedular exemptions from 10 CFR Part 50, Appendix J for the requirements of Section III.A.6.(b), Type A test, Section III.D.2(a), Type B test, and Section III.D.3, Type C test. The proposed action is in accordance with the licensee's request for exemption dated April 26, 1989.

The Need for the Proposed Action

One of the conditions of all operating licenses for water-cooled power reactors, as specified in 10 CFR 50.54(o), is that primary reactor containments shall meet the containment leakage test requirements set forth in 10 CFR Part 50, Appendix J.

The licensee has proposed the requested exemptions because performing the Type A, B and C test as required by Appendix J would require a midcycle shutdown.

Environmental Impacts of the Proposed Action

The proposed exemption would postpone the Type A test approximately 6 months and the Type B and C test approximately 2 months. The NRC staff has reviewed this proposed exemption and concluded the extension of the test period for the Type A, B and C test will not compromise containment integrity. This conclusion is based, in general, on an aggressive program to limit Type C leakage, the unexpected delay in start-up from the last refueling, extending the refueling cycle length, and that the time for which the containment was actually exposed to normal plant operating environment is less than the recommended Type A, B and C test periods.

Thus, radiological releases will not differ from those determined previously and the proposed exemptions do not otherwise affect facility radiological effluent or occupational exposures. With regard to potential nonradiological impacts, the proposed exemptions do not affect plant nonradiological effluents and have no other environmental impact. Therefore, the Commission concludes there are no measurable radiological or nonradiological environmental impact associated with the proposed exemptions.

Alternatives to the Proposed Action

Since the Commission has concluded that is no measureable environmental impact associated with the proposed exemptions, any alternatives with equal or greater environmental impact need not be evaluated. The principal alternative to the schedular exemptions would be to deny the exemption requested. Such action would not enhance the protection of the environment and would result in unjustified costs for the licensee.

Alternative Use of Resources

This action does not involve the use of resources not considered previously in the Final Environmental Statement for Haddam Neck.

Agencies and Person Consulted

The NRC staff reviewed the licensee's request and did not consult other agencies or persons.

Finding of No Significant Impact

Based upon the environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed exemptions.

For further details with respect to this proposed action, see the licensee's letter dated April 26, 1989. This letter is available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC, and at the Russell Library, 123 Broad Street, Middletown, Connecticut 06547.

Dated at Rockville, Maryland this 23rd day of June, 1989.

For the Nuclear Regulatory Commission.

John F. Stolz,

Director, Project Directorate I–4, Division of Reactor Projects I/II, Office of Nuclear Reactor Regulation.

[FR Doc. 89–15406 Filed 6–28–89; 8:45 am]

BILLING CODE 7590–01–M

[Docket Nos. 50–282 and 50–306]

Northern States Power Co., Prairie Island Nuclear Generating Plant, Unit Nos. 1 and 2; Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendments to Facility Operating Licenses Nos. DPR–42 and DPR–60, issued to Northern States Power Company (licensee), for operation of the Prairie Island Nuclear Generating Plant, Units Nos. 1 and 2, located in Goodhue County, Minnesota.

Environmental Assessment

Identification of the Proposed Action

The proposed amendments would revise the license by adding the provisions allowing the transfer of by-product material to the Prairie Island Nuclear Generating Plant from other NSP job sites.

The proposed action is in accordance with the licensee's application for amendment dated October 24, 1988.

The Need for the Proposed Action

The proposed changes to the licenses are required in order to make more efficient use of special facilities for decontaminating equipment, cleaning protective clothing, and volume reduction of radioactive waste.

Environmental Impacts of the Proposed Action

The Commission has completed its evaluation of the proposed revisions to the licenses. The proposed revisions would allow the transfer of by-product materials to Prairie Island Nuclear Generating Plant from other NSP job sites. The proposed change would result in a dose to the general public that would be much less than the 0.2 man rem referenced in the Final Environmental Statements (FES) regarding the transportation of solid wastes. Collective doses of this magnitude are very unlikely to pose a significant impact on the quality of the human environment.

With regard to potential non-radiological impacts, the proposed change involves facilities located entirely within the restricted area as defined in 10 CFR Part 20, 10 CFR 51.31, and Regulatory Guide 8.8. It does not affect non-radiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant non-radiological environmental impacts associated with the proposed amendment.

The Notice of Consideration of Issuance of Amendment and Opportunity for Hearing in connection with this action was published in the **Federal Register** on March 7, 1989 (54 FR 9584). No request for hearing or petition for leave to intervene was filed following this notice.

Alternative to the Proposed Action

Since the Commission has concluded there are no significant environmental effects that would result from the proposed action, any alternative with equal or greater environmental impact need not be evaluated.

The principal alternative would be to deny the requested amendment. This would not reduce environmental impacts of plant operation and would result in reduced operation flexibility.

Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the Final Environmental Statements related to the Prairie Island Nuclear Generating Plant Unit Nos. 1 and 2 dated May 1973.

Agencies and Persons Contacted

The Commission's staff reviewed the licensee's request and did not consult other agencies or persons.

Finding of No Significant Impact

The Commission has determined not to prepare an environmental impact statement for the proposed license amendment.

Based upon the foregoing environmental assessment, we conclude that the proposed action will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see the application for amendment dated October 24, 1988, which is available for public inspection at the Commission's Public Document Room, 2120 L Street, NW., Washington, DC, and the Technology and Science Department, Minneapolis Public Library, 300 Nicollet Mall, Minneapolis, Minnesota 55401.

Dated at Rockville, Maryland this 23rd day of June 1989.

For the Nuclear Regulatory Commission.

Lawrence A. Yandell,

Acting Director, Project Directorate III–1, Division of Reactor Projects—III, IV, V & Special Projects, Office of Nuclear Reactor Regulation.

[FR Doc. 89–15407 Filed 6–28–89; 8:45 am]

BILLING CODE 7590–01–M

Advisory Committee on Reactor Safeguards; Meeting Agenda

In accordance with the purposes of sections 29 and 182b. of the Atomic Energy Act (42 U.S.C. 2039, 2232b), the Advisory Committee on Reactor Safeguards will hold a meeting on July 13–15, 1989 in Room P–110, 7920 Norfolk Avenue, Bethesda, Md. Notice of this meeting was published in the **Federal Register** on June 20, 1989.

Thursday, July 13, 1989, Room P–110, 7920 Norfolk Avenue, Bethesda, Md.

8:30 a.m.–8:45 a.m.: Comments by ACRS Chairman (Open)—The ACRS Chairman will report on items of current interest.

8:45 a.m.–12:00 Noon and 1:00 p.m.–2:00 p.m. Advanced Light-Water Reactors (Open)—The Committee will hear a report regarding proposed EPRI requirements for advanced LWRs.

2:00 p.m.–3:30 p.m.: USI A–40, Seismic Design Criteria (Open)—The Committee will review and comment on proposed resolution of USI A–40, Seismic Design Criteria-Short Term Program.

3:45–4:45 p.m.: Containment Performance Improvement Program (Open)—A briefing will be presented regarding the status of this program.

4:45–6:15 p.m.: Reactor Pressure Vessel Integrity (Open)—A briefing and discussion will be held regarding the

status of radiation damage to operating nuclear power plant reactor pressure vessels.

6:15–6:45 p.m.: Future ACRS Activities (Open)—The Committee will discuss anticipated subcommittee activities and items proposed for consideration by the full Committee.

Friday, July 14, 1989, Room P–110, 7920 Norfolk Avenue, Bethesda, Md.

8:30 a.m.–10:00 a.m.: Multiple System Responses Program (Open)—A briefing and discussion will be held regarding the status of this program.

10:15 a.m.–12:00 Noon: Fire Risk Scoping Study (Open)—The Committee will review and report regarding the staff's proposed plans to implement the recommendations resulting from the Fire Risk Scoping Study.

1:00 p.m.–3:00 p.m.: Comanche Peak Nuclear Station, Units 1 and 2 (Open)—The Committee will hear a briefing by the NRC staff regarding proposed issuance of an operating license for this facility.

3:15 p.m.–4:15 p.m.: Human Factors (Open)—A briefing and discussion will be held regarding the Chernobyl "spin-off" study.

4:15 p.m.–4:45 p.m.: Nuclear Power Plant Valve Performance (Open)—A briefing and discussion will be held regarding reliability of check valves in nuclear power plants.

4:45 p.m.–5:15 p.m.: ACRS Subcommittee Activities—A discussion will be held regarding the status of assigned subcommittee activities including consideration of the power level increase required for the Indian Point Nuclear Plant, Unit 2.

5:15 p.m.–5:30 p.m.: Appointment of ACRS Members (Open/Closed)—A discussion will be held regarding the qualifications and status of candidates proposed for appointment to the ACRS.

Portions of this session will be closed as required to discuss information the release of which would represent a clearly unwarranted invasion of personal privacy.

Saturday, July 15, 1989, Room P–110, 7920 Norfolk Avenue, Bethesda, Md.

8:30 a.m.–12:00 Noon: Preparation of ACRS Reports (Open)—Discuss proposed ACRS reports regarding items considered during this meeting.

1:00 p.m.–2:30 p.m: Miscellaneous (Open)—The Committee will complete discussion of items considered during this meeting.

Procedures for the conduct of and participation in ACRS meetings were published in the **Federal Register** on October 27, 1988 (53 FR 43487). In accordance with these procedures, oral or written statements may be presented by members of the public, recordings will be permitted only during those portions of the meeting when a transcript is being kept, and questions may be asked only by members of the Committee, its consultants, and Staff. Persons desiring to make oral statements should notify the ACRS Executive Director as far in advance as practicable so that appropriate arrangements can be made to allow the necessary time during the meeting for such statements. Use of still, motion picture and television cameras during this meeting may be limited to selected portions of the meeting as determined by the Chairman. Information regarding the time to be set aside for this purpose may be obtained by a prepaid telephone call to the ACRS Executive Director, Mr. Raymond F. Fraley, prior to the meeting. In view of the possibility that the schedule for ACRS meetings may be adjusted by the Chairman as necessary to facilitate the conduct of the meeting, persons planning to attend should check with the ACRS Executive Director if such rescheduling would result in major inconvenience.

I have determined in accordance with subsection 10(d) Pub. L. 92–463 that it is necessary to close portions of this meeting as noted above to discuss information the release of which would represent a clearly unwarranted invasion of personal privacy (5 U.S.C. 552b(c)(6)).

Further information regarding topics to be discussed, whether the meeting has been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted can be obtained by a prepaid telephone call to the ACRS Executive Director, Mr. Raymond F. Fraley (telephone 301/492–8049), between 8:15 a.m. and 5:00 p.m.

Date: June 23, 1989.

John C. Hoyle,

Advisory Committee Management Officer.

[FR Doc. 89–15306 Filed 6–28–89; 8:45 am]

BILLING CODE 7590–01–M

[Docket No. 50–348–CivP; 50–364–CivP; ASLBP No. 89–591–01–CivP]

Atomic Safety and Licensing Board; Alabama Power Co.; Joseph M. Farley Nuclear Plant (Units 1 and 2)

June 22, 1989.

Before Administrative Judges: John H. Frye, III, Chairman, Dr. James H. Carpenter, Dr. Walter H. Jordan.

On March 28, 1989, NRC Staff issued an Order Imposing Civil Monetary Penalty on Alabama Power Company (APCo). See 54 FR 13962, April 6, 1989. On June 1, APCo requested a hearing on the Order pursuant to 10 CFR 2.205, and on June 14, the Chief Administrative Judge of the Commission's Atomic Safety and Licensing Board Panel appointed this Board to conduct that hearing.

Please take notice that, pursuant to 10 CFR 2.205(e), a hearing in this matter will be held at a time and place to be designated. A prehearing conference will be held at 9:00 a.m., Friday, July 21, 1989, at the Hugo L. Black U.S. Courthouse, 1729 5th Avenue North, Birmingham, Alabama, in a courtroom to be designated.

It is so *Ordered*

For the Atomic Safety and Licensing Board.

John H. Frye III,

Chairman Administrative Judge.

[FR Doc. 89–15307 Filed 6–28–89; 8:45 am]

BILLING CODE 7590–01–M

[Docket No. 50–353]

Philadelphia Electric Co., Limerick Generating Station, Unit No. 2; Issuance of Facility Operating License

Notice is hereby given that the U.S. Nuclear Regulatory Commission (the Commission), has issued Facility Operating License No. NPF–83 to the Philadelphia Electric Company (the licensee), which authorizes operation of the Limerick Generating Station, Unit No. 2 (the facility), by Philadelphia Electric Company for fuel loading and precriticality testing in accordance with the provisions of the License, the Technical Specifications and the Environmental Protection Plan.

The Limerick Generating Station, Unit No. 2, is a boiling water nuclear reactor located on the licensee's site in Montgomery and Chester Counties, Pennsylvania on the banks of the Schuylkill River approximately 1.7 miles southeast of the city limits of Pottstown, Pennsylvania and 21 miles northwest of the city limits of Philadelphia, Pennsylvania.

The application for the license complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations. The Commission has made appropriate findings as required by the Act and the Commission's regulations in 10 CFR Chapter I, which are set forth in the License. Prior public notice of the overall action involving the proposed issuance of an operating license was published in the **Federal Register** on August 21, 1981 (46 FR 42557–42558).

The Commission has determined that the issuance of this license will not result in any environmental impacts other than those evaluated in the Final Environmental Statement since the activity authorized by the license is encompassed by the overall action evaluated in the Final Environmental Statement.

Pursuant to 10 CFR 51.32, the Commission has determined that the issuance of the exemption included in this license will have no significant impact on the environment (54 FR 15851) and (54 FR 24607).

For further details in respect to this action, see (1) Facility Operating License NPF–83 complete with Technical Specifications and the Environmental Protection Plan; (2) the final report of the Advisory Committee on Reactor Safeguards, dated May 11, 1989; (3) the Commission's Safety Evaluation Report, dated August 1983 (NUREG–0991), Supplements 1 through 8; (4) the Final Safety Analysis Report and Amendments thereto; (5) the Environmental Report and supplements thereto; (6) the Final Environmental Statement dated April 1984 (NUREG–0974); (7) the Atomic Safety and Licensing Board Decision, LBP–85–25, dated July 22, 1985; and (8) the Commission's Order dated June 8, 1989.

These items are available for public inspection at the Commission's Public Document Room, 2120 L Street, NW., Washington, DC 20555, and at the Pottstown Public Library, 500 High Street, Pottstown, Pennsylvania 19464. A copy of Facility Operating License NPF–83 may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Director, Division of Reactor Projects I/II. Copies of the Safety Evaluation Report and its Supplements 1 through 8 (NUREG–0991) and the Final Environmental Statement (NUREG–0974) may be purchased through the U.S. Government Printing Office by calling (202) 275–2060 or by writing to the U.S. Government Printing Office, P.O. Box 37082, Washington, DC 20013–7082. Copies may also be purchased from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161.

Dated at Rockville, Maryland, this 22nd day of June 1989.

For the Nuclear Regulatory Commission.

Walter R. Butler,

Director, Project Directorate I–2, Division of Reactor Projects I/II, Office of Nuclear Reactor Regulation.

[FR Doc. 89–15408 Filed 6–28–89; 8:45 am]

BILLING CODE 7590–01–M

PENSION BENEFIT GUARANTY CORPORATION

Request for Extension of Approval by OMB of a Collection of Information: Interim Procedures for Single-Employer Plan Terminations, Forms 444, 445, and 5310

AGENCY: Pension Benefit Guaranty Corporation.

ACTION: Notice of request for OMB extension of approval.

SUMMARY: The Pension Benefit Guaranty Corporation ("PBGC") has requested approval by the Office of Management and Budget ("OMB") for an extension of the expiration date of a currently approved collection of information (1212–0036) covering Forms 444, 445, and 5310, without any change in the substance or in the method of collection. The collection of information covers the information that must be submitted to the PBGC to effect either a standard or distress termination under PBGC's interim termination procedures issued pursuant to the Single-Employer Pension Plan Amendments Act of 1986, as modified by the Omnibus Budget Reconciliation Act of 1987. The effect of this notice is to advise the public that PBGC has requested OMB approval for a short extension of this collection of information through December 31, 1989, by which time PBGC will have issued a new set of termination forms.

ADDRESSES: All written comments (at least three copies) should be addressed to: Office of Management and Budget, Paperwork Reduction Project (1212–0036), Washington, DC 20503. The request for extension will be available for public inspection at the PBGC Communication and Public Affairs Department, Suite 7100, 2020 K Street, NW., Washington, DC 20006, between the hours of 9:00 a.m. and 4:00 p.m.

FOR FURTHER INFORMATION CONTACT: J. Ronald Goldstein, Senior Counsel, Office of General Counsel (22500), 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).

SUPPLEMENTARY INFORMATION: The Single-Employer Pension Plan Amendments Act of 1986 (SEPPAA) imposed new restrictions on and rules governing the voluntary termination of single-employer plans. Under SEPPAA, plans may voluntarily terminate only in a standard or distress termination, and then, only if several statutory prerequisites are satisfied. The law also includes several detailed requirements mandating the submission to PBGC of the information necessary for it to determine whether the requirements for a standard or distress termination have been met. On April 10, 1986 (at 51 FR 12491), the PBGC issued a Notice of Interim Procedures providing plan administrators with detailed guidance on complying with these statutory notice requirements.

The Omnibus Budget Reconciliation Act of 1987 modified some of the substantive requirements for voluntary plan terminations and, as a consequence, also modified the various notice requirements. On January 22, 1988 (53 FR 1904), the PBGC published a notice advising plan administrators of these changes.

The information submitted to the PBGC is used by it to make the several statutorily mandated determinations it must make relative to a proposed termination. For both standard and distress terminations, the PBGC must determine whether the statutory requirements therefor have been satisfied. For distress terminations, the PBGC must also determine the level of plan funding.

These notices are filed by the plan administrator of a terminating plan. As a rule, plan termination is only initiated once, and therefore these notices are typically filed only once per plan. Moreover, the notice requirements themselves constitute a relatively minor burden on plan administrators because virtually all of the information/data that must be submitted is information or data that must be collected or created in order to carry out the plan termination. The PBGC, therefore, estimates that the aggregate annual burden imposed on plan administrators in filing these notices is 4,712 hours. This reflects an assumption, for fiscal year 1989, of 9,000 standard terminations and 100 distress terminations.

Issued at Washington, DC, this 23rd day of June, 1989.

Kathleen P. Utgoff,

Executive Director, Pension Benefit Guaranty Corporation.

[FR Doc. 89–15342 Filed 6–28–89; 8:45 am]

BILLING CODE 7708–01–M

POSTAL RATE COMMISSION

[Docket No. A89–9; Order No. 828]

Elsmere, Nebraska 69135, (Malcolm S. Smith, Petitioner); Notice and Order Accepting Appeal and Establishing Procedural Schedule

Issued June 21, 1989.

Before Commissioners: Janet D. Steiger, Chairman; Patti Birge Tyson, Vice-Chairman;

John W. Crutcher; Henry R. Folsom; W. H. "Trey" LeBlanc III

Docket Number: A89–9.
Name of Affected Post Office: Elsmere, Nebraska 69135.
Name(s) of Petitioner(s): Malcolm S. Smith.
Type of Determination: Closing.
Date of Filing of Appeal Papers: June 19, 1989.
Categories of Issues Apparently Raised:

1. Effect on postal service (39 U.S.C. 404(b)(2)(C)).
2. Effect on the community (39 U.S.C. 404(b)(2)(A)).
3. Economic savings (39 U.S.C. 404(b)(2)(D)).

Other legal issues may be disclosed by the record when it is filed; or, conversely, the determination made by the Postal Service may be found to dispose of one or more of these issues.

In the interest of expedition, in light of the 120-day decision schedule (39 U.S.C. 404(b)(5)), the Commission reserves the right to request of the Postal Service memoranda of law on any appropriate issue. If requested, such memoranda will be due 20 days from the issuance of the request; a copy shall be served on the petitioner. In a brief or motion to dismiss or affirm, the Postal Service may incorporate by reference any such memoranda previously filed.

The Commission Orders

(A) The record in this appeal shall be filed on or before July 5, 1989.

(B) The Secretary shall publish this Notice and Order and Procedural Schedule in the **Federal Register.**

By the Commission.
Charles L. Clapp,
Secretary.

Appendix

Docket No. A89–9
Elsmere, Nebraska 69135

June 19, 1989	Filing of Petition.
June 21, 1989	Notice and Order of Filing of Appeal.
July 14, 1989	Last day of filing of petitions to intervene (*see* 39 CFR 3001.111(b)).
July 24, 1989	Petitioner's Participant Statement or Initial Brief (*see* 39 CFR 3001/115 (a) and (b)).
August 14, 1989	Postal Service Answering Brief (*see* 39 CFR 3001.115(c)).
August 29, 1989	Petitioner's Reply Brief should Petitioner choose to file one (*see* 39 CFR 3001.115(d)).
September 5, 1989	Deadline for motions by any party requesting oral argument. The Commission will schedule oral argument only when it is a necessary addition to the written filings (*see* 39 CFR 3001.116).
October 17, 1989	Expiration of 120-day decisional schedule (*see* 39 U.S.C. 404(b)(5)).

[FR Doc. 89–15402 Filed 6–28–89; 8:45 am]
BILLING CODE 7715–01–M

[Docket No. A89–8; Order No. 827]

Lafontaine, Kansas 66750 (Mary Compton, Petitioner); Notice and Order Accepting Appeal and Establishing Procedural Schedule

Issued June 21, 1989.

Before Commissioners: Janet D. Steiger, Chairman; Patti Birge Tyson, Vice-Chairman; John W. Crutcher; Henry R. Folsom; W. H. "Trey" LeBlanc III.

Docket Number: A89–8.
Name of Affected Post Office: Lafontaine, Kansas.
Name(s) of Petitioner(s): Mary Compton.
Type of Determination: Closing.
Date of Filing of Appeal Papers: June 9, 1989.
Categories of Issues Apparently Raised:

1. Whether the closing is observant of procedure required by law (39 U.S.C. 404(b)(5)(B)).

Other legal issues may be disclosed by the record when it is filed; or, conversely, the determination made by the Postal Service may be found to dispose of one or more of these issues.

In the interest of expedition, in light of the 120-day decision schedule (39 U.S.C. 404(b)(5)), the Commission reserves the right to request of the Postal Service memoranda of law on any appropriate issue. If requested, such memoranda will be due 20 days from the issuance of the request; a copy shall be served on the petitioner. In a brief or motion to dismiss or affirm, the Postal Service may incorporate by reference any such memoranda previously filed.

The Commission Orders

(A) The record in this appeal shall be filed on or before June 26, 1989.

(B) The Secretary shall publish this Notice and Order and Procedural Schedule in the Federal Register.

By the Commission.
Charles L. Clapp,
Secretary.

Appendix

Docket No. A89–8
Lafontaine, Kansas 66750
June 9, 1989; Filing of Petition.
June 21, 1989; Notice and Order of Filing of Appeal.
July 5, 1989; Last day of filing of petitions to intervene (*see* 39 CFR 3001.111(b)).
July 14, 1989; Petitioners' Participant Statement or Initial Brief (*see* 39 CFR 3001.115(a) and (b)).
August 3, 1989; Postal Service Answering Brief (*see* 39 CFR 3001.115(c)).
August 18, 1989; Petitioners' Reply Brief should Petitioners choose to file one (*see* 39 CFR 3001.115(d)).
August 25, 1989; Deadline for motions by any party requesting oral argument. The Commission will schedule oral argument only when it is a necessary addition to the written filings (*see* 39 CFR 3001.116).
October 8, 1989; Expiration of 120-day decisional schedule (*see* 39 U.S.C. 404(b)(5)).

[FR Doc. 89–15403 Filed 6–28–89; 8:45 am]
BILLING CODE 7715–01–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:* Pay Rate Reports.
(2) *Form(s) submitted:* UI–1e, UI–1g.
(3) *OMB Number:* 3220–0097.
(4) *Expiration date of current OMB clearance:* 8–31–89.
(5) *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.

(6) *Frequency of response:* On occasion.

(7) *Respondents:* Individuals or households, Businesses or other for-profit.

(8) *Estimated annual number of respondents:* ————.

(9) *Total annual responses:* 1,950.

(10) *Average time per response:* .141 hours.

(11) *Total annual reporting hours:* 275.

(12) *Collection description:* Under the RUIA, the daily benefit rate for unemployment and sickness benefits depends on the employee's last daily date of pay. The reports obtain information from the employee and verification from the employer of the claimed rate of pay for use in determining whether an increase in the benefit rate is due.

Additional Information or Comments

Copies of the proposed forms and supporting documents can be obtained from Ronald Ritter, the agency clearance officer (312–751–4692). Comments regarding the information collection should be addressed to Ronald Ritter, Railroad Retirement Board, 844 Rush Street, Chicago, Illinois 60611 and the OMB reviewer, Justin Kopca (202–395–7316), Office of Management and Budget, Room 3002, New Executive Office Building, Washington, DC 20503.

Ronald Ritter,

Acting Director of Information Resources Management.

[FR Doc. 89–15390 Filed 6–28–89; 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 Unemployment Benefits and Employment Service.

(2) *Form(s) submitted:* UI–1(ES–1), UI–3.

(3) *OMB Number:* 3220–0022.

(4) *Expiration date of current OMB clearance:* 06–30–90.

(5) *Type of Request:* Revision of a currently approved collection.

(6) *Frequency of response:* On occasion.

(7) *Respondents:* Individuals or households.

(8) *Estimated annual number of respondents:* 55,000.

(9) *Total annual responses:* 405,000.

(10) *Average time per response:* .0901234 hours.

(11) *Total annual reporting hours:* 36,500.

(12) *Collection description:* Under section 2 of the RUIA, unemployment benefits are provided for qualified railroad workers. The collection obtains from railroad employees who apply for and claim unemployment benefits, 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 Ronald Ritter, the agency clearance officer (312–751–4692). Comments regarding the information collection should be addressed to Ronald Ritter, Railroad Retirement Board, 844 Rush Street, Chicago, Illinois 60611 and the OMB reviewer, Justin Kopca (202–395–7316), Office of Management and Budget, Room 3002, New Executive Office Building, Washington, DC 20503.

Ronald Ritter,

Acting Director of Information Resources Management.

[FR Doc. 89–15391 Filed 6–28–89; 8:45 am]

BILLING CODE 7905–01–M

SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–26957; File No. SR–PSE–89–16]

Pacific Stock Exchange; Pilot Program; Proposed Rule Change

Proposed Rule Change By The Pacific Stock Exchange Incorporated Relating to a one-year pilot program which would require a trading crowd to provide a depth of ten contracts on non-broker/dealer customer orders, at the disseminated market quote.

Comments requested with 21 days after the date of this publication.

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934, 15 U.S.C. 78s(b)(1), notice is hereby given that on June 7, 1989, the Pacific Stock Exchange Incorporated ("PSE" or the "Exchange") filed with the Securities and Exchange Commission the proposed rule change as described in Items I, II and III below, which Items have been prepared by the self-regulatory organization. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The Pacific Stock Exchange Incorporated ("PSE" or the "Exchange"), proposes to add Rule VI, section 87, to create a one-year pilot program which would require trading crowds to provide a depth of ten contracts on non-broker/dealer customer orders, at the disseminated market quote. Additionally, the PSE proposes to amend Rule VI, Sections 1, 39, 62, and 79, to supplement and reflect the proposed Rule VI, Section 87 (Brackets indicate language to be deleted, italics indicates new language.)

Rule VI, Section 87

Trading Crowd Firm Disseminated Market Quotes

Sec. 87 Each trading crowd is required to provide a depth of ten (10) option contracts for all non-broker/dealer customer orders, at the bid/offer which is displayed as the disseminated market quote at the time such orders are announced or displayed at the trading post designated for trading the subject option class.

(a) The member/member organization entering an order for execution pursuant to this Rule is responsible for ascertaining the account origin of such order and for providing notation on the subject order ticket of such order's account origin.

(b) The Rule shall be in effect at all times other than during a trading rotation at the subject trading post and a reasonable period of time immediately following a trading rotation, not to exceed five (5) minutes.

(c) Should the executing Floor Broker attempt to split the disseminated market quotes, or upon the declaration of a "fast market" pursuant to Rule VI, Section 38, the trading crowd shall be exempt from the provisions of this Rule.

(d) Should the response of members present at a trading post be insufficient to provide a depth of ten (10) contracts, the Order Book Official shall allocate among the Market Makers present at the trading post the balance of contracts necessary to provide an execution on ten contracts. The Order Book staff shall record and maintain lists of the individual Market Makers who were allocated contracts, and consider such allocations when similar occasions arise within the same trading session. The Order Book Official shall seek, as reasonably as possible, to equalize such allocations.

(e) The enforcement of this Rule, and the expiration months and strike prices

subject to the provisions of this Rule shall be determined by the Options Floor Trading Committee. Two Options Floor Officials may grant exemptions to the provisions of this Rule for either a class or series within a class of option contracts if, in their determination, the individual situation warrants such action, or upon their determination that an error occurred in the dissemination of a market quote.

(f) This Rule is effective on (approval by Commission) and shall continue in effect to and including (date one year after approval). Any extension of the effectiveness of this Rule shall require further approval by the Securities and Exchange Commission.
Commentary:

.01 If a bid/offer displayed as a disseminated market quote is on behalf of an order represented by a Floor Broker or the Order Book Official and is for less than ten (10) contracts, the trading crowd is obligated to buy/sell the balance of contracts necessary to provide a depth of ten (10) contracts at the disseminated bid/offer.

.02 Should a Floor Broker cause a bid/offer to be disseminated and the order is subsequently executed or cancelled, the Floor Broker shall be responsible for causing the removal of such disseminated bid/offer. Failure to remove such bid/offer may result in the Floor Broker being held responsible for providing a depth of ten (10) contracts. A Market Maker who has caused a bid/offer to be disseminated is equally responsible for causing the removal of such bid/offer upon leaving a trading post.

.03 Market Maker orders for less than ten (10) contracts that are represented at a trading post by a Floor Broker shall not be disseminated. Floor Brokers shall remain obligated to use due diligence in the representation of orders pursuant to Rule VI, Section 62(a).

.04 Options Floor Officials, pursuant to Rule VI, Section 39, and Commentary .05 thereunder, may issue Floor Citations for violations of this Section and its Commentary.

Rule VI, Section 1

Sec. 1 No change.

(a) through (a)(28) No change.

(29) The term "trading crowd" means all Market Makers who hold an appointment in the option classes at the trading post where such trading crowd is located and all Market Makers who regularly effect transactions in person for their Market Maker accounts at that trading post, but generally will consist of the individuals present at the trading post.

Rule VI, Section 39

Admission to and Conduct on the Trading Floor

Sec. 39 (a) and (b) No change.
Commentary:

.01 through .04 No change.

.05 Two Options Floor Officials may nullify a transaction or adjust its terms if they determine the transaction to have been in violation of any of the following: (i) Rule VI, Section 47 (Manner of Bidding and Offering); (ii) Rule VI, Section 49 (Priority of Bids and Offers); (iii) Rule VI, Section 50 (Transactions Outside the Order Book Official's Last Quoted Range); (iv) Rule VI, Section 51 (Priority on Split Price Transactions); and (v) Rule VI, Section 87 (Trading Crowd Firm Disseminated Market Quotes).

Rule VI, Section 62

Responsibilities of Floor Brokers

Sec. 62 (a) through (c) No change.
Commentary:

.01 through .03 No change.

.04 A Floor Broker's use of due diligence in handling an order is applicable to the provisions of Rule VI, Section 87, in that it includes taking the necessary measures to ensure the proper execution of an order as it pertains to the executable quantity for a trading crowd's firm disseminated bid/offer. The failure of a Floor Broker to remove a bid/offer that he has caused to be disseminated, upon his leaving the trading post shall constitute a violation of this Section.

.05 A Floor Brokers's use of due diligence in handling an order shall include the immediate and continuous representation of market and marketable orders at the trading post where the option class represented by his order is designated for trading.

Rule VI, Section 79

Obligations of Market Makers
Sec. 79 No change.
Commentary:

.01 through .07 No change.

.08 A Market Maker may be compelled to buy/sell a specified quantity of option contracts at the disseminated bid/offer pursuant to his obligations under Rule VI, Section 87.

II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for the Proposed Rule Change

In its filing with the Commission, the self-regulatory organization included statements concerning the purpose of and basis for the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The self-regulatory organization has prepared summaries, set forth in sections (A), (B) and (C) below, of the most significant aspects of such statements.

(A) Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for the Proposed Rule Change

The Exchange propses that Rule VI, Section 87, which would require that a trading crowd provide a depth of ten contracts on non-broker/dealer customer orders, at the disseminated market quote, be instituted as a one-year pilot program. A trading crowd would be exempt from the requirement immediately following a trading rotation, so as to provide an opportunity for quotes to be updated that may have become obsolete during the rotation. A trading crowd would also be exempt from the requirement in the event a floor broker attempts to split the disseminated market quotes, or upon the declaration of a "fast market."

Enforcement of the pilot would be the responsibility of the Options Floor Trading Committee ("OFTC"). The Exchange proposes to amend its Minor Rule Violation Procedures (SR–PSE–85–24) to include the refusal by a market maker to accept an allocation of contracts by an Order Book Official pursuant to the proposed Rule VI, Section 87(d). Included as Exhibit 1 of this filing is a proposed addition to the Floor Citation Fine Schedule. (SR–PSE–89–08, which was filed with the Commission by the Exchange on May 11, 1989, also includes an amendment to the Floor Citation Fine Schedule.)

The determination of expiration months and strike prices to be included would also be the responsibility of the OFTC. The OFTC has determined to include, initially, only options of the near-term expiration month, which are at, just in, and just out-of-the-money.

For the purpose of enforcing the proposed Rule VI, Section 87, the Exchange proposes to add to Rule VI, Section 1, a definition of the term "trading crowd."

The Exchange proposes add Commentary .05 to Rule VI, Section 39, to codify instances when two Options Floor Officials may nullify or adjust the terms of a transaction which they believe to be in violation of Exchange Rules, including the proposed Rule VI, Section 87.

The Exchange proposes the addition of Commentary .04 to Rule VI, Section 62, for the purpose of ensuring that floor brokers take the necessary measures to obtain an execution on a minimum of

ten contracts, when appropriate, pursuant to the proposed Rule VI, Section 87. The proposed Rule VI, Section 62, Commentary .05, specifically sets forth that a floor broker must immediately and continuously represent market and marketable orders, which is currently Exchange policy.

The Exchange proposes to add Commentary .08 to Rule VI, Section 79, to specify that a market maker's obligations may include the buying or selling of a specified quantity of option contracts at the disseminated bid or offer.

The Exchange believes that the proposed rule change will protect investors and promote the public interest by assuring a minimum ten contract execution of public customer orders at the displayed bid or offer.

The proposed rule changes are consistent with Section 6(b)(5) of the 1934 Act, which provides, in pertinent part, that the rules of the Exchange be designed to promote just and equitable principles of trade and to protect the investing public.

(B) Self-Regulatory Organization's Statement on Burden on Competition

The Exchange does not believe that the proposed rule change imposes a burden on competition.

(C) Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants or Others

Written comments on the proposed rule change were neither solicited nor received.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 35 days of the date of the publication of this notice in the **Federal Register** or within such longer period: (i) As the Commission may designate up to 90 days of such date if it finds such longer period to be appropriate and publishes its reasons for so finding; or (ii) as to which the self-regulatory organization consents, the Commission will:

(A) By order approve such proposed rule change; or

(B) Institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing. Persons making written submissions should file six copies thereof with the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549. Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying in the Commission's Public Reference Section, 450 Fifth Street, NW., Washington, DC. Copies of such filing will also be available for inspection and copying at the principal office of the above-mentioned, self-regulatory organization. All submissions should refer to the file number in the caption above and should be submitted by July 20, 1989.

For the Commission by the Division of Market Regulation, pursuant to delegated authority.

Jonathan G. Katz,

Secretary.

June 22, 1989.

Exhibit 1—List of Exchange Rule Violations and Fines Applicable Therein Pursuant to "Minor Rule Violation" Procedures

1. through 14. No change.

15. Market Maker failed to accept an allocation of option contracts made by an Order Book Official (Rule VI, Section 87). Monetary fine based upon, but not less than, premium of refused contracts.

[FR Doc. 89-15330 Filed 6-28-89; 8:45 am]

BILLING CODE 8010-01-M

[Rel. No. IC-17026; 812-7099]

Ballard, Biehl and Kaiser International Fund, Inc.; Application

June 22, 1989.

AGENCY: Securities and Exchange Commission ("SEC").

ACTION: Notice of application for exemption under the Investment Company Act of 1940 ("1940 Act").

Applicants: Ballard, Biehl & Kaiser International Fund, Inc.

Relevant 1940 Act Sections: Retroactive Exemption requested under section 6(c) from sections 18(d), 18(f), 22(c) and 22(d) and Rule 22c-1 thereunder.

Summary of Application: Applicants seek retroactive relief exempting Applicant from the provisions of sections 18(d), 18(f), 22(c) and 22(d) and Rule 22c-1 thereunder in connection with (1) the sale of Applicant's shares beyond the amount authorized by its Certificate of Incorporation, (2) the subsequent rescission offer to holders of such shares, and (3) the issuance of duly authorized shares to replace the overissued shares under the 1940 Act.

Filing Date: The application was filed on August 18, 1988 and amended on March 2, 1989 and May 18, 1989.

Hearing or Notification of Hearing: An order granting the application will be issued unless the SEC orders a hearing. Interested persons may request a hearing by writing to the SEC's Secretary and serving Applicant with a copy of the request, personally or by mail. Hearing requests should be received by the SEC by 5:30 p.m. on July 17, 1989, and should be accompanied by proof of service on the Applicant, in the form of an affidavit or, for lawyers, a certificate of service. Hearing requests should state the nature of the writer's interest, the reason for the request, and the issues contested. Persons who wish to be notified of a hearing may request notification by writing to the SEC's Secretary.

ADDRESSES: Secretary, SEC, 450 5th Street, NW., Washington, DC 20549. Applicant, 2755 Campus Drive, San Mateo, California 94403.

FOR FURTHER INFORMATION CONTACT: Barbara Chretien-Dar, Staff Attorney at (202) 272-3022 or Stephanie M. Monaco, Branch Chief, at (202) 272-3030.

Supplementary Information: Following is a summary of the application; the complete application is available for a fee from either the SEC's Public Reference Branch in person or the SEC's commercial copier who can be contacted at (800) 231-3282 (in Maryland (301) 258-4300).

Applicant's Representations

1. Applicant, a Delaware Corporation, is a diversified open-end, management investment company registered under the 1940 Act. Ballard, Biehl & Kaiser, Inc. ("BB&K") is Applicant's sponsor.

2. On November 23, 1987, the Applicant's Board of Directors declared a dividend sufficient to distribute $42,614,986 in capital gains and net investment income, payable November 25, 1987. As of November 24, 1987, the Fund had issued and outstanding approximately 3,229,452 shares of authorized Common Stock. Applicant's Certificate of Incorporation authorized 10,000,000 shares of Common Stock. The Applicant was required by certain provisions of the Internal Revenue Code of 1986, as amended, and by distribution policies set forth in its Prospectus, to distribute such gains and investment income to its stockholders by December

31, 1987. All but six of the Applicant's 390 stockholders of record had instructed the Applicant to reinvest any dividends in shares of Common Stock. As a result, when such dividends were reinvested, the Applicant was required to issue 8,246,760 shares of Common Stock. The dividend reinvestments resulted in an overissuance on November 27, 1987 of approximately 1,476,000 shares of Common Stock at $5.15 per share. On December 2, 1987, Applicant issued approximately 3,800 additional shares at $5.12 per share (collectively, the "Overissue Shares"). From November 27, 1987 to December 31, 1987, approximately 2,650,000 shares of authorized Common Stock were redeemed by the Applicant's stockholders. As a result of these redemptions, the number of outstanding shares of Common Stock dropped below 10,000,000 to approximately 8,859,000 shares as of December 31, 1987, and a significant number of authorized shares became available for valid issuance. Consequently, only the approximately 1,479,800 shares issued on November 27 and December 2, 1987 constituted Overissue Shares. Approxinately 198,000 Overissue Shares were redeemed prior to discovery of the overissuance at the regular redemption price, which was in all cases in excess of the purchase price of the Overissue Shares, plus interest. When management of Applicant became aware of the overissuance on May 6, 1988, it discontinued further sales of Common Stock.

3. On June 3, 1988, Applicant mailed a Proxy Statement to all the stockholders of record as of May 13, 1988. The Proxy Statement was furnished in connection with the solicitation of stockholders to approve an amendment to the Applicant's Certificate of Incorporation to increase the number of authorized shares of Common Stock from 10,000,000 to 100,000,000 shares. The Proxy Statement disclosed that stockholders would be offered the opportunity to rescind purchases of Overissue Shares on the basis described below, and that, if the amendment were approved, an appropriate number of duly authorized shares would be issued to the holders of the Overissue Shares who had elected to receive such shares instead of rescinding their purchases. The remaining duly authorized shares would be available for future issuance. The Overissue Shares of holders who failed to elect to receive either the Rescission Price (as defined below) or the duly authorized shares would be retired at the Rescission Price. If the stockholders did not approve the Amendment, all of the Overissue Shares then outstanding would be retired at the Rescission Price.

4. Applicant commenced a Rescission Offer on June 6, 1988, until June 30, 1988, with respect to the outstanding Overissue Shares. Pursuant to the Rescission Offer, a holder of Overissue Shares could elect either (a) to receive duly authorized shares in lieu of his Overissue Shares, or (b) to rescind the purchase of the Overissue Shares and receive cash. Investors electing cash were to receive the higher of (a) the purchase price for the Overissue Shares, plus interest, or (b) the regular redemption price of authorized shares of Common Stock next calculated after the acceptance of the offer was received (the "Rescission Price"). Stockholders failing to elect would be deemed to have elected to receive cash. To the extent the purchase price for the Overissue Shares, plus interest, exceeded the regular redemption price, BB&K agreed to pay the difference in accordance with the terms of an agreement between Applicant and BB&K. Pursuant to such agreement, BB&K has agreed to pay any losses, claims and expenses which the Applicant may incur in connection with the overissuance of Common Stock, including the costs associated with the Rescission Offer.

5. Applicant's stockholders approved the amendment to increase the number of authorized shares by written consent on June 13, 1988, and the amendment was filed with the Delaware Secretary of State on June 16, 1988. When the Rescission Offer expired on June 30, 1988, all of the holders of the Overissue Shares had elected to receive duly authorized shares. Consequently, (a) none of the holders of the Overissue Shares received cash for their Overissue Shares, (b) BB&K was not required to make a cash payment reflecting any difference between the regular redemption price of the shares and the purchase price of the Overissue Shares, plus interest, and (c) all holders of outstanding Overissue Shares were issued duly authorized shares. Applicant's share price as of June 30, 1988 was $5.50.

6. Applicant seeks retroactive exemptive relief from the provisions of sections 18(d), 18(f), 22(c), 22(d) of the 1940 Act and Rule 22c–1 thereunder. Applicant believes that while the sale of the Overissue Shares and the Rescission Offer may have resulted in technical violations of these provisions, the sale of the Overissue Shares and the Rescission Offer did not contravene the policies behind them.

7. It could be argued that the right of holders of the Overissue Shares pursuant to the Rescission Offer constituted a warrant or right to subscribe to Applicant's shares issued in violation of section 18(d) or that the rights under the Rescission Offer constituted a "senior security" in violation of section 18(f). However, Applicant believes that the policies underlying these provisions were not violated, because none of the holders of Overissue Shares received preferential treatment which section 18(d) is designed to prevent. In addition, Applicant argues that the basic policy of section 18(f) to limit the extent of leveraging an open-end investment company can engage in was not violated. According to Applicant, leveraging was not involved with either the Overissue Shares or the Rescission Offer because Applicant in no event would have had to pay more than the equivalent of the then current net asset value of its shares, since BB&K had agreed to pay any difference between such a value and the purchase price plus interest.

8. Applicant also seeks exemption from section 22(c) and Rule 22c–1 thereunder and section 22(d) to the extent necessary to authorize retroactively (a) the issuance of authorized shares to replace Overissue Shares, and (b) the Rescission Offer to holders of Overissue Shares at prices other than the current net asset value per share or the current public offering price described in Applicant's prospectus at the time of issuance. Applicant believes that the policies underlying these provisions were not violated because the Rescission Offer did not result in the dilution in value of the outstanding shares of Common Stock. All Overissue Shares were issued at the same price as the authorized shares, which was the then current net asset value per share. No holder of Overissue Shares elected to receive the Rescission Price, so no shares were redeemed at a price in excess of the then current net asset value per share. Moreover, had the net asset value of the Common Stock declined below the purchase price of the Overissue Shares plus interest, resulting in the Rescission Price being greater than the then current net asset value, BB&K and not Applicant would have been liable for the excess. Consequently, the Rescission Offer did not and could not have a dilutive effect.

9. Duly authorized shares were issued in place of Overissue Shares at the current net asset value on the date of issuance. While that price differed from the net asset value of Applicant's shares on the dates on which the Overissue Shares were issued, the issuance of duly

authorized shares did not have a dilutive effect on the Applicant's shares, since the amount paid by the holders of the Overissue Shares were at all times invested. Moreover, Applicant shares that the issuance to holders of Overissue Shares of shares to which they were entitled was fair and equitable to all stockholders of Applicant because duly authorized shares were issued on the same terms as would have prevailed if such authorized shares had been available for issuance at the proper time.

10. Applicant argues that it is necessary and appropriate for the requested relief to be granted retroactively. Applicant believes that the status of the holders of Overissue Shares had to be fully regularized as soon as possible so that the holders of such shares could participate in all rights of stockholders pertaining to such shares without fear of legal recourse against Applicant. Consequently, Applicant made the Rescission Offer and the Applicant's stockholders approved the increase in the authorized number of shares to cover the Overissue Shares prior to obtaining exemptive relief from the SEC. Finally, the Proxy Statement disclosed that Applicant intended to apply for retroactive exemptive relief from the SEC. In addition, the Applicant disclosed therein that there could be "no assurance that a SEC order will be granted, or if granted, that it will provide for the full relief requested."

For the Commission by the Division of Investment Management, under delegated authority.

Jonathan G. Katz,

Secretary.

[FR Doc. 89-15331 Filed 6-28-89; 8:45 am]

BILLING CODE 8010-01-M

[Release No. IC-17025; File No. 812-7154]

The Equitable Trust; Application for Exemption

June 22, 1989.

AGENCY: Securities and Exchange Commission ("SEC").

ACTION: Notice of application for exemption under the Investment Company Act of 1940 (the "1940 Act").

Applicant: The Equitable Trust

Relevant 1940 Act Sections: Exemption requested under section 6(c) from sections 13(a)(2), 18(f)(1), 22(f), and 22(g) and approval requested under section 17(d) and Rule 17d-1 thereunder.

Summary of Application: Applicant seeks an order or the SEC granting exemptions from the Act to the extent necessary to implement a deferred compensation plan for its trustees (the "Plan").

Filing Date: The application was filed on October 20, 1988 and amended on May 4, 1989 and June 8, 1989.

Hearing or Notification of Hearing: If no hearing is ordered, the application will be granted. Any interested person may request a hearing on this application, or ask to be notified if a hearing is ordered. Any requests must be received by the SEC by 5:30 p.m. on July 17, 1989. Request a hearing in writing , giving the nature of your interest, the reason for the request, and the issues you contest. Serve the Applicant with the request, either personally or by mail, and also send it to the Secretary of the SEC, along with proof of service by affidavit, or, for lawyers, by certificate. Request notification of the date of a hearing by writing to the secretary of the SEC.

ADDRESSES: Secretary, SEC, 450 5th Street, NW., Washington, DC 20549. Applicant, 787 Seventh Avenue, New York, NY 10019.

FOR FURTHER INFORMATION CONTACT: Heidi Stam, Staff Attorney, (202) 272-3017 or Clifford E. Kirsch, Special Counsel, (202) 272-2061, Division of Investment Management.

SUPPLEMENTARY INFORMATION: Following is a summary of the application; the complete application is available for a fee from either the SEC's Public Reference Branch in person or the SEC's Commercial copier (800) 231-3282 (in Maryland (301) 258-4300).

Applicant's Representations

1. The Equitable Trust (the "Applicant"), was organized as a business trust under the laws of the Commonwealth of Massachusetts on December 15, 1986. It is registered under the Act as an open-end, diversified management investment company.

2. Applicant currently offers its shares exclusively to Separate Account A of the Equitable Life Assurance Society of the United States ("Equitable"). The Applicant's investment advisers are Equitable Capital Management Corporation ("Equitable Capital"), an indirect wholly-owned subsidiary of Equitable, and Equitable.

3. Two of the six members of Applicant's present Board of Trustees may be considered "interested persons," as defined in the Act, of Applicant. One of these trustees is an Equitable employee and receives no compensation for this services as trustee. The other trustee may be considered an "interested person" of the Applicant becuase his son is an employee of an Equitable subsidiary. Each of the other five trustees receives from Applicant an annual retainer fee of $12,000 and fees of $1,000 per Board meeting (four are regularly scheduled annually), $600 per committee meeting attended and $600 for each day spent performing special services for the Applicant as may be requested by the Chairman or the President. The meeting fee paid to the trustee acting as meeting chairman is increased by 50%.

4. The purpose of the Plan is to permit any trustee to elect to defer the receipt of all or a portion of the fees he or she is due for services as a trustee of Applicant. A trustee may wish to defer fees in order to delay the payment of income taxes or for other reasons. The Applicant believes that the Plan will better enable Applicant to attract and retain high caliber trustees, thereby benefiting Applicant, its shareholders and ultimately the holders of contracts and policies supported by shares of Applicant.

5. Each trustee electing to defer the receipt of fees will enter into an agreement with Applicant and an account will be established under the Plan for each trustee with whom Applicant has entered into an agreement. The deferred fees will be credited to the account. In addition, applicant states that it will, from time to time, credit to the account balance interest in an amount equal to the interest rate credited to fixed income accounts under Equitable's Investment Plan for Employees, Managers and Agents ("Equitable's Investment Plan"). Applicant has reserved the right to prospectively change the rate of interest credited to account balances ("Account Rate") in accordance with changes that may be made from time to time to the interest rate credited to fixed income accounts under Equitable's Investment Plan ("Equitable Rate"). Applicant need not change the Account Rate each time the Equitable Rate changes. However, any change that may be made from time to time to the Account Rate will always be a change to bring the Account Rate into accordance with the then current Equitable Rate. Payments of deferred frees and credited interest are to commence on an initial disbursement date specified by the trustee, which may be the earlier of the trustee's retirement from the Board or the attainment of a designated age. The payments will be made in monthly installments for the number of years elected by the trustee, or until the amount credited under the account is exhauated. Account balances will continue to be credited with interest during the payout period.

6. The amounts credited to an account, including deferred fees and accrued interest, will represent an unsecured obligation of Applicant to the trustee, payable solely from the Applicant's general assets. Applicant will not purchase any of its shares for any account, nor create any specified fund or segregate any of its assets for purposes of the Plan. Trustees will have the status of general creditors. Neither the Plan, nor any agreement or account, will create a trust or fiduciary relationship between Applicant and any trustee, nor will those arrangements constitute a security interest of any kind in any of Applicant's assets. No provision of the Plan requires Applicant to retain a trustee on its Board or to pay a trustee any level of fee income, nor is a trustee obliged to continue as such in order to receive payment of any amounts credited to his or her account. Account balances may not be assigned, commuted or encumbered by the trustee. The amounts to be paid under the Plan will not depend upon, or in any way reflect, the investment performance of Applicant.

7. Applicant states that the interest rate for fixed income accounts under Equitable's Investment Plan is inherently no different from a prime rate, the interest rate on U.S. Treasury Bills, or other assumed rates of interest for fixed retirement-type obligations. Amounts credited to an account do not represent a participation in Equitable's Investment Plan or the investment performance of the Trust. The interest rate under Equitable's Investment Plan is merely a convenient reference.

8. Applicant requests exemption from sections 13(a)(2), 18(f)(1), 22(f) and 22(g) of the Act, and an order pursuant to Section 17(d) and Rule 17d–1 thereunder, to the extent necessary to permit implementation of the Plan described above.

9. With respect to sections 13(a)(2) and 18(f)(1), Applicant submits that the agreements are contractual arrangements, not in the nature of securities, and do not give rise to any of the concerns of Congress that led to the enactment of sections 13(a)(2) or 18(f)(1). In that regard, Applicant states that it will not be "borrowing" from its trustees for securities speculation; the agreements will not disturb the perception of an investment company as a mutual enterprise with mutuality of risk; they will not provide an opportunity for manipulation of expenses and profits; and control of Applicant will not be affected. Applicant further submits that in view of the widespread use of deferred compensation arrangements today and the immaterial amounts expected to be involved relative to Applicant's size, the Plan will not confuse investors, make it difficult for them to value Applicant's shares or convey a false impression of safety.

10. As to section 22(f), Applicant represents that the agreements will plainly set forth applicable restrictions against the assignment, commutation and encumbrance of any amounts credited to an account under the Plan. These restrictions, Applicant states, are designed to benefit trustees and would not adversely affect their interests or the interests of any shareholder of Applicant.

11. With respect to section 22(g), Applicant submits that the agreements will not be "issued" for services, but for Applicant not having to pay trustees' fees on a current basis. Applicant notes that the deferred fees would, in any event, be due the trustee independent of the Plan, and that the trustees' compensation arrangements, including the right to defer fees under the Plan, will be described in Applicant's proxy statements pursuant to the Commission's disclosure requirements.

12. Applicant submits, with respect to section 17(d) and Rule 17d–1, that the agreements do not possess "profit-sharing" characteristics as contemplated by Rule 17d–1 and that the participating trustees will be deferring fees they are otherwise entitled to receive on a current basis. In support of its requested order, Applicant points out that the amounts deferred will remain as assets of Applicant until eventually paid to the trustee; there will be no segregation of any monies or assets for purposes of the Plan; and trustees will not share in any increase or decrease in the value of amounts retained by Applicant or otherwise participate in its investment experience. Applicant further states that except for accrued interest to be paid on account balances, the trustee will receive the same fixed amount he or she would have received if fees were paid on a current, rather than on a deferred basis. Applicant asserts that the deferral of trustees' fees will have a negligible effect on its assets, liabilities and net income per share, and that, under the Plan, the trustees essentially will be in the same position as if their fees were paid on a current basis. In Applicant's view, its "participation" in the Plan would not be different from or less advantageous than that of the trustees in all the circumstances.

13. Applicant believes that the benefits to its shareholders will outweigh any benefit that may be realized by a trustee under the Plan because Applicant will be in a better position to attract and retain qualified trustees if it is able to offer them the opportunity to defer receipt of their fees.

14. Applicant submits that the requested order is necessary and appropriate in the public interest and consistent with the protection of investors and the purposes fairly intended by the policy and provisions of the Act.

For the Commission, by the Division of Investment Management, pursuant to delegated authority.

Johathan G. Katz,

Secretary.

[FR Doc. 89–15332 Filed 6–28–89; 8:45 am]

BILLING CODE 8010–01–M

[Release No. 35–24909]

Filings Under the Public Utility Holding Company Act of 1935 ("Act")

June 22, 1989.

Notice is hereby given that the following filing(s) has/have been made with the Commission pursuant to provisions of the Act and rules promulgated thereunder. All interested persons are referred to the application(s) and/or declaration(s) for complete statements of the proposed transaction(s) summarized below. The application(s) and/or declaration(s) and any amendments thereto is/are available for public inspection through the Commission's Office of Public Reference.

Interested persons wishing to comment or request a hearing on the application(s) and/or declaration(s) should submit their views in writing by July 17, 1989 to the Secretary, Securities and Exchange Commission, Washington, DC 20549, and serve a copy on the relevant applicant(s) and/or declarant(s) at the address(es) specified below. Proof of service (by affidavit or, in case of an attorney at law, by certificate) should be filed with the request. Any request for hearing shall identify specifically the issues of fact or law that are disputed. A person who so requests will be notified of any hearing, if ordered, and will receive a copy of any notice or order issued in the matter. After said date, the application(s) and/or declaration(s), as filed or as amended, may be granted and/or permitted to become effective.

Maine Yankee Atomic Power Company (70–7627)

Maine Yankee Atomic Power Company ("Maine Yankee"), Edison

Drive, Augusta, Maine 04336, a subsidiary of New England Electric System and Northeast Utilities, both registered holding companies, has filed a declaration pursuant to sections 6(a) and 7 of the Act.

Maine Yankee proposes to enter into and borrow under a revolving credit agreement ("Credit Agreement") with a syndicate of commercial banks, for which The Bank of New York is acting as agent (collectively, "BNY Banks") through August 31, 1992. Under the Credit Agreement, Maine Yankee will issue promissory notes ("Notes") to the BNY Banks in an aggregate principal amount of up to $50 million at any one time outstanding with maturities of from one day to ten years from the date of issuance. The Credit Agreement will replace an existing commercial paper facility currently in place between Maine Yankee and the MYA Fuel Company, authorized by orders of the Commission dated August 23, 1976 and September 29, 1989 (HCAR Nos. 19657 and 22651).

The term of the Credit Agreement will be three years, with a right for Maine Yankee, with the consent of the BNY Banks, to extend the term on a year-by-year basis. The Credit Agreement provides that the Notes will bear interest at one of four rates, to be specified at Maine Yankee's option, including a competitive bid option which will be used only if it is more advantageous than the other three rates.

The Notes will be secured by a first lien on Maine Yankee's nuclear fuel inventory, its rights to payment for fuel costs from the ten electric utility companies that sponsor Maine Yankee ("Sponsors") pursuant to power contracts ("Power Contracts"), and its rights to require the Sponsors to finance the costs of obtaining and maintaining an inventory of nuclear fuel ("Capital Funds Agreement").

Maine Yankee further proposes to enter into and borrow under a Eurodollar revolving credit agreement ("Eurodollar Agreement") with a group of international banks for which the Union Bank of Switzerland is acting as agent (collectively, "Eurodollar Banks") through August 31, 1992. Under the Eurodollar Agreement, Maine Yankee will issue promissory notes ("Euro Notes") to the Eurodollar Banks in an aggregate principal amount of up to $20 million at any one time outstanding with maturities of from one day to ten years from the date of issuance.

The Eurodollar Agreement provides that Maine Yankee may select interest periods for each Euro Note of one, three or six months. The interest rate on each revolving credit loan will be the London Inter-Bank Offering Rate ("LIBOR") for the interest period selected, plus ¾%; provided that if by reason of circumstances affecting the Eurodollar market, adequate and reasonable means do not exist for ascertaining LIBOR, the interest rate shall be determined on the basis of the Eurodollar Banks' actual costs of funding such loan. The Euro Notes will be secured by a second lien on Maine Yankee's nuclear fuel inventory, the Power Contracts and the Capital Funds Agreement.

Maine Yankee will use the proceeds of the Notes and Euro Notes for general corporate purposes, including the acquisition of nuclear fuel, the construction, extension or improvement of its facilities, and the improvement and maintenance of its service. Maine Yankee may also acquire, redeem or retire its securities pursuant to the exceptions available under Rule 42(b).

Columbus Southern Power Company (70–7629)

Columbus Southern Power Company ("CSPC"), 215 N. Front Street, Columbus, Ohio, 43215, an electric public utility subsidiary of American Electric Power Company, Inc., a registered holding company, has filed a declaration pursuant to Section 12(d) of the Act and Rule 44 thereunder.

CSPC proposes to sell to its industrial customer, Fisher Guide Division—General Motors Corporation ("FGD"), certain transformation equipment and other related equipment ("Facilities") located at CSPC's GM Substation No. 63 in Columbus, Ohio, for a purchase price of $560,736 in cash. The Facilities are situated on real property owned by FGD in Columbus, Ohio and are now employed by CSPC for providing service exclusively to FGD. It is stated that the Facilities are not adaptable, at that location, for use in serving any other customer.

Central and South West Corporation, et al. (70–7643)

Central and South West Corporation ("CSW"), 2121 San Jacinto Street, Suite 2500, Dallas, Texas 75201, a registered holding company, and five of its subsidiaries, Central Power and Light Company ("CPL"), P.O. Box 2121, Corpus Christi, Texas 78403, Public Service Company of Oklahoma ("PSO"), P.O. Box 201, Tulsa, Oklahoma 74102, Southwestern Electric Power Company ("SWEPCO"), P.O. Box 21106, Shreveport, Louisiana 71156, West Texas Utilities Company ("WTU"), P.O. Box 841, Abilene, Texas 79604, and Transok, Inc. ("Transok"), P.O. Box 3008, Tulsa, Oklahoma 74101 and CSW's service company subsidiary, Central and South West Services, Inc. ("CSWS"), 2121 San Jancinto Street, Suite 2500, Dallas, Texas 75201, (together, "Subsidiaries") have filed a post-effective amendment to their application-declaration pursuant to sections 6(a), 7, 9(a), 10, 12(b) and 12(f) of the Act and Rules 43, 45 and 50(a)(5) thereunder.

By prior Commission order, CSW and its Subsidiaries wree authorized to continue through March 31, 1991 their short-term borrowing program (HCAR No. 24855, April 5, 1989). The borrowing program is coordinated through the use of the CSW system money pool ("Money Pool"), as the primary lender, but allows for CSW and the Subsidiaries to borrow from banks under certain circumstances. The program makes funds available to the Subsidiaries for interim financing of their capital expenditure programs and their other working capital needs, and to repay previous borrowings incurred for such purposes. Funds for the Money Pool are made available from surplus funds from the treasuries of CSW and its operating subsidiaries, from proceeds from the sale of commercial paper notes by CSW and bank borrowings by CSW and the Subsidiaries.

The maximum borrowing levels authorized for CSW and its Subsidiaries are as follows: CSW—$600 million, CPL—$200 million, PSO—$100 million, SWEPCO—$150 million, WTU—$50 million, Transok—$80 million, and CSWS—$25 million, with an aggregate principal amount not to exceed $600 million.

In order to provide direct access to new gas reserves presently being developed in southeastern Oklahoma and to increase utilization of existing pipeline capacity Transok will spend approximately $31 million in 1989 and approximately $9 million in 1990 for construction of additional natural gas transmission pipeline and related facilities in Oklahoma. These facilities will consist of approximately 25 miles of 16-inch, high pressure natural gas transmission pipeline and related facilities in Latimer County, Oklahoma and approximately 61 miles of 24-inch, high pressure natural gas transmission pipeline and related facilities in Latimer, Pittsburgh and Atoka Counties, Oklahoma. Construction of the new pipeline will provide Transok with access to significant sources of gas supplies which are presently being developed, additional flexibility to meet the gas requirements of PSO and the other CSW electric utilities, more efficient utilization of current existing pipeline capacity and additional income. Transok requests that their borrowing

limit to $80 million as authorized by the Commission in this file be increased $40 million to a total aggregate authorized borrowing limit of $120 million.

Energy Initiatives, Incorporated (70–7660)

Energy Initiatives, Incorporated ("EII"), One Gatehall Drive, Gatehall Center I, Parsippany, New Jersey 07054, a subsidiary of General Portfolios Corporation, a subsidiary of General Public Utilities Corporation, a registered holding company, has filed an application-declaration pursuant to sections 6(a), 7, 9(a), 10 and 12(b) of the Act and Rule 45 thereunder.

EII proposes to acquire, either directly or indirectly through a New York limited partnership to be formed ("Partnership"), all of the outstanding shares of common stock ("Common Stock") of a closely held New York corporation ("Cogen Corp"). Cogen Corp is engaged in the development of a proposed 40 MW natural gas-fired cogeneration facility ("Project") in New York State which has been certified as a qualifiying facility under the Public Utility Regulatory Policies Act of 1978.

EII proposes to organize a wholly owned subsidiary corporation ("EII Sub") which would be both the general and a limited partner of the Partnership. The Partnership will acquire the Common Stock from the owners thereof for a total purchase price not to exceed $6 million. EII therefore proposes to contribute to the Partnership, either directly or indirectly through EII Sub, up to $6 million in exchange for which (i) EII would acquire all of the outstanding common stock of EII Sub for $1,000 and (ii) EII Sub will acquire its general and limited partnership interests in the Partnership.

EII expects that the rate of return of its equity investment in the Partnership will not be lower than 12.38%, the latest generic rate of return on common equity for public utilities allowed by the Federal Energy Regulatory Commission under the Federal Power Act.

Prior to the date the Project enters commercial service, EII Sub's aggregate interests in the Partnership, both as a general and limited partner, will be reduced so that they do not in the aggregate exceed 50% thereof.

EII estimates that the cost to construct the Project wil be approximately $45 million. A request for authorization with respect to the financing of the Project will be the subject of a subsequent application with the Commission.

Energy Initiatives, Inc. (70–7661)

Energy Initiatives, Incorporated ("EII"), One Gatehall Drive, Gatehall Center I, Parsippany, New Jersey 07054, a subsidiary of General Portfolios Corporation, a subsidiary of a registered holding company, General Public Utilities Corporation, has filed an application-declaration pursuant to sections 6(a), 7, 9(a), 10 and 12(b) of the Act and Rule 45 thereunder.

EII proposes to acquire, through a wholly owned New York subsidiary corporation to be formed ("EII Sub"), all of the general and limited partnership interests ("Partnership Interests") in a New York limited partnership ("Cogen Partnership"). Cogen Partnership is engaged in the development of a proposed 79 NW natural gas-fired cogeneration facility which is a qualifying facility under the Public Utility Regulatory Policies Act of 1978.

In order to acquire the Cogen Partnership, EII proposes to organize EII Sub, which will be a wholly owned subsidiary of EII. EII proposes to contribute to EII Sub up to $9 million in exchange for which: (i) EII will acquire all of the outstanding common stock of EII Sub for $1,000; and (ii) EII Sub will acquire the Partnership Interests in Cogen Partnership for a total purchase price not to exceed $9 million.

Prior to the date the Project enters commercial service, EII Sub's aggregate interests in Cogen Partnership, both as a general and limited partner, will be reduced so that they do not in the aggregate exceed 50% thereof.

EII expects that the rate of return of its equity investment in the Partnership will not be lower than 12.38%, the latest generic rate of return on common equity for public utilities allowed by the Federal Energy Regulatory Commission under the Federal Power Act.

EII estimates that the cost to construct the Project will be approximately $75,000,000. A request for authorization with respect to the financing of the Project will be the subject of a subsequent application with the Commission.

Central Power and Light Company (70–7662)

Central Power and Light Company ("CPL"), P.O. Box 2121, Corpus Christi, Texas 78403, an electric-utility subsidiary of Central and South West Corporation, a registered holding company, has filed an application pursuant to sections 9(a) and 10 of the Act.

CPL has in the past conducted exploration and development activities to supplement other gas supplies available to it. While CPL has diversified its fuel mix substantially over the last ten years, natural gas is, and will continue to be, CPL's primary fuel for at least the next ten years. CPL is seeking authority to spend up to $20 million through the period ending September 30, 1992, for exploration, development and production of natural gas supplies for use in its gas-fired generating plants.

Louisiana Power & Light Company (70–7663)

Louisiana Power & Light Company ("LP&L"), 317 Baronne Street, New Orleans, Louisiana 70112, a subsidiary of Entergy Corporation (formerly Middle South Utilities, Inc.), a registered holding company, has filed an application pursuant to section 9(a) and 10 of the Act.

In the interest of examining possible future supplies for a portion of the enriched uranium fuel requirements of its Waterford Steam Electric Generating Station-Unit No. 3 (nuclear), LP&L has been conducting, with certain other utility and non-utility parties (collectively, the "Parties"), preliminary analyses to evaluate the feasibility and desirability of their participation in a joint venture that would result in the licensing and construction of a 1.5 million separative work unit (SWU)/year centrifuge uranium enrichment plant ("Project"), employing technology developed by one of the Parties. Such preliminary analyses found that the Project appears to be economically attractive, and the Parties have now determined that additional studies are desirable and wish to formalize their arrangements for such additional studies. In this connection, LP&L, subject to Commission approval, has entered a Memorandum of Understanding ("MOU") with the other Parties for the stated purposes, among others, of (1) engaging in certain joint activities, including siting, licensing and design, to be performed during the term of the MOU ("MOU Activities"); (2) establishing an Interim Project Organization for the management and administration of the Project during the term of the MOU; (3) setting forth the bases for contribution by the Parties to Project expenses associated with the MOU Activities and (4) setting forth certain general principles for negotiation of an agreement or agreements ("Project Agreements") among the Parties subject to, among other things, the receipt of requisite regulatory approvals, necessary for the Project to go forward following termination of the MOU. The term of the MOU is until the earlier of (i) March 31, 1990, (ii) the effective date of the applicable Project Agreements superseding the MOU or (iii) the expenditure of all funds budgeted for

MOU Activities. The MOU also provides for participation by additional utility parties with a resulting reduction in the proportional share of each Party's contributions to MOU Activities costs.

The MOU phase of the Project has a projected maximum budget of $10 million. LP&L's proportionate share of MOU Activities costs, and the maximum amount that would be payable by LP&L during the term of the MOU, is expected not to exceed approximately $475,000. LP&L requests authority to contribute this amount during the term of the MOU in connection with the phase of the Project.

In addition, during the term of the MOU and prior to the expenditure of all funds committed thereunder by the Parties, the Parties will negotiate the Project Agreements setting forth, among other things, the organizational structure for the Project and the financial and contractual bases upon which the Parties may elect to participate in the Project following completion of preliminary activities provided for in the MOU. By participating as a party to the MOU and agreeing to pay its proportionate share of MOU Activities costs, PL&L would have the right, subject to any necessary regulatory approval, to participate in the next phase of the Project on terms that will be negotiated by the Parties and contained in the Project Agreements. The Project Agreement would cover, among other things, the allocation of responsibility for expenditures during the remaining term of the venture period, expected to run through November 1992. LP&L's presently estimated share of these expenditures during the entire venture period would not exceed $1.3 million, including the $475,000 for the MOU phase of the venture period. Should LP&L determine to continue its participation through the next phase of the Project following the termination of the MOU through entry into Project Agreements, LP&L will, by appropriate amendment to this application, disclose the terms and conditions of such participation and seek Commission approval.

For the Commission by the Division of Investment Management, pursuant to delegated authority.

Jonathan G. Katz,

Secretary.

[FR Doc. 89-15333 Filed 6-28-89; 8:45 am]

BILLING CODE 8010-01-M

SMALL BUSINESS ADMINISTRATION

[Declaration of Disaster Loan Area #2350; Amdt. 1]

North Dakota; (And Contiguous Counties in the State of South Dakota); Declaration of Disaster Loan Area

The above-numbered Declaration is hereby amended to include Steele County, in the State of North Dakota, which was inadvertently omitted as a contiguous county, as a result of damages from flooding which began on March 29, 1989.

Applications for economic injury from small businesses located in the above-named county may be filed until the specified date at the designated location. All other information remains the same.

(Catalog of Federal Domestic Assistance Program Nos. 59002 and 59008.)

Date: May 12, 1989.

Alfred E. Judd,

Acting Deputy Associate Administrator for Disaster Assistance.

[FR Doc. 89-15312 Filed 6-28-89; 8:45 am]

BILLING CODE 8025-01-M

[Declaration of Disaster Loan Area #2350; Amdt. 2]

North Dakota; (And Contiguous Counties in the State of South Dakota); Declaration of Disaster Loan Area

The above-numbered Declaration is hereby amended in accordance with the Notices of Amendment to the President's declaration, dated May 16 and May 17, 1989, to include Pembina County, in the State of North Dakota, as a result of damages from severe storms and flooding, and to establish the incident period as between March 29 and May 8, 1989.

All other information remains the same; i.e., the termination date for filing applications for physical damage is the close of business on July 10, 1989, and for economic injury until the close of business on February 9, 1990.

(Catalog of Federal Domestic Assistance Program Nos. 59002 and 59008.)

Date: May 19, 1989.

Bernard Kulik,

Deputy Associate Administrator for Disaster Assistance.

[FR Doc. 89-15313 Filed 6-28-89; 8:45 am]

BILLING CODE 8025-01-M

DEPARTMENT OF THE TREASURY

Office of the Secretary

[Department Circular—Public Debt Series—No. 17-89]

Treasury Notes of June 30, 1991, Series AB-1991

June 22, 1989.

1. Invitation for Tenders

1.1. The Secretary of the Treasury, under the authority of Chapter 31 of Title 31, United States Code, invites tenders for approximately $8,750,000,000 of United States securities, designated Treasury Notes of June 30, 1991, Series AB-1991 (CUSIP No. 912827 XR 8), hereafter referred to as Notes. The Notes will be sold at auction, with bidding on the basis of yield. Payment will be required at the price equivalent of the yield of each accepted bid. The interest rate on the Notes and the price equivalent of each accepted bid will be determined in the manner described below. Additional amounts of the Notes may be issued to Federal Reserve Banks for their own account in exchange for maturing Treasury securities. Additional amounts of the Notes may also be issued at the average price to Federal Reserve Banks, as agents for foreign and international monetary authorities.

2. Description of Securities

2.1. The Notes will be dated June 30, 1989, and will accrue interest from that date, payable on a semiannual basis on December 31, 1989, and each subsequent 6 months on June 30 and December 31 through the date that the principal becomes payable. They will mature June 30, 1991, and will not be subject to call for redemption prior to maturity. In the event any payment date is a Saturday, Sunday, or other nonbusiness day, the amount due will be payable (without additional interest) on the next business day.

2.2. The Notes are subject to all taxes imposed under the Internal Revenue Code of 1954. The Notes are exempt from all taxation now or hereafter imposed on the obligation or interest thereof by any State, any possession of the United States, or any local taxing authority, except as provided in 31 U.S.C. 3124.

2.3. The Notes will be acceptable to secure deposits of Federal public monies. They will not be acceptable in payment of Federal taxes.

2.4. The Notes will be issued only in book-entry form in denominations of $5,000, $10,000, $100,000 and $1,000,000, and in multiples of those amounts. They

will not be issued in registered definitive or in bearer form.

2.5. The Department of the Treasury's general regulations governing United States securities, i.e., Department of the Treasury Circular No. 300, current revision (31 CFR Part 306), as to the extent applicable to marketable securities issued in book-entry form, and the regulations governing book-entry Treasury Bonds, Notes, and Bills, as adopted and published as a final rule to govern securities held in the TREASURY DIRECT Book-Entry Securities System in 51 FR 18260, *et seq.* (May 16, 1986), apply to the Notes offered in this circular.

3. Sale Procedures

3.1. Tenders will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, DC 20239–1500, prior to 1:00 p.m., Eastern Daylight Saving time, Tuesday, June 27, 1989. Noncompetitive tenders as defined below will be considered timely if postmarked no later than Monday, June 26, 1989, and received no later than Friday, June 30, 1989.

3.2. The par amount of Notes bid for must be stated on each tender. The minimum bid is $5,000, and larger bids must be in multiples of that amount. Competitive tenders must also show the yield desired, expressed in terms of an annual yield with two decimals, e.g., 7.10%. Fractions may not be used. Noncompetitive tenders must show the term "noncompetitive" on the tender form in lieu of a specified yield.

3.3. A single bidder, as defined in Treasury's single bidder guidelines, shall not submit noncompetitive tenders totaling more than $1,000,000. A noncompetitive bidder may not have entered into an agreement, nor make an agreement to purchase or sell or otherwise dispose of any noncompetitive awards of this issue prior to the deadline for receipt of tenders.

3.4. Commercial banks, which for this purpose are defined as banks accepting demand deposits, and primary dealers, which for this purpose are defined as dealers who make primary markets in Government securities and are on the list of reporting dealers published by the Federal Reserve Bank of New York, may submit tenders for accounts of customers if the names of the customers and the amount for each customer are furnished. Others are permitted to submit tenders only for their own account.

3.5. Tenders for their own account will be received without deposit from commercial banks and other banking institutions; primary dealers, as defined above; federally-insured savings and loan associations; States, and their political subdivisions or instrumentalities; public pension and retirement and other public funds; international organizations in which the United States holds membership; foreign central banks and foreign states; and Federal Reserve Banks. Tenders from all others must be accompanied by full payment for the amount of Notes applied for, or by a guarantee from a commercial bank or a primary dealer of 5 percent of the par amount applied for.

3.6. Immediately after the deadline for receipt of tenders, tenders will be opened, followed by a public announcement of the amount and yield range of accepted bids. Subject to the reservations expressed in section 4, noncompetitive tenders will be accepted in full, and then competitive tenders will be accepted, starting with those at the lowest yields, through successively higher yields to the extent required to attain the amount offered. Tenders at the highest accepted yield will be prorated if necessary. After the determination is made as to which tenders are accepted, an interest rate will be established, at a ⅛ of one percent increment, which results in an equivalent average accepted price close to 100.000 and a lowest accepted price above the original issue discount limit of 99.500. That stated rate of interest will be paid on all of the Notes. Based on such interest rate, the price on each competitive tender allotted will be determined and each successful competitive bidder will be required to pay the price equivalent to the yield bid. Those submitting noncompetitive tenders will pay the price equivalent to the weighted average yield of accepted competitive tenders. Price calculations will be carried to three decimal places on the basis of price per hundred, e.g., 99.923, and the determinations of the Secretary of the Treasury shall be final. If the amount of noncompetitive tenders received would absorb all or more of the offering, competitive tenders will be accepted in an amount sufficient to provide a fair determination of the yield. Tenders received from Federal Reserve Banks will be accepted at the price equivalent to the weighted average yield of accepted competitive tenders.

3.7. Competitive bidders will be advised of the acceptance of their bids. Those submitting noncompetitive tenders will be notified only if the tender is not accepted in full, or when the price at the average yield is over par.

4. Reservations

4.1. The Secretary of the Treasury expressly reserves the right to accept or reject any or all tenders in whole or in part, to allot more or less than the amount of Notes specified in section 1, and to make different percentage allotments to various classes of applicants when the Secretary considers it in the public interest. The Secretary's action under this section is final.

5. Payment and Delivery

5.1. Settlement for the Notes allotted must be made at the Federal Reserve Bank or Branch or at the Bureau of the Public Debt, wherever the tender was submitted. Settlement on Notes allotted to institutional investors and to others whose tenders are accompanied by a guarantee as provided in Section 3.5. must be made or completed on or before Friday, June 30, 1989. Payment in full must accompany tenders submitted by all other investors. Payment must be in cash; in other funds immediately available to the Treasury; in Treasury bills, notes, or bonds maturing on or before the settlement date but which are not overdue as defined in the general regulations governing United States securities; or by check drawn to the order of the institution to which the tender was submitted, which must be received from institutional investors no later than Wednesday, June 28, 1989. In addition, Treasury Tax and Loan Note Option Depositaries may make payment for the Notes allotted for their own accounts and for accounts of customers by credit to their Treasury Tax and Loan Note Accounts on or before Friday, June 30, 1989. When payment has been submitted with the tender and the purchase price of the Notes allotted is over par, settlement for the premium must be completed timely, as specified above. When payment has been submitted with the tender and the purchase price is under par, the discount will be remitted to the bidder.

5.2. In every case where full payment has not been completed on time, an amount of up to 5 percent of the par amount of Notes allotted shall, at the discretion of the Secretary of the Treasury, be forfeited to the United States.

5.3. Registered definitive securites tendered in payment for the Notes allotted and to be held in TREASURY DIRECT are not required to be assigned if the inscription on the registered definitive security is identical to the registration of the note being purchased. In any such case, the tender form used to place the Notes allotted in

TREASURY DIRECT must be completed to show all the information required thereon, or the TREASURY DIRECT account number previously obtained.

6. General Provisions

6.1. As fiscal agents of the United States, Federal Reserve Banks are authorized, as directed by the Secretary of the Treasury, to receive tenders, to make allotments, to issue such notices as may be necessary, to receive payment for, and to issue, maintain, service, and make payment on the Notes.

6.2. The Secretary of the Treasury may, at any time, supplement or amend provisions of this circular if such supplements or amendments do not adversely affect existing rights of holders of the Notes. Public announcement of such changes will be promptly provided.

6.3. The Notes issued under this circular shall be obligations of the United States, and, therefore, the faith of the United States Government is pledged to pay, in legal tender, principal and interest on the Notes.

Marcus W. Page,

Acting Fiscal Assistant Secretary.

[FR Doc. 89-15516 Filed 6-27-89; 12:47 pm]

BILLING CODE 4810-40-M

[Department Circular—Public Debt Series—No. 18-89]

Treasury Notes of June 30, 1993, Series P-1993

June 22, 1989.

1. Invitation for Tenders

1.1. The Secretary of the Treasury, under the authority of Chapter 31 of Title 31, United States Code, invites tenders for approximately $7,500,000,000 of United States securities, designated Treasury Notes of June 30, 1993, Series P-1993 (CUSIP No. 912827 XS 6), hereafter referred to as Notes. The Notes will be sold at auction, with bidding on the basis of yield. Payment will be required at the price equivalent of the yield of each accepted bid. The interest rate on the Notes and the price equivalent of each accepted bid will be determined in the manner described below. Additional amounts of the Notes may be issued to Federal Reserve Banks for their own account in exchange for maturing Treasury securities. Additional amounts of the Notes may also be issued at the average price to Federal Reserve Banks as agents for foreign and international monetary authorities.

2. Description of Securities

2.1. The Notes will be dated June 30, 1989, and will accrue interest from that date, payable on a semiannual basis on December 31, 1989, and each subsequent 6 months on June 30 and December 31 through the date that the principal becomes payable. They will mature June 30, 1993, and will not be subject to call for redemption prior to maturity. In the event and payment date is a Saturday, Sunday, or other nonbusiness day, the amount due will be payable (without additional interest) on the next business day.

2.2. The Notes are subject to all taxes imposed under the Internal Revenue Code of 1954. The Notes are exempt from all taxation now or hereafter imposed on the obligation or interest thereof by any State, any possession of the United States, or any local taxing authority, except as provided in 31 U.S.C. 3124.

2.3. The Notes will be acceptable to secure deposits of Federal public monies. They will not be acceptable in payment of Federal taxes.

2.4. The Notes will be issued only in book-entry form in denominations of $1,000, $5,000, $10,000, and $1,000,000, and in multiples of those amounts. They will not be issued in registered definitive or in bearer form.

2.5. The Department of the Treasury's general regulations governing United States securities, i.e., Department of the Treasury Circular No. 300, current revision (31 CFR Part 306), as to the extent applicable to marketable securities issued in book-entry form, and the regulations governing book-entry Treasury Bonds, Notes, and Bills, as adopted and published as a final rule to govern securities held in the TREASURY DIRECT Book-Entry Securities System in 51 FR 18260, *et seq.* (May 16, 1986), apply to the Notes offered in this circular.

3. Sale Procedures

3.1. Tenders will be received at Federal Reserve Banks and Branches and at the Bureau of the Public Debt, Washington, DC 20239-1500, prior to 1:00 p.m., Eastern Daylight Savings time, Wednesday, June 28, 1989. Noncompetitive tenders as defined below will be considered timely if postmarked no later than Tuesday, June 27, 1989, and received no later than Friday, June 30, 1989.

3.2. The par amount of Notes bid for must be stated on each tender. The minimum bid is $1,000, and larger bids must be in multiples of that amount. Competitive tenders must also show the yield desired, expressed in terms of an annual yield with two decimals, e.g., 7.10%. Fractions may not be used. Noncompetitive tenders must show the term "noncompetitive" on the tender form in lieu of a specified yield.

3.3. A single bidder, as defined in Treasury's single bidder guidelines, shall not submit noncompetitive tenders totaling more than $1,000,000. A concompetitive bidder may not have entered into an agreement, nor make an agreement to purchase or sell or otherwise dispose of any noncompetitive awards of this issue prior to the deadline for receipt of tenders.

3.4. Commercial banks, which for this purpose are defined as banks accepting demand deposits, and primary dealers, which for this purpose are defined as dealers who make primary markets in Government securities and are on the list of reporting dealers published by the Federal Reserve Bank of New York, may submit tenders for accounts of customers if the names of the customers and the amount for each customer are furnished. Others are permitted to submit tenders only for their own account.

3.5. Tenders for their own account will be received without deposit from commercial banks and other banking institutions; primary dealers, as defined above; federally-insured savings and loan associations; States, and their political subdivisions or instrumentalities; public pension and retirement and other public funds; international organizations in which the United States holds membership; foreign central banks and foreign states; and Federal Reserve Banks. Tenders from all others must be accompanied by full payment for the amount of Notes applied for, or by a guarantee from a commercial bank or a primary dealer of 5 percent of the par amount applied for.

3.6. Immediately after the deadline for receipt of tenders, tenders will be opened, followed by a public announcement of the amount and yield range of acepted bids. Subject to the reservations expressed in section 4, noncompetitive tenders will be accepted in full, and then competitive tenders will be accepted, starting with those at the lowest yields, through successively higher yields to the extent required to attain the amount offered. Tenders at the highest accepted yield will be prorated if necessary. After the determination is made as to which tenders are accepted, an interest rate will be established, at a ⅛ of one

percent increment, which results in an equivalent average accepted price close to 100.000 and a lowest accepted price above the original issue discount limit of 99.000. The stated rate of interest will be paid on all of the Notes. Based on such interest rate, the price of each competitive bidder will be required to pay the price equivalent to the yield bid. Those submitting noncompetitive tenders will pay the price equivalent to the weighted average yield of accepted competitive tenders. Price calculations will be carried to three decimal places on the basis of price per hundred, e.g. 99.923, and the determinations of the Secretary of the Treasury shall be final. If the amount of noncompetitive tenders received would absorb all or most of the offering, competitive tenders will be accepted in an amount sufficient to provide a fair determination of the yield. Tenders received from Federal Reserve Banks will be accepted at the price equivalent to the weighted average yield of accepted competitive tenders.

3.7. Competitive bidders will be advised or the acceptance of their bids. Those submitting noncompetitive tenders will be notified only if the tender is not accepted in full, or when the price at the average yield is over pay.

4. Reservations

4.1. The Secretary of the Treasury expressly reserves the right to accept or reject any or all tenders in whole or in part, to allot more or less than the amount of Notes specified in section 1, and to make different percentage allotments to various classes of applicants when the Secretary considers it in the public interest. The Secretary's action under this Section is final.

5. Payment and Delivery

5.1. Settlement for the Notes allotted must be made at the Federal Reserve Bank or Branch or at the Bureau of the Public Debt, wherever the tender was submitted. Settlement on Notes allotted to institutional investors and to others whose tenders are accompanied by a guarantee as provided in section 3.5. must be made or completed on or before Friday, June 30, 1989. Payment in full must accompany tenders submitted by all other investors. Payments must be in cash; in other funds immediately available to the Treasury; in Treasury bills, notes, or bonds maturing on or before the settlement date but which are not overdue as defined in the general regulations governing United States securities; or by check drawn to the order of the institution to which the tender was submitted, which must be received from institutional investors no later than Wednesday, June 28, 1989. In addition, Treasury Tax and Loan Note Options Depositaries may make payment for the Notes allotted for their own accounts and for accounts of customers by credit to their Treasury Tax and Loan Note Accounts on or before Friday, June 30, 1989. When payment has been submitted with the tender and the purchase price of the Notes allotted is over par, settlement for the premium must be completed timely, as specified above. When payment has been submitted with the tender and the purchase price is under par, the discount will be remitted to the bidder.

5.2. In every case where full payment has not been completed on time, an amount of up to 5 percent of the par amount of Notes allotted shall, at the discretion of the Secretary of the Treasury, be forfeited to the United States.

5.3. Registered definitive securities tendered in payment for the Notes allotted and to be held in TREASURY DIRECT are not required to be assigned if the inscription of the registered definitive security is identical to the registration of the note being purchased. In any such case, the tender form used to place the Notes allotted in TREASURY DIRECT must be completed to show all the information required thereon, or the TREASURY DIRECT account number previously obtained.

6. General Provisions

6.1. As fiscal agents of the United States, Federal Reserve Banks are authorized, as directed by the Secretary of the Treasury, to receive tenders, to make allotments, to issue such notices as may be necessary, to receive payment for, and to issue, maintain, service, and make payment on the Notes.

6.2. The Secretary of the Treasury may, at any time, supplement or amend provisions of this circular if such supplements or amendments do not adversely affect existing rights of holders of the Notes. Public announcement of such changes will be promptly provided.

6.3. The Notes issued under this circular shall be obligations of the United States, and, therefore, the faith of the United States Government is pledged to pay, in legal tender, principal and interest on the Notes.

Marcus W. Page,

Acting Fiscal Assistant Secretary.

[FR Doc. 89-15517 Filed 6-27-89; 12:47 pm]

BILLING CODE 4810-40-M

UNITED STATES INFORMATION AGENCY

American Studies Summer Institute; Bureau of Educational and Cultural Affairs; Grant Program

Contingent upon the availability of funds, the Bureau of Educational and Cultural Affairs of the United States Information Agency (USIA) is soliciting proposals for a graduate-level American studies institute to take place from July 5 to August 19, 1990. Due date for receipt of proposals is COB September 29, 1989. The institute is designed for approximately 35 secondary school educators in English language, American literature, government, history, society and culture and geography. The institute is conducted entirely in English. Participants will come from countries in Europe, Asia, Africa, Latin America and the Middle East. USIA is asking for detailed proposals from institutions which have an acknowledged reputation in American Studies and related fields with special expertise in handling international programs.

Objectives

The objective of the institute is to support and encourage the efforts of other countries to improve the quality of teaching about American society and culture at the secondary level. The program should be designed for teacher trainers, curriculum developers and secondary-level classroom teachers with responsibilities in curriculum planning and course and materials development whose teaching assignments require a general up-to-date knowledge of American civilization and culture. Many of these educators will be involved in the teaching of English as a foreign language, though their academic preparation may be in the fields of American literature, government, history, society and culture, and geography.

Time Frame and General Description

The institute should be programmed to last approximately 45 days, beginning on or about Thursday, July 5, and ending on or about Saturday, August 19, 1990. The participants will arrive directly at the campus site from their home countries. The university program staff will be expected to make arrangements to have participants met upon arrival at the airport nearest the university campus. Few if any participants will have visited the United States previously. In view of this, an initial orientation to the U.S. and the campus should be considered an integral part of

the institute and should be held on the first two to three days of the program. The applicant is asked to design a two-part program:

(a) A four-week academic program at the university and

(b) A two-week escorted tour of different regions of the United States.

The tour segment should be planned, arranged and conducted by the Program Director and principal university staff and should be seen as an integral part of the program, complementing and reinforcing the academic material. It should not be a whirlwind tour of the U.S. In addition to two or three other cities, the tour should include a three-to-four-day visit to Washington, DC at the end of the tour before participants depart for their home countries. Programming in Washington should include a half-day briefing session at the U.S. Information Agency.

Program Objectives

The institute should be a graduate level academic program aimed at improving the participant's understanding of American society and institutions and contemporary issues most relevant to shaping of these institutions. The program should provide an intellectual framework and an organizing principle for understanding and teaching about the U.S. For the purpose of the institute, American studies is understood to include aspects of American history, literature, society and culture, geography and political science. The institute should address the diversity and complexity of American contemporary life and the underlying unity of social and political institutions. The program should provide a basic overview of American institutions, current issues, and the social and political response to these issues. In addition, academic instruction should address a range of views of American values and character; social, economic and literary history; geographical features; forms of creative expression; and education, religion, industry and technology. The academic program should maintain a relative balance among plenary sessions, lectures, workshops and practicums. Academic activities should reinforce and provide opportunities to clarify the central themes and objectives of the program. Lengthy lecture sessions should be avoided whenever possible, or associated with workshop or small group discussion periods. The proposal should include a detailed syllabus outlining the focus of the subject matter with specific readings required for each unit.

Activities should include an orientation to the U.S. and the university community, field trips to places of local interest, home stays with families in the area (other secondary educators if possible), and events which will bring the participants into contact with Americans from different walks of life. These encounters will give the participants a chance to experience American society, its institutions and language, and observe the variety of attitudes that constitute one of our country's most striking characteristics.

In addition to the substantive presentations and discussions about American society, the institute should focus upon pedagogical concerns, materials and curricular development in the context of teaching about the U.S. Samples of secondary school curricula, materials and topical bibliographies in American studies fields should be provided or developed during the program. It should be noted that program participants will not only come from several different disciplines but also from a variety of educational systems. Most systems have rigorous teacher training programs for certification and classroom methods evaluated and approved by regional inspectors. Similarly, some systems require adherence to an assigned textbook while others allow significant flexibility to teachers in determining what materials they will use in presenting a lesson. The variety of approaches and experiences should provide the basis for interaction which will be both culturally and professionally stimulating to the entire group.

Program Administration

All programming and administrative logistics, management of the academic program and cultural tour will be the responsibility of the university. A project secretary and/or project assistant is required to carry out clerical and administrative duties required for the smooth operation of the institute during the program grant period, from the planning period to the completion of required reports to USIA. USIA will be responsible for all communications to and from participating Fulbright Commissions and the U.S. Information Agency posts abroad (USIS). The Fulbright Commissions and USIS posts are responsible for all international travel arrangements for participants. The USIA Program Officer will be available to offer advice and guidance to the university. To assist the university with programming facilitative services during the tour, there is a possibility of utilizing the programming and hospitality services of volunteer community groups across the country that are affiliated with the National Council for International Visitors, a nationwide network that provides hospitality and program assistance to foreign visitors.

If your university decides to submit a proposal, it should provide a detailed plan in response to the needs and priorities outlined above. Applicants should draw imaginatively on the full range of resources offered by their universities but may involve oustanding professionals from other universities and organizations. The proposal must clearly demonstrate quality on-site management capabilities for both the residential and the tour programs. The overall effectiveness of the institute hinges upon good administrative and organizational capabilities to manage the interactions between foreign educators and Americans. The university should indicate the tour sites, not to exceed three cities in addition to Washington, DC.

Budget Guidelines

For your guidance, our experience with similar institutes indicates that the cost to organize and administer the 45-day academic and group tour segments of the Institute would range from $1,500–$1,600 per person based on a group of 30 to 35 participants, excluding international and domestic air travel expenses and cost for room and board on campus and hotel and meals on tour.

The proposal should provide a detailed line-item budget outlining specific expenditures and source(s) from which funds are anticipated. The budget should include any in-kind and cash contributions to the program from universities, contributions, cost-sharing, or private sector.

Included in the budget worksheet for each budget line-item should be an explanation detailing how costs were computed (in parentheses), i.e., each salary line-item should include position title, annual salary, and per cent of effort used for this program.

The budget should include and elaborate on the following information:

I. University Costs

Administrative

(1) Salaries, benefits, and services (including support staff) for the program.

(2) Administrative costs, area ground transportation (including meeting participants at the airport nearest the campus upon arrival), office expenses, and any other costs covering the

academic activities during the four-week university program.

Program

(1) Miscellaneous costs, such as honoraria, film rental, and educational support material on campus, etc.

(2) Group admission costs for all cultural and tour activities during the course of the on-site university institute and weekend tour(s).

(3) Escort tour costs: university escort travel and expenses such as per diem, ground transportation costs for group activities, admission to cultural and tur activities (excluding domestic air travel costs). Per diem cannot exceed the official U.S. Government rate for individual cities.

(4) Group ground transportation, including airport transfer buses to and from airports and other education group program costs during the tour (excluding domestic air travel costs).

Indirect Costs

Indirect costs should be calculated based on the above budget items only. Indirect costs are not allowed on domestic air travel for university escorts and for participants and on participant living and incidental expenses disbursed by the university. A copy of the indirect cost rate of the cognizant agency should be included.

Universities which were awarded grants to conduct the American studies summer institutes in the past have accepted a level of 8% indirect cost. Universities have considered cost-sharing the amount in excess of 8%.

II. Per Capita Participant Costs (not subject to indirect costs, included as an addendum to the main budget)

(1) Lodging and Meals: Each foreign participant will receive a per diem payment for the 45-day program. This should be sufficient to cover the costs of room, board and incidentals while on campus and during the tour which should be based upon government allowable rate. Campus housing and meals should be shown as separate items.

(2) Required books.

(3) Ground transportation for individual or small group special events on campus and during the tour (such as train or bus fares to and from campus and hotels) not included in the main budget as a group project, only if applicable.

(4) Program and tour admission costs and other incidental costs for group activities on tour not included in the university program budget.

(5) Departure travel allowance not to exceed $70.

(6) A modest cultural allowance, not to exceed $100.

Domestic Air Travel

The university is required to book all domestic program tour flights through a U.S. carrier. If domestic air tickets are issued in the U.S., they should be booked and purchased through the Agency-approved Travel Management Center or a private travel agency using Government Transportation Requests, which allow access to government discount air fares. This applies to all domestic travel for university escorts and participants.

If domestic air tickets are issued abroad as is the case when Fulbright Commissions fully fund grantees, domestic travel must be booked with a U.S. airline that provides Visit USA fares.

Note: Total participant living costs and domestic air travel (not subject to indirect costs as noted above) should be based on the per capita breakdown multiplied by the number of participants, estimated at 35, and included in the budget totals.

For Institutional Recipients of Previous Grants Only

If your university was funded for a similar program last year, the budget should include last year's detailed line-item budget. Significant differences for each item must be noted and justified.

Funding Arrangements

A USIA grant will be issued to the university selected to conduct the institute covering university administrative and program costs in item I. The university will disburse participant living costs and other authorized allowances approved by the program for participants selected and funded by the USIA directly. These costs will be added to the grant through an amendment, when the number of grants are determined. For participants funded by Fulbright Commissions, certain program costs, determined by the Program Director and the USIA Program Officer, will be paid directly to the university by the participating Fulbright Commissions. Participant living expenses, per diem and other allowances for Fulbright grantees will be issued to the participants prior to leaving their home country.

International Travel

Round-trip international travel arrangements from home country to the campus and return from the last tour city (which may be Washington, DC) will be made and paid by Fulbright Commissions or USIA posts abroad. Participants receiving a USIA grant disbursed by the university in the U.S. will be given a modest travel allowance before departure from their home country. If a USIA post cannot issue U.S. dollars, the contracting institution may be requested to provide this allowance. The grant will be amended to cover such authorized costs.

Selection Criteria

A panel of senior USIA officers experienced in American studies, the exchange of international educators, and foreign affairs will use the following criteria when evaluating proposals:

(1) Quality and imaginative design of the institute;

(2) Quality, rigor, and appropriateness of proposed syllabus to goals of the institute;

(3) Clear evidence of the ability to deliver a substantive academic and pedagogical American studies program;

(4) Demonstrated high quality American studies programs—experience with foreign teachers is desirable;

(5) Provision for a useful evaluation at the conclusion of the institute;

(6) Evidence of strong on-site administrative and managerial capabilities for international visitors with specific discussion of how managerial and logistical arrangements will be undertaken;

(7) The experience of professionals and staff assigned to the program;

(8) The availability of local and state resources for the orientation and institute;

(9) A well-thought out and comprehensive cultural tour to complement the academic program;

(10) Cost-effectiveness.

Agreement Dates

The agreement period should begin one and a-half to two months prior to the beginning of the project date, July 5, for which period only minimal administrative assistance costs will be allowed. The termination date should include a 60- to 90-day period to cover the required end-of-project report.

Mailing of the Proposal

Applicants should submit *ten copies each* of a 500-word summary statement and a detailed proposal not to exceed 20 typed, double-spaced pages addressing the points outlined above and following the detailed budget guidelines. Interested institutions should request a USIA grant cover sheet, an Assurance of Compliance form, and Certification Regarding Drug-Free Workplace Requirements and Debarment at the address below. Final proposals along with the forms requested must be

received in the Agency by COB September 29, 1989. The proposal package should be submitted to: Division for the Study of the U.S., Office of Academic Programs, Bureau of Educational and Cultural Affairs, U.S. Information Agency, Attn: Katherine Passias, E/AAS, Rm. 256, 301 4th Street SW., Washington DC 20547, Phone (202) 485–2557.

Date: June 14, 1989.

Guy Story Brown,

Director, Office of Academic Programs.

[FR Doc. 89–15404 Filed 6–28–89; 8:45 am]

BILLING CODE 8230–01–M

DEPARTMENT OF VETERANS AFFAIRS

Intent To Prepare an Enviromental Impact Statement for a New Medical Center in Honolulu, HI

AGENCY: Department of Veterans Affairs.

ACTION: Notice of intent.

SUMMARY: The Department of Veterans Affairs (VA) intends to prepare an Environmental Impact Statement (EIS) on the proposed establishment of a new medical center in Hawaii on the island Oahu.

ADDRESS: Individuals are invited to submit comments on this notice to: Director of Environmental Affairs (088B4), Department of Veterans Affairs, 810 Vermont Avenue NW., Washington, DC 20420.

FOR FURTHER INFORMATION CONTACT: Jon E. Baer, Director, Landscape Architectural Service (088B4), Department of Veterans Affairs, 810 Vermont Avenue NW., Washington, DC 20420, (202) 233–2922.

SUPPLEMENTARY INFORMATION: An EIS is required because the scope of the proposed project could exceed the VA threshold for an EIS established in 38 CFR Part 26. Therefore, in accordance with section 102(2)(C) of the National Environmental Policy Act, VA is publishing this notice of intent pursuant to 40 CFR 1501.7.

The proposed medical center, if ultimately approved as a project by VA, could involve land acquisition, site preparation, building and road construction, and possibly would have traffic, economic and ecological impacts on the local area. Major environmental issues have not been identified as of the date of this notice.

Possible alternatives for the medical center have not been firmly identified but will depend upon demographic and physical requirements, available sites, and acquisition methods.

This notice is part of the process used for scoping the pertinent environmental issues for the EIS. Participation in the scoping process is invited by individuals, private organizations and local, State and Federal agencies. Comments received will be used by VA in its efforts to further identify and clarify significant environmental issues. Scoping meetings will be announced in local newspapers.

Approved: June 21, 1989.

Edward J. Derwinski,

Secretary of Veterans Affairs.

[FR Doc. 89–15308 Filed 6–28–89; 8:45 am]

BILLING CODE 8320–01–M

Sunshine Act Meetings

Federal Register
Vol. 54, No. 124
Thursday, June 29, 1989

This section of the FEDERAL REGISTER contains notices of meetings published under the "Government in the Sunshine Act" (Pub. L. 94-409) 5 U.S.C. 552b(e)(3).

NATIONAL COMMISSION ON LIBRARIES AND INFORMATION SCIENCE

DATE: July 12 and 13, 1989.

PLACE: Embassy Suites Hotel, Delegate Room, 1250 22nd Street, NW., Washington, DC 20037.

STATUS:

July 12, 1989, 1:00 p.m.–2:00 p.m.—Closed
Sec. 1703.202 (2) and (6) of the Code of Federal Regulations, 45 CFR Part 1703
July 12, 1989, 2:00 p.m.–5:00 p.m.—Open
July 14, 1989, 9:00 a.m.–5:00 p.m.—Open

MATTERS TO BE DISCUSSED:

Chairman's Report
Executive Director's Report
NCLIS Committee Reports:
- Budget and Finance
- Governance
- Indian Library Services
- Information Age
- International
- Legislative
- Program Review
- Public Affairs
- Recognition Award
- School Media
- White House Conference on Library and Information Services II

Report on Academic Libraries:
- Dr. Joanne Harrar, Director, McKeldon Library, University of Maryland

Report on NCLIS/AASL Information Literacy Symposium
White House Conference on Library and Information Services II Advisory Committee Report
Discussion on:
- National Library Card Sign-Up Month
- *National Information Policy* Report
- Directory of Associations and Organizations
- 1990 Commission Meeting Sites

Special provisions will be made for handicapped individuals by calling Jane McDuffie (202) 254–3100, no later than one week in advance of the meeting.

FOR FURTHER INFORMATION CONTACT: Susan K. Martin, NCLIS Executive Director, 1111 18th Street, NW., Suite 310, Washington, DC 20036, (202) 254–3100.

Dated: June 26, 1989.

Jane D. McDuffie,

Staff Assistant.

[FR Doc. 89–15533 Filed 6–27–89; 1:31 pm]

BILLING CODE 7527-01-M

UNITED STATES POSTAL SERVICE

Board of Governors

Meeting

The Board of Governors of the United States Postal Service, pursuant to its Bylaws (39 CFR 7.5) and the Government in the Sunshine Act (5 U.S.C. 552b), hereby gives notice that it intends to hold a meeting at 8:30 a.m. on Tuesday, July 11, 1989, in the Benjamin Franklin Room at U.S. Postal Service Headquarters, 475 L'Enfant Plaza, SW., Washington, DC. The meeting is open to the public. The Board expects to discuss the matters stated in the agenda which is set forth below. Requests for information about the meeting should be addressed to the Secretary of the Board, David F. Harris, at (202) 268–4800.

There will also be a session of the Board on Monday, July 10, 1989, but it will consist entirely of briefings and is not open to the public.

Agenda

Tuesday Session

July 11—8:30 a.m. (Open)

1. Minutes of the Previous Meeting, June 5–6, 1989.
2. Remarks of the Postmaster General.
3. Report on Operations Support Group Programs. (John G. Mulligan, Senior Assistant Postmaster General, Operations Support Group).
4. Review of MLOCR National Directory Development. (Peter A. Jacobson, Assistant Postmaster General, Engineering and Technical Support Department).
5. Tentative Agenda for August 14–15, 1989, meeting in San Francisco, California.

David F. Harris,

Secretary.

[FR Doc. 89–15536 Filed 6/27/89; 1:32 pm]

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federal register

Thursday
June 29, 1989

Part II

Environmental Protection Agency

40 CFR Parts 141 and 142

Drinking Water; National Primary Drinking Water Regulations; Filtration, Disinfection; Turbidity, Giardia lamblia, Viruses, Legionella, and Heterotrophic Bacteria; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 141 and 142

[WH-FRL-3607-7]

Drinking Water; National Primary Drinking Water Regulations; Filtration, Disinfection; Turbidity, Giardia lamblia, Viruses, Legionella, and Heterotrophic Bacteria

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This notice, issued under the Safe Drinking Water Act, publishes maximum contaminant level goals for *Giardia lamblia* viruses, and *Legionella;* and promulgates national primary drinking water regulations for public water systems using surface water sources or ground water sources under the direct influence of surface water that include (1) criteria under which filtration (including coagulation and sedimentation, as appropriate) are required and procedures by which the States are to determine which systems must install filtration, and (2) disinfection requirements. The filtration and disinfection requirements are treatment technique requirements to protect against the potential adverse health effects of exposure to *Giardia lamblia,* viruses, *Legionella,* and heterotrophic bacteria, as well as many other pathogenic organisms that are removed by these treatment techniques. This notice also includes certain limits on turbidity as criteria for (1) determining whether a public water system is required to filter; and (2) determining whether filtration, if required, is adequate.

DATES: This regulation is effective December 31, 1990. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of December 31, 1990.

ADDRESSES: A copy of the public record for this rulemaking, including public comments on the rule and supporting documents, is available for review at the EPA Drinking Water Docket, Room EB15, 401 M Street, SW., Washington, DC 20460. For access to the docket materials, call (202) 382-3027 between 9 a.m. and 3:30 p.m. Major supporting documents cited in the reference section of this notice are available for inspection at the Drinking Water Supply Branches in EPA's Regional Offices, listed below.

I. JFK Federal Bldg., Room 2203, Boston, MA 02203, Phone: (617) 565-3610, Jerome Healey
II. 26 Federal Plaza, Room 824, New York, NY 10278, Phone: (212) 264-1800, Walter Andrews
III. 841 Chestnut Street, Philadelphia, PA 19107, Phone: (215) 597-9873, Jon Capacasa
IV. 345 Courtland Street, Atlanta, GA 30365, Phone: (404) 347-2913, Michael Leonard
V. 230 S. Dearborn Street, Chicago, IL 60604, Phone: (312) 353-2650, Joseph Harrison
VI. 1445 Ross Avenue, Dallas, TX 75202, Phone: (214) 655-7155, Thomas Love
VII. 726 Minnesota Avenue, Kansas City, KS 66101, Phone: (913) 236-2815, Ralph Langemeier
VIII. One Denver Place, 999 18th Street, Suite 1300, Denver, CO 80202-2413, Phone: (303) 293-1424, Marc Alston
IX. 215 Fremont Street, San Francisco, CA 94105, Phone: (415) 974-0763, William Thurston
X. 1200 Sixth Avenue, Seattle, WA 98101, Phone: (206) 442-1225, Richard Thiel

Copies of the latest draft Guidance Manual for Compliance with the Surface Water Treatment Requirements for Public Water Systems ("Guidance Manual"), Regulatory Impact Analysis: Benefits and Costs of the Final Surface Water Treatment Rule, Health Advisory for *Legionella,* Technology and Costs for the Treatment of Microbial Contaminants in Potable Water Supplies, and health criteria documents for *Giardia lamblia,* viruses, *Legionella,* and turbidity are available for a fee from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161. The toll-free number is (800) 336-4700; the local number is (703) 487-4650.

FOR FURTHER INFORMATION CONTACT: The Safe Drinking Water Hotline, telephone (800) 426-4791 (except Alaska) or (202) 382-5533 in the Washington, DC metropolitan area or Alaska, or Stig Regli, Environmental Engineer, Science and Technology Branch, Criteria and Standards Division, Office of Drinking Water (WH-550D), Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460, telephone (202) 382-7379.

SUPPLEMENTARY INFORMATION:

Table of Contents

Abbreviations Used In This Notice

CFR: Code of Federal Regulations
CWS: Community Water System
CT: Residual Disinfectant Concentration in mg/l ("C") × Disinfectant Contact Time in min ("T")
CTcalc: Calculated CT Value
$CT_{99.9}$: CT Value Necessary to Achieve 99.9 Percent Inactivation
EPA: Environmental Protection Agency
HPC: Heterotrophic Plate Count
MCL: Maximum Contaminant Level
MCLG: Maximum Contaminant Level Goal
NIPDWR: National Interim Primary Drinking Water Regulation
NPDWR: National Primary Drinking Water Regulation
NTU Nephelometric Turbidity Unit
PWS: Public Water System
RIA: Regulatory Impact Analysis
RMCL: Recommended Maximum Contaminant Level
SDWA or "The Act": Safe Drinking Water Act, as amended in 1986

I. Legal Authority

EPA is promulgating this regulation under the authority of Secs. 1401, 1412, 1413, 1414, 1415, 1416, 1445, and 1450 of the Safe Drinking Water Act, as amended. 42 U.S.C. 300f, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300j–4, and 300j–9.

II. Background

A. Statutory Requirements

The 1986 amendments to the Safe Drinking Water Act ("SDWA" or "the Act"), Pub. L. 99–339, require EPA to promulgate a national primary drinking water regulation (NPDWR) specifying criteria under which "filtration" (defined in section 1412(b)(7)(C)(i) as including pretreatment measures such as coagulation and sedimentation, as appropriate) is required as a treatment technique for public water systems supplied by surface water sources. In establishing these criteria, EPA must consider source water quality, protection afforded by watershed management, treatment practices such as disinfection and length of water storage, and other factors relevant to protection of health.

In lieu of provisions for obtaining a variance from the filtration requirements under section 1415 of the Act, EPA must instead specify procedures which the State is to use to determine which public systems must use filtration based on the criteria that EPA establishes in this regulation.

Note: Throughout this preamble, the term "State" is used to mean a State with primary enforcement responsibility for public water systems or "primacy," and to mean EPA in the case of a State that has not obtained primacy.

States may require the public water system to provide studies or other information to assist in this determination. The procedures for determining whether filtration is required must provide notice and opportunity for public hearing.

EPA was to promulgate this NPDWR by December 19, 1987. In March 1988, the Bull Run Coalition in Portland, Oregon sued the Agency for failure to issue the rule by the statutory deadline. On January 17, 1989, a consent decree committing EPA to promulgate this rule by June 19, 1989 was filed in the District Court of Oregon.

Within 18 months after EPA promulgates the NPDWR specifying filtration requirements, a State with primary enforcement responsibility for public water systems must adopt any regulations necessary to implement the requirements of this NPDWR. Within 12 months of the adoption of such regulations, the State must make determinations regarding filtration for all public water systems supplied by surface waters within its jurisdiction. If the State determines that filtration by a public water system is required, the State must prescribe a schedule for that system that requires compliance within 18 months of the determination.

The 1986 amendments to the Safe Drinking Water Act also required EPA, by June 19, 1989, to: (1) Promulgate a NPDWR requiring disinfection as a treatment technique for all public water systems (including those served by surface water and those served by ground water) and a rule specifying criteria by which variances to this requirement may be granted; and (2) publish maximum contaminant level goals and promulgate NPDWRs for 83 contaminants listed in the Advance Notices of Proposed Rulemaking published at 47 FR 9352 (March 4, 1982) and 48 FR 45502 (October 5, 1983). This list of contaminants includes turbidity and five microbiological contaminants: *Giardia lamblia* ("*Giardia*"), viruses, *Legionella*, Heterotrophic Plate Count bacteria ("heterotrophic bacteria" or "HPC"), and total coliforms.

B. Regulatory History

In the Advance Notice of Proposed Rulemaking published on October 5, 1983, EPA discussed issues pertaining to regulation of turbidity, *Giardia lamblia*, viruses, *Legionella*, and HPC, as well as filtration treatment for surface water and disinfection requirements for all systems (48 FR 45502). On November 13, 1985, EPA proposed MCLGs for turbidity, *Giardia lamblia*, and viruses and solicited comment on the appropriateness of establishing MCLGs and NPDWRs for *Legionella* and HPC (50 FR 46936). (In this rule "viruses" means viruses of fecal origin which are infectious to humans by waterborne transmission. "*Legionella*" means a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires disease; the etiologic agent of most cases of Legionnaires disease examined has been *L. pneumophila*.) Public comments on these two Federal Register notices and EPA's responses to the comments are included in the Response to Comments document in the public docket for this rulemaking (USEPA, 1989d).

On November 3, 1987, EPA: (1) Reproposed MCLGs for *Giardia lamblia* and viruses, and proposed an MCLG for *Legionella*; (2) proposed a national primary drinking water regulation specifying (a) criteria under which filtration (including coagulation and sedimentation, as appropriate) is required as a treatment technique for public water systems using surface water sources and procedures by which the State must determine which systems must install filtration and (b) disinfection treatment technique requirements for public water systems using surface water sources (52 FR 42178). The proposed filtration and disinfection requirements were intended to protect against the potential adverse health effects of exposure to *Giardia lamblia*, viruses, *Legionella*, and heterotrophic bacteria, as well as many other pathogenic organisms that are removed by these treatment techniques. The November 3, 1987, notice also withdrew the November 13, 1985, proposed MCLG for turbidity and proposed certain limits on turbidity as criteria for: (1) Determining whether a public water system is required to filter; and (2) determining whether filtration, if required, is adequate.

On January 7, 1988, EPA published a notice extending the public comment period on these proposed surface water treatment requirements (53 FR 1892). On

May 6, 1988, EPA published a Notice of Availability which solicited specific data, discussed alternatives to the proposed surface water treatment requirements and solicited comment on these alternative options, and designated July 5, 1988, as the end of the public comment period (53 FR 16348).

C. Regulatory Framework

As explained in greater detail in the proposal, this rule fulfills the following statutory requirements:

(1) The requirement that EPA promulgate a NPDWR specifying criteria under which filtration (including coagulation and sedimentation, as appropriate) is required as a treatment technique for public water systems using surface water sources, including procedures by which the State will determine which systems must install filtration. *See* section 1412(b)(7)(C).

(2) The requirement that EPA promulgate a NPDWR requiring disinfection as a treatment technique for public water systems using surface water sources (EPA intends to promulgate additional regulations specifying disinfection requirements for systems using ground water sources at a later date). *See* section 1412(b)(8).

(3) The requirement that EPA regulate *Giardia lamblia*, viruses, *Legionella*, heterotrophic plate count bacteria, and turbidity. *See* section 1412(b)(1). (Coliforms are regulated in a separate rule published elsewhere in today's **Federal Register**.)

(a) *Giardia lamblia* cysts pose significant risks to health for systems using surface waters, but usually not for systems using ground water, because these protozoan cysts are removed from water by natural filtration processes in the course of the water's passage through the ground. The turbidity level, which is a measure of particulate matter in water, is an indicator of the effectiveness of treatment processes that control pathogens, including *Giardia*, in systems using surface water. Turbidity is not a useful indicator of treatment effectiveness for most ground water systems since most particulates are already being removed by natural filtration processes in the course of the water's passage through the ground. Because natural filtration processes remove turbidity and *Giardia* from ground water, EPA believes that promulgation of this regulation, which applies to public water systems using surface water sources (or, as explained later, ground water sources under the direct influence of surface water) and includes turbidity requirements, is adequate to control these contaminants, so additional NPDWRs to regulate *Giardia* and turbidity in ground water are unnecessary. Thus, it is EPA's position that today's regulation fulfills the SDWA requirement to regulate *Giardia lamblia* and turbidity.

(b) This rule also provides protection from viruses, *Legionella*, and HPC in surface water and thereby complies with the SDWA requirement to regulate these contaminants in surface water systems. EPA intends to promulgate NPDWRs to control the levels of viruses, *Legionella*, and HPC in drinking water derived from ground water sources. These regulations will be included in the disinfection requirements for ground water sources.

The criteria in this final rule are designed to control microbiological contamination in general, not just *Giardia lamblia*, viruses, *Legionella*, and HPC. Since no waterborne disease outbreaks have been identified in properly designed, well-operated systems, i.e., systems that meet these criteria, EPA believes that compliance with this rule will provide significant protection from most waterborne pathogens, including those not specifically covered by this rule. For instance, EPA believes that filtered systems which comply with the requirements of this rule for such systems will provide significant protection from *Cryptosporidium*, a protozoan recently implicated in waterborne disease outbreaks. However, because of the current uncertainty of the effectiveness of disinfection for inactivating *Cryptosporidium*, the degree of protection from this protozoan for systems which choose to comply with the requirements of this rule for unfiltered systems may be more limited. EPA is currently conducting studies to determine whether additional regulations may be necessary to control for *Cryptosporidium*.

III. Response to Major Issues

In this section, EPA describes the major comments it received on the proposed criteria, which provisions of the final rule have been changed in response to those comments, and the rationale for those changes. EPA's more detailed responses to the public comments appear in the Response to Comments document in the public docket. (USEPA, 1989b.) This section is presented prior to the description of the final rule (Section IV) and assumes the reader is familiar with the proposed rule. Therefore, depending on interest and background, the reader may prefer to either skip this section or read Section IV first.

A. Determination of Source Water Type

Under the proposed rule, "surface water" was defined as

> All water (1) open to the atmosphere and subject to surface runoff, or (2) which is directly influenced by surface water, as defined in (1), which may include springs, infiltration galleries, or wells. Whether there is direct influence by surface water must be determined on a case-by-case basis. Direct influence may be indicated by: (i) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH (which may also change in ground water but at a much slower rate) which closely correlate to climatologic or surface water conditions, or (ii) the presence of insects or other macroorganisms, algae, organic debris, or large-diameter pathogens such as *Giardia lamblia*.

Some commenters supported the definition because it would allow States to require treatment to control for *Giardia* cysts, if such contamination were apparent, in systems using sources traditionally classified as ground water. Other commenters objected to the definition because it included aquifers, depending upon how the term "direct influence by surface water" was interpreted. Aquifers, for the most part, are protected from contaminants, such as *Giardia* cysts, which are characteristic of surface water supplies; thus, they argue, it is not necessary to subject these systems to this rule. Many commenters were concerned that the proposed definition would require States to evaluate all ground water systems to determine whether they were under the direct influence of surface water within 30 months following the promulgation of the rule. Commenters considered this impractical because of the limited resources available to States.

EPA agrees that most systems using sources traditionally defined as ground water are not at risk from contamination by *Giardia* cysts or other contaminants typically found in surface water. The rate of reported waterborne outbreaks of giardiasis in systems using ground water (as traditionally defined, i.e., water not open to the atmosphere) is about 1/43 of that in filtered and disinfected surface water supplies and about 1/326 of that in unfiltered surface water supplies (Craun, 1989). However, *Giardia* cysts do occur in some ground water supplies due to contamination by surface water (e.g., springs, infiltration galleries, and wells; Hibler, 1987a). Therefore, EPA believes it is appropriate that all ground water systems be evaluated, on a case-by-case basis, for the potential of contamination by *Giardia* cysts. EPA believes that a system at significant risk from

contamination of *Giardia* cysts, i.e., a ground water system under the direct influence of surface water where the structure of the system cannot be altered to reduce this risk, should be required to comply with the treatment requirements of this rule to ensure adequate protection of public health.

Based on information provided in public comments and further consideration, EPA agrees that the statutory timeframe for States to make filtration decisions (i.e., 30 months from promulgation of this rule) does not provide adequate time for States to evaluate which ground water systems are under the direct influence of surface water. In addition, EPA believes the most practical approach for States is to make these determinations when sanitary surveys are conducted pursuant to the NPDWR for total coliforms (published elsewhere in today's Federal Register) and/or when ground water systems are evaluated for adequacy of treatment under the forthcoming disinfection requirements for ground water systems.

EPA is also concerned that if a system using a ground water source were reclassified as a "surface water source" because the State determines it is under the direct influence of surface water, as described in the proposal, such a system also would be required to comply with other regulations pertaining to surface water supplies (e.g., under other NPDWRs, surface water supplies have different monitoring requirements than ground water supplies). This may or may not be appropriate, depending upon the characteristics of the system.

EPA has addressed the above concerns by making the following changes in the final rule:

a. The definition of surface water has been shortened to "all water open to the atmosphere and subject to surface runoff."

b. The final rule defines a new term, "ground water under direct influence of surface water," as:

> Any water beneath the surface of the ground with (i) significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as *Giardia lamblia*, or (ii) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. Direct influence must be determined for individual sources in accordance with criteria established by the State. The State determination of direct influence may be based on an evaluation of site-specific measurements of water quality and/or well construction characteristics and geology with field evaluation.

c. When the State revises its drinking water regulations to adopt today's rule, the revisions must include a program for determining which systems using ground water as a source are under the direct influence of surface water (i) within 5 years following the promulgation date of this rule for community water systems, and (ii) within 10 years following the promulgation date of this rule for non-community water systems. These timeframes are consistent with the schedule for conducting sanitary surveys under the total coliform rule, promulgated elsewhere in today's Federal Register. EPA believes these time frames are reasonable because the sanitary surveys will provide much of the information necessary to make the determination.

d. All unfiltered ground water systems that the State determines are under the direct influence of surface water must (i) begin monitoring 6 months following the determination to demonstrate they are meeting the criteria to avoid filtration and comply with the requirements for avoiding filtration beginning 18 months following the determination, unless the State determines that filtration is required, or (ii) install filtration and comply with the monitoring and treatment requirements for filtered systems beginning 18 months following the determination that filtration is required. This schedule is explained in more detail in the section entitled "Compliance," below.

Guidance for evaluating whether ground water systems are under the direct influence of surface water will be available in the final Guidance Manual. EPA recommends that infiltration galleries, springs, and shallow wells be evaluated first, then, depending upon aquifer characteristics, wells in increasing depth. EPA believes that, for most ground water systems, only minimal analysis will be necessary to make this determination. Simply put, if a ground water system is subject to *Giardia* contamination (unless the contamination originates within the distribution system), States should classify it as a source under the direct influence of surface water and thus subject to the treatment requirements of this rule. It is important to note that the intent of this rule is not to regulate viral and bacterial contamination in systems using ground water, unless *Giardia* cysts are also associated with such occurrence. Thus, if there is little likelihood for *Giardia* cysts to occur in a system using ground water, but there is potential for bacterial and viral contamination, EPA does not expect the State to classify this source as a ground water source under the direct influence of surface water. Compliance with the NPDWR for total coliforms (published elsewhere in today's Federal Register) and/or the forthcoming disinfection requirements for disinfection of ground water systems will require adequate treatment to address these other concerns.

EPA anticipates that while some ground water systems, such as infiltration galleries, springs, and shallow wells, may be under direct influence of surface water in their current configuration, in many cases, it may be possible to make structural modifications to prevent the direct influence of surface water and eliminate the potential for *Giardia* cyst contamination, thereby avoiding the requirements of this rule.

Note: Throughout the remainder of this preamble, unless otherwise noted, we use the term "surface water systems" and related terms to include both public water systems using a surface water source and public water systems using a ground water source under the direct influence of surface water.

B. 99.9 Percent Removal and/or Inactivation of Giardia Cysts

EPA proposed to require all systems using surface water to achieve at least a 99.9 percent (3-log) removal and/or inactivation of *Giardia lamblia* cysts. Many commenters thought it inappropriate to require the same minimum percent removal requirement for all systems, regardless of differences in source water quality and potential risk. Several commenters suggested that EPA allow exceptions to this minimum treatment performance requirement based on source water quality (e.g., low occurrence of *Giardia* cysts) and/or epidemiological evidence of low risk. Some commenters thought that EPA should base the treatment requirement upon some level of acceptable risk in the finished water.

EPA continues to support the rationale presented in the preamble to the proposed rule for setting the minimum performance criteria of 99.9 percent removal and/or inactivation of *Giardia* cysts (52 FR 42194–42195). Furthermore, additional information has become available to support these criteria.

Table III.1 indicates peak and average *Giardia* cyst concentrations in polluted and pristine source waters of public drinking water supplies (Rose, 1988), where waters contaminated with sewage and agricultural wastes were characterized as "polluted" and waters originating from protected watersheds with no significant sources of microbiological contamination from human activities were classified as "pristine." The indicated concentration

levels reflect actual counts of cysts detected without adjustment for inefficiencies in recovery (recovery efficiencies were unknown for most samples). These data indicate that, even though average cyst concentrations can be significantly higher in polluted than in pristine source waters, at least part of the year peak cyst concentration levels in pristine waters can be the same order of magnitude as the levels in polluted supplies. Occasional high concentrations of *Giardia* cysts in source waters with protected watersheds may occur due to contamination from animal populations. Thus, during the part of the year when the water is most contaminated, i.e., the concentrations of *Giardia* are the highest, approximately the same level of treatment performance is necessary for a pristine water source as is necessary for a polluted source to provide the same level of protection.

TABLE III.1—GIARDIA CYST DENSITIES IN SOURCES OF DRINKING WATER [1]

Type of water	Number of samples	Number of sites	Percent [2] positive for Giardia	Cysts/100 liters		
				Peak	Range of mean concentrations [3]	Mean of all concentrations [3]
Waters polluted with human and agricultural wastes	135	8	43	625	0.33–104	33
Pristine waters	283	7	10	114	0.6–5	0.9
Waters of unknown quality	1,226	18	26.4	100	0.005–2.95	0.61

[1] Rose, 1988.
[2] Percent of the samples.
[3] Geometric mean.

To date, in each reported waterborne disease outbreak of giardiasis, at least 0.5 percent or greater of the population (50 or more per 10,000 people or 5×10^{-3}) were infected (Rose, 1988). EPA believes that public water supplies should provide much greater protection than simply that necessary to avoid this level of risk from waterborne disease. EPA believes that providing treatment to ensure less than one case of microbiologically caused illness per year per 10,000 people is a reasonable goal. This is comparable to other acceptable microbiological risk levels (Regli et al., 1988).

Based on a recent risk analysis, which assumes all cysts found are viable and infectious to humans, the incidence of infection from *Giardia* was predicted as a function of exposure to cyst concentrations in drinking water (Rose, 1988). Tables III.2 and III.3 indicate the daily and annual risk from *Giardia* infection for people consuming finished water with different *Giardia* cyst concentrations. The tables also specify the level of treatment (i.e., 3-, 4- or 5-log removal and/or inactivation of *Giardia* cysts) needed for source water with different cyst concentrations to ensure that the indicated daily and annual risk per person are not exceeded.

Comparing Table III.2 with Table III.1, it appears that water treatment plants which provide 3-log removal and/or inactivation of *Giardia* cysts would generally ensure exposure to risk of giardiasis of less than 10^{-4} (i.e., less than one in 10,000 people infected) during days of worst case *Giardia* cyst occurrence (defined as 250 cysts/100 liters). Comparing Table III.3 with Table III.1, it appears that water treatment plants which provide 3- to 5-log removal and/or inactivation of *Giardia* cysts, depending on source water quality (e.g., for waters with less than 0.7 cysts/100 liters and 3-log removal and/or inactivation, or water with less than 70 cysts/100 liters and 5-log removal and/or inactivation), would generally ensure that the risk of giardiasis is less than 10^{-4} per year. Although EPA recognizes that the above analysis may be conservative, it is not unreasonable since the cyst occurrence levels, as indicated in Table III.1, may actually be much higher due to poor efficiencies of recovery. EPA believes that 3- to 5-log removal and/or inactivation of *Giardia* cysts represents a reasonable level of protection for the range of source water contamination expected to occur in the United States. Therefore, the final rule requires that all systems achieve at least a 3-log removal and/or inactivation of *Giardia* cysts. In the final Guidance Manual, EPA will recommend specific minimum performance levels in the 3- to 5-log range, depending upon the expected degree of cyst contamination in the source water.

TABLE III.2—ESTIMATED DAILY RISK OF GIARDIA INFECTIONS FROM VARIOUS LEVELS OF CYST CONTAMINATION IN DRINKING WATER USING AN EXPONENTIAL RISK ASSESSMENT MODEL [1]

Daily risk per person [2]	Cyst concentration in 100 liters of finished water	Allowable Cyst concentration in 100 liters of source water to achieve given treatment reductions		
		3 = log	4 = log	5 = log
$10^{-3.5}$	[3] 0.75	7.5×10^{2}	7.5×10^{3}	7.5×10^{4}
10^{-4}	0.25	2.5×10^{2}	2.5×10^{3}	2.5×10^{4}
$10^{-4.5}$	0.075	75	7.5×10^{2}	7.5×10^{3}
10^{-5}	0.025	25	2.5×10^{2}	2.5×10^{3}

[1] Rose, 1988.
[2] Assumes 2 liters of water consumed per day.
[3] Level of cysts detected during waterborne outbreaks of giardiasis.

TABLE III.3—ESTIMATED ANNUAL RISK OF GIARDIA INFECTIONS FROM VARIOUS LEVELS OF CYST CONTAMINATION IN DRINKING WATER USING AN EXPONENTIAL RISK ASSESSMENT MODEL [1]

Annual risk per person [2]	Geometric mean cyst concentration in 100 liters of finished water for one year	Allowable Cyst concentration in 100 liters of source water to achieve given treatment reductions		
		3=log	4=log	5=log
$10^{-3.5}$	2×10^{-3}	2.0	20	200
10^{-4}	7×10^{-4}	0.7	7.0	70
$10^{-4.5}$	2×10^{-4}	0.2	2.0	20
10^{-5}	7×10^{-5}	0.07	0.7	7.0

[1] Rose, 1988.
[2] Assumes 2 liters of water consumed per day.

The treatment performance levels cited above are consistent with what is currently being achieved by well-operated systems in the U.S. Figures III.1 and III.2 illustrate levels of *Giardia* cyst inactivation achieved by disinfection alone during winter and summer months, respectively, by typical filtered water supplies in the U.S. (based on data from AWWA (1987)). Assuming a 2- to 3-log removal of *Giardia* cysts by conventional treatment (which is used by most of the utilities represented in Figures III.1 and III.2) without disinfection, a total of at least 3- to 5-log removal and/or inactivation of *Giardia* cysts from filtration and disinfection combined is generally achieved in well-operated water treatment plants in the U.S.

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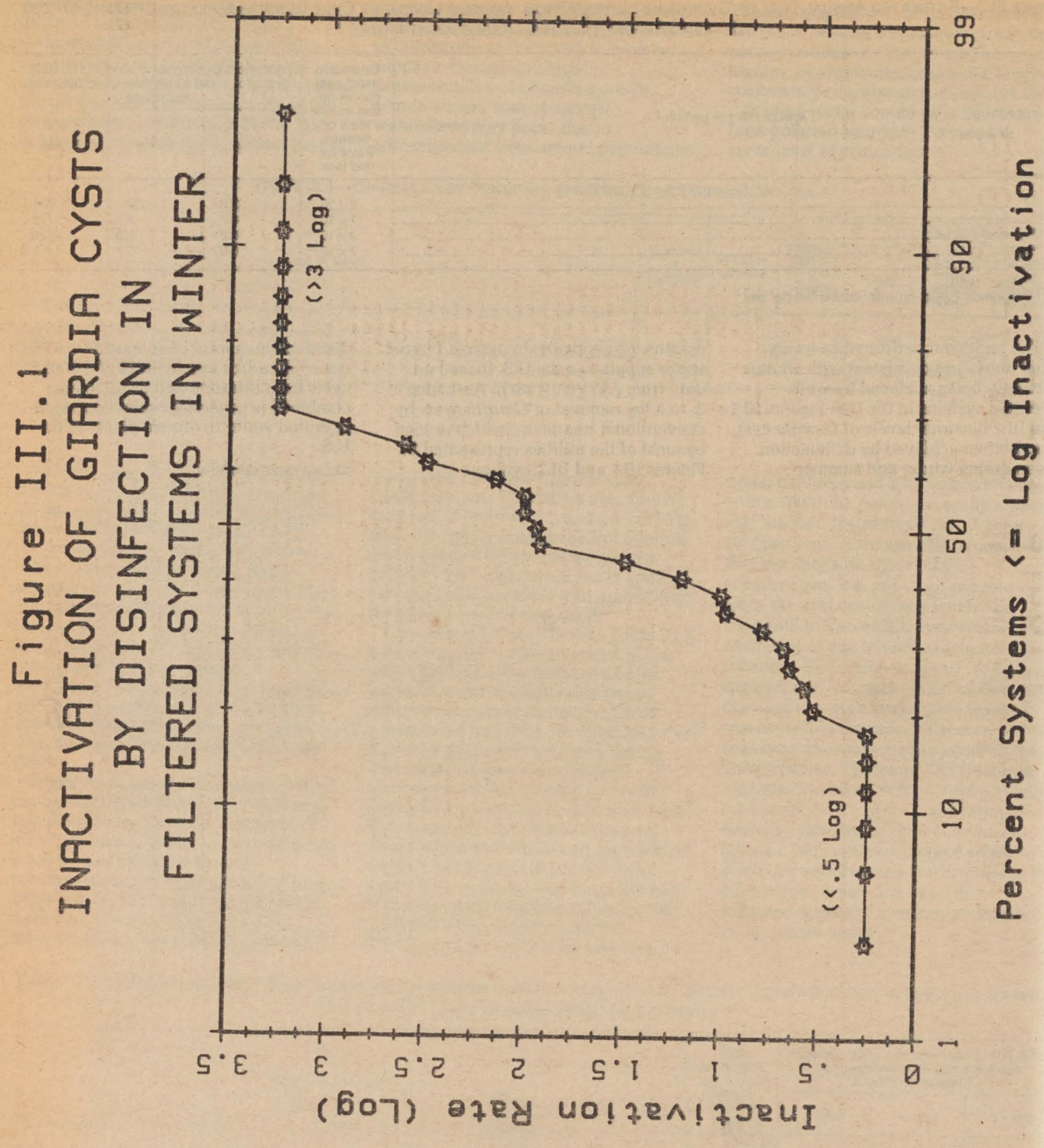
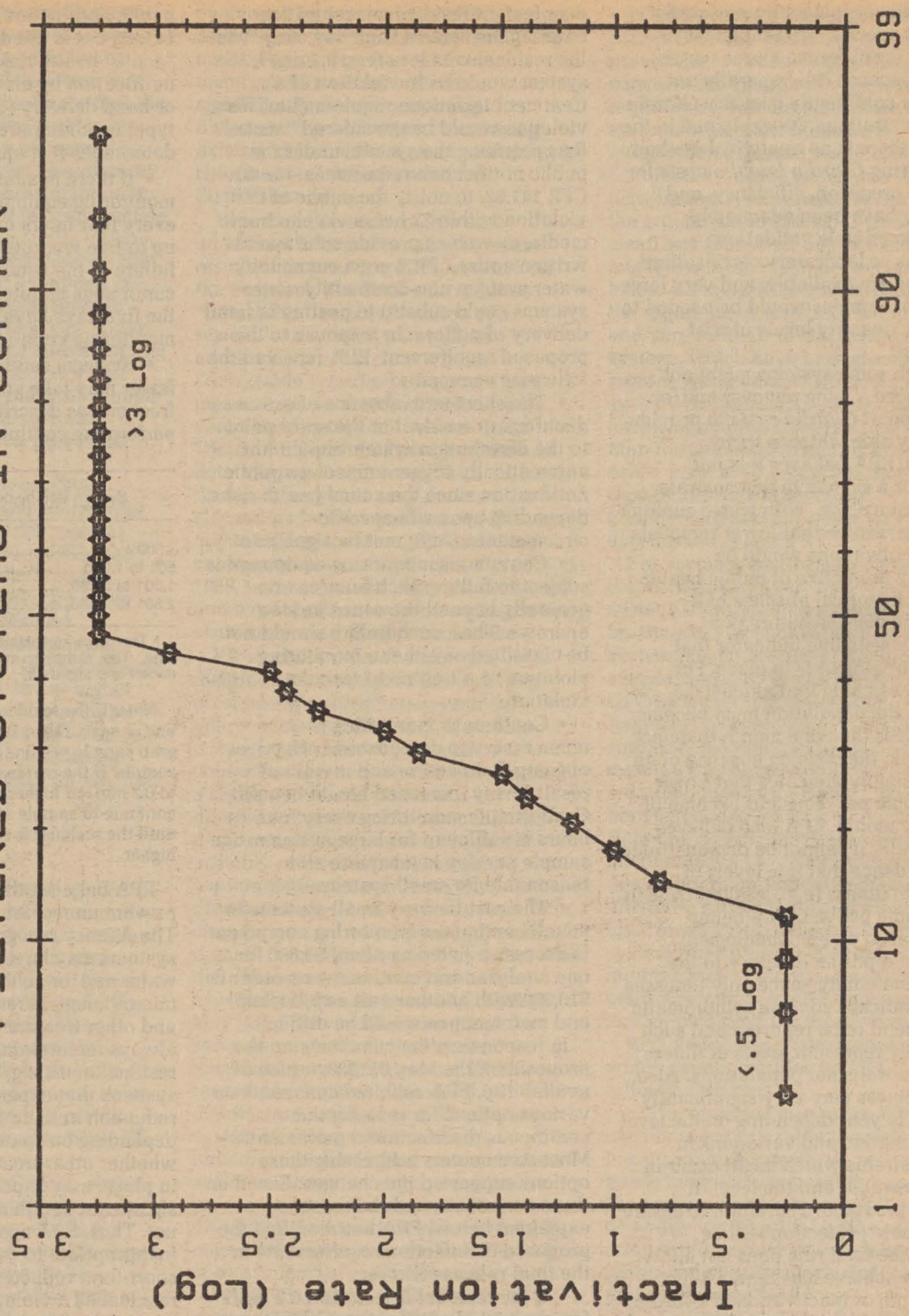


Figure III.1
INACTIVATION OF GIARDIA CYSTS
BY DISINFECTION IN
FILTERED SYSTEMS IN WINTER
(>3 Log)
(<.5 Log)
Inactivation Rate (Log)
0
.5
1
1.5
2
2.5
3
3.5
Percent Systems <= Log Inactivation
1
10
50
90
99

Figure III.2
INACTIVATION OF GIARDIA CYSTS
BY DISINFECTION IN
FILTERED SYSTEMS IN SUMMER



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EPA believes it is inappropriate for the rule to specify different levels of treatment for different source water qualities because it is generally not feasible to confidently quantify *Giardia* cyst concentrations. As explained in the proposal, there is no analytical method for measuring *Giardia lamblia* cysts for which the precision, efficiency, and sensitivity have been adequately defined; no reliable validation procedures or laboratory certification procedures are available; and very large numbers of samples would be needed to accurately quantify levels of cyst occurrence.

Although some systems might not actually need a 3-log removal and/or inactivation of *Giardia* cysts to provide adequately safe water to their customers, EPA believes it is not feasible for a system to demonstrate with assurance, e.g., with water quality monitoring results, that lower removals and/or inactivations would be adequately protective of public health. Nor is the historical absence of a waterborne disease outbreak a sufficiently sensitive indicator that adequate treatment is in place. For example, assuming that at least 0.5 percent of the population must become ill within less than one month to detect an outbreak, the ongoing absence of an outbreak simply indicates that fewer than 5 people per thousand become ill during any month. EPA also believes that generally it cannot be demonstrated with confidence that low levels of waterborne illness (e.g., less than one in 10,000 people per year) are being avoided based on epidemiological analysis of reported illnesses to the medical community, since only illnesses with a significant adverse symptomatic response tend to be reported and such reports only represent levels of illness among non-transient populations. Also, levels of illness may vary significantly from year to year depending on the level of contamination and variations in pathogen strains which might occur in the source water, and the level of treatment provided. Therefore, to assure that adequate protection will be provided, the final rule does not allow systems to achieve less than a 3-log removal and/or inactivation of *Giardia* cysts.

C. Continuous Disinfection at the Entry Point to the Distribution System

EPA proposed to require that all systems using surface water (both unfiltered and filtered) disinfect their water and continuously monitor the disinfectant residual entering the distribution system. Under the proposal, each system would record the lowest disinfectant residual concentration entering the system each day. Any time the residual was less than 0.2 mg/1, the system would be in violation of a treatment technique requirement. This violation would be considered "acute," thus requiring the system, under the public notification requirements in 40 CFR 141.32, to notify the public of the violation within 72 hours via electronic media, as well as provide subsequent written notice, if it were a community water system; non-community water systems could substitute posting or hand delivery of notices. In response to this proposed requirement, EPA received the following comments:

- The short-term absence of a disinfectant residual at the entry point to the distribution system should not automatically trigger immediate public notification since the actual health risks, depending upon site-specific circumstances, may not be significant.
- Continuous monitoring equipment is subject to failure; such failures are generally beyond the control of the operator. Thus, such failure should not be classified as either a monitoring violation or a treatment technique violation.
- Continuous monitoring is unnecessary to demonstrate effective ongoing disinfection and it will not result in any increased health benefit. Grab sample monitoring every four hours is sufficient for large systems; one sample per day is adequate and reasonable for small systems.
- The cost for very small systems to install continuous monitoring equipment is excessive (cited as about $5,000 for one analyzer and continuous recorder or $10,000 with another unit as a backup) and maintenance would be difficult.

In response to the comments on the proposal, in the May 6, 1988, notice of availability, EPA solicited comments on various options for revising the continuous disinfection requirement. Most commenters addressing these options supported the changes. Based on these comments, and the reasons explained below, EPA has modified the proposed disinfection requirements in the final rule as follows:

- If the residual is less than 0.2 mg/l for any period of time, the system must notify the State as soon as possible but no later than by the end of the next business day after it is first detected.
- If the residual measured is less than 0.2 mg/l and it has not been restored to 0.2 mg/l or higher within four hours of the first measurement, then the system is in violation of a treatment technique requirement. Under the final rule, this violation is a Tier 1 violation (see the public notification rules at 40 CFR 141.32) but is not defined as posing an "acute" health risk, so immediate public notification by electronic media, posting, or hand delivery (depending on system type) is not required unless the State determines it is appropriate.
- If there is a failure in continuous monitoring equipment, grab sampling every four hours may be conducted for up to five working days following the failure of the equipment. Failure to use continuous monitoring equipment after the five days have passed is a monitoring violation.
- Systems serving 3,300 people or fewer may take grab samples, at the frequencies described below, in lieu of performing continuous monitoring.

System size by population	Samples/day [1]
<500	1
501 to 1,000	2
1,001 to 2,500	3
2,501 to 3,300	4

[1] The day's samples cannot be taken at the same time. The sampling intervals are subject to State review and approval.

Note: If the residual is less than 0.2 mg/l in any sample, the system must take another grab sample within four hours of the first sample. If the residual has not been restored to 0.2 mg/l or higher, the system must continue to sample at least every four hours until the residual is restored to 0.2 mg/l or higher.

EPA believes the revised criteria will prevent unnecessary public notification. The Agency recognizes that some systems may have very clean source water and/or achieve excellent microbiological removal by filtration and other treatment processes, without always maintaining a disinfectant residual of 0.2 mg/l or higher. Some systems that experience a brief reduction in their disinfection process, depending on source water quality and whether other treatment processes are in place, may expose the population to significant health risk while others may not. Thus, EPA agrees that it is inappropriate to categorically define a short-term reduction in the disinfection residual as a violation which poses an "acute" health risk, thus requiring immediate public notification via electronic media, posting, or hand delivery (depending on system type). Instead, EPA believes that States should make these determinations as appropriate. Similarly, since all systems are prone to operational failure at some time, but not all such situations pose a significant health risk, EPA believes that some time interval should be allowed

for systems to restore the disinfectant residual rather than categorically defining this absence as a treatment technique violation. EPA believes that once the system becomes aware that the disinfectant concentration level is low or absent, four hours is a reasonable maximum time interval for operators to adjust and/or repair the disinfection or monitoring equipment or to bring backup disinfection or monitoring units on-line.

EPA agrees with the commenters that, for some small systems, it may not be practical to keep monitoring units in continuous operation. Therefore, in the final rule, EPA is allowing grab sampling for small systems. EPA believes that requiring a minimum of one grab sample daily will ensure that the operator checks on the disinfection process at least once a day.

In the May 6, 1988, notice, EPA suggested that grab sample monitoring once per day be allowed for systems serving 500 people or fewer; EPA also solicited comment on whether grab sampling should be allowed for some larger systems as well. Several commenters suggested that the rule allow grab sampling for systems serving fewer than 3,300 people, but at higher frequencies than required for systems serving fewer than 500 people. EPA considers this suggestion reasonable and has modified the criteria in the final rule accordingly.

D. Disinfectant Residual in the Distribution System

EPA proposed to require all systems using surface water (both filtered and unfiltered) to maintain at least a 0.2 mg/l disinfection residual in greater than or equal to 95 percent of the distribution system samples taken each month. If a system failed to comply with this requirement for any two consecutive months, it would be in violation of a treatment technique requirement. Also, unfiltered systems failing to meet this criterion would be required to filter. The purpose of this criterion was to:

- Ensure that the distribution system is properly maintained and identify and limit contamination from outside the distribution system when it might occur;
- Limit growth of heterotrophic bacteria and *Legionella* within the distribution system; and
- Provide a quantitative limit which, if exceeded, would trigger remedial action.

EPA proposed a minimum disinfectant residual of 0.2 mg/l because it believed that maintenance of such levels are generally feasible for most well-operated systems. However, public comments indicate that, for many systems which are well-operated (as evidenced by low levels of HPC in routine monitoring), it is not feasible to maintain the proposed minimum disinfectant residual without significantly changing existing disinfection practice (e.g., increasing existing chlorine dosages or switching to chloramine disinfection for the distribution system).

Based on these comments and additional information about current disinfection practice, EPA has revised the proposal. The final rule requires "detectable" residuals in lieu of residuals of at least 0.2 mg/l. In addition, sites that do not have "detectable" residuals, but have HPC measurements of 500/ml or less, are considered equivalent to sites with "detectable" residuals for purposes of determining compliance. Thus, under the final rule, a system may measure for either disinfectant residual or HPC at any sampling location. EPA solicited comments on these options in the May 6, 1988, notice of availability (53 FR 16352), and most commenters responding to this issue supported these alternatives.

EPA believes the absence of a disinfectant residual, rather than the presence of a disinfectant residual below some specific level, is a more accurate indicator of potential contamination at a site. The absence of a residual at a site within the distribution system indicates that the disinfectant level has been reduced, possibly as a result of localized contamination from outside the distribution system (e.g., via cross-connections or back siphonage) or from organic or inorganic materials within the distribution system (such materials, especially in the absence of a residual, may be of concern because they can serve as nutrients that enhance microbial growth). However, EPA recognizes that the absence of a disinfectant residual at a distribution system site does not necessarily indicate microbiological contamination; such contaminants simply may not be present, even in the absence of a disinfectant residual. In other words, if microbial populations are low, the lack of a disinfectant residual is not a concern. Therefore, in the final rule, sites with HPC populations of 500/ml or less are considered equivalent to sites with detectable disinfectant residuals for purposes of determining compliance. EPA believes the 500/ml HPC limit is generally feasible for most well-operated systems with well-maintained distribution systems and that water below this limit is unlikely to be subject to localized contamination or significant microbial growth.

In addition to the changes described above, EPA has added several other provisions to the final rule. Some commenters thought the proposed requirement was inappropriate for systems which introduce both undisinfected ground water and disinfected surface water into the same distribution system because dilution by the ground water (which is presumably clean and thus need not be disinfected) might lower the residual concentration below 0.2 mg/l. In this case, they argued, the requirement was both inappropriate and very difficult to meet. Therefore, for systems which have both ground and surface waters entering the distribution system, the State may allow monitoring for disinfectant residuals at points other than the sampling locations for total coliforms if such points are more representative of the treated (disinfected) surface water within the distribution system.

For systems which cannot maintain a disinfectant residual in the distribution system, if the State determines, based on site-specific considerations, that a system has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite conditions (i.e., if analysis cannot begin within 8 hours on samples maintained at temperatures below 4° C, with the maximum elapsed time between collection and analysis under 30 hours; APHA, 1985), and adequate disinfection is provided by that system, this disinfection requirement does apply. The State's judgment might be based upon knowledge of the public water system's distribution system, maintenance of a cross-connection control program, source water quality, and/or past coliform monitoring results.

EPA added this provision for systems which cannot monitor for HPC for the following reasons:

- The option of measuring HPC usually is not available to small systems because they generally do not have in-house laboratory capability to perform the analysis themselves and it is generally not feasible to take samples and send them to a private laboratory within the specified time limit, under the prescribed conditions.
- The integrity of the distribution system is much easier to assess in a small system than in larger systems. Also, the residence time in the distribution system of a small system is expected to be much lower than in larger systems, thereby minimizing the time for bacterial populations to grow in the water.

Under the proposed rule, a system would be required to filter if it failed to

meet the criteria for maintaining a disinfectant residual in the distribution system. Commenters objected to this criterion as a condition for avoiding filtration because the failure to meet this criterion might be caused by contamination entering the piping network within the distribution system rather than by source water contamination and failure to provide filtration. EPA has modified the proposed rule to address this concern. Under the final rule, systems are only required to filter if the failure to meet the disinfection requirements for the distribution system is caused by a deficiency in treatment of the source water. However, any failure to meet the disinfection requirements for the distribution system, regardless of cause, is still considered a violation of a treatment technique requirement.

EPA believes that the revised criteria fulfill the same objectives of the proposed criteria, but are more sensitive to site-specific considerations. Compared to the proposed rule, the requirements in the final rule allow systems to use less disinfectant in the distribution system, thus minimizing adverse effects from disinfectants and disinfection by-products. In addition, total costs will be lower because fewer systems will need to institute major changes in current treatment to meet the requirements of the final rule.

E. Watershed Control and On-Site Inspection Requirements

Under the proposed rule, to avoid filtration, systems would be required to maintain a watershed control program which minimized the potential for contamination by *Giardia lamblia* cysts and viruses in the source water that was satisfactory to the State. To avoid filtration, systems also were required to have an on-site sanitary survey performed each year that indicated to the State's satisfaction that the disinfection treatment process and watershed control program were adequately designed and maintained.

Some commenters thought that these requirements should be more detailed so as to be more easily enforceable. EPA agrees. Thus the final rule includes additional criteria which were taken from EPA's October 8, 1987 draft Guidance Manual ("draft Guidance Manual"), as suggested by public commenters. EPA believes that these revisions to the proposal make the criteria more objective and therefore more enforceable.

EPA has also changed the term "sanitary survey" to "on-site inspection" in the final rule. Under the existing National Primary Drinking Water Regulations, i.e., 40 CFR 141.2(f), a sanitary survey is defined as "an onsite review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of such sources, facilities, equipment, operation and maintenance for producing and distributing safe drinking water." EPA believes that, for the purpose of avoiding filtration, it is not necessary for systems to address concerns which relate to the distribution system; it is sufficient that they consider criteria which relate to the effectiveness of the watershed control program and reliability of the disinfection treatment processes. Accordingly, the term "on-site inspection" in the final rule refers to the evaluation of the watershed control program and disinfection treatment process.

Although this rule only requires an on-site inspection rather than a sanitary survey to avoid filtration, EPA believes that all public water systems, including the systems covered by today's rule, should periodically undergo the more comprehensive sanitary survey, as defined in § 141.2(f), to ensure regular evaluations of the distribution system as well as watershed and treatment characteristics. Many States already have programs in place for conducting sanitary surveys, but at less frequent intervals than are required for on-site inspections in this rule. Under the total coliform rule, published elsewhere in today's **Federal Register**, EPA is requiring small systems, i.e., those collecting fewer than five total coliform samples/month, to have periodic sanitary surveys. Therefore, for unfiltered small systems, during the years when the sanitary survey is conducted, the sanitary survey will fulfill both the sanitary survey requirement of the coliform rule and the on-site inspection requirement of this rule. In the final Guidance Manual, EPA will provide guidelines for conducting both on-site inspections and sanitary surveys.

In an effort to streamline the regulatory implementation process for all the new NPDWRs promulgated under the SDWA amendments, EPA is developing guidelines for States to use in making comprehensive vulnerability assessments of all public water supplies. The purpose of such an assessment would be to evaluate the vulnerability of a system for all potential contamination (i.e., microbiological, inorganic, and organic contamination in the source water, contamination within the treatment train itself because of chemical addition, and contamination within the distribution system) and to obtain information for determining the most efficient strategy for bringing the system into compliance with all pertinent drinking water regulations. The on-site inspections required under this rule for unfiltered supplies would constitute one aspect of the comprehensive vulnerability assessment.

F. Design and Operating Requirements

Under the proposed rule, all systems would have been required to meet design and operating requirements specified by the State. Failure to meet any such requirement would be considered a violation of a treatment technique or monitoring requirement. Under § 141.32, all treatment technique and monitoring violations require public notification.

Most commenters thought it was unnecessary to classify design operating requirements as Federal treatment technique requirements since States already have such requirements (in fact, most States have permit systems in place), and if the system does not meet the State-specified design and operating requirements, the system is not allowed to operate. Many people commenting on this issue thought that EPA should allow States broad discretion to determine when public notification would be appropriate if a system failed to meet design and operating criteria imposed by the State. As an example, one commenter pointed out that, under the proposal, if a State required a public water system to monitor and meet turbidity performance criteria at each individual filter (rather than requiring that the system only monitor the combined effluent of all filtered water), and one filter of many within the system failed to meet the criteria, or the turbidity monitoring equipment for one filter failed, this would be a violation. The commenter argued that it would not be appropriate to require public notification in such situations.

EPA agrees with commenters that there are likely to be many design and operating criteria specified by the State which, if not met, would not warrant public notification. Therefore, EPA has deleted from the final rule the requirement that systems comply with design and operating conditions specified by the State. However, EPA has retained the proposed revision to Part 142 requiring States to specify enforceable design and operating criteria on a Statewide or system-by-system basis. Thus, while failure to comply with State-specified design and operating criteria does not constitute a treatment technique violation, and

public notification is not required, such a failure is a violation of State law.

G. CT Values

EPA received extensive public comments regarding the basis for the proposed CT values, the method of their calculation, and whether they should be included in the rules or just published as guidance. Major issues that were raised and how they have been addressed in the final rule are discussed in this section.

1. Unfiltered Systems

(a) *Calculation of CT values.* Under the proposal, a system would be required to calculate CT, where "T" is disinfectant contact time, the time in minutes it takes the water to move between the point of disinfectant application and a point before or at the first customer during peak hourly flow, and "C" is the residual disinfectant concentration in mg/l before or at the first customer but at or after the point contact time is measured. Many commenters thought this method of calculation was overly conservative because (a) significantly greater disinfectant residuals might be present at previous points in the treatment train, (b) most customers will receive water that has a much greater disinfectant contact time than does water at or prior to the first customer, and (c) applying criteria in the draft Guidance Manual, which states that contact time should be determined based on the time it takes water with 10 percent of the tracer concentration to appear at the sampling site, will result in much shorter contact times than under less conservative guidelines (e.g., contact time defined as the time it takes 50 percent of the tracer concentration to appear at the sampling site), and that such criteria are unnecessarily stringent.

In the May 6, 1988, notice of availability, EPA solicited comments on a different methodology to determine CT values for systems using ozone. All the commenters who addressed this issue supported the adoption of this provision in the final rule. In addition, many commenters suggested applying this provision to all disinfectants. EPA agrees that this methodology, which allows systems to determine incremental contributions to the total percent inactivation based on a series of CT measurements prior to the first customer, results in a more accurate representation of actual disinfection conditions, especially in systems having source waters with a high oxidant demand, and those systems using ozone (because it dissipates very rapidly). Accordingly, EPA has adopted this methodology for all disinfectants in the final rule.

Thus, the revised methodology for calculating CT in the final rule is as follows: Systems may measure "C" at different points along the treatment train and use this value, with the corresponding "T", to calculate the total percent inactivation. In determining the total percent inactivation, the system may calculate the CT at each point where "C" was measured and compare this with the $CT_{99.9}$ value (the CT value necessary to achieve 99.9 percent inactivation) in the rule for specified conditions (pH, temperature, and residual disinfectant concentration). Each calculated CT value (CTcalc) must be divided by the appropriate $CT_{99.9}$ value found in Tables 1.1–3.1 in the rule to determine the inactivation ratio. If the sum of the inactivation ratios, or

$$\sum \frac{CTcalc}{CT_{99.9}}$$

at each point prior to the first customer where CT was calculated is equal to or greater than 1.0, i.e., there was a total of at least 99.9 percent inactivation of *Giardia lamblia*, the system is in compliance with the performance requirement.

EPA expects the final Guidance Manual to retain the recommendation that systems determine contact time based on the time it takes water with 10 percent of the tracer concentration (T_{10}) to appear at the sampling site at peak hourly flow. This approach is supported by EPA's Science Advisory Board (1988). EPA does not believe that using a T_{50} value, which was recommended by many commenters, rather than a T_{10} value, would provide an adequate margin of safety since only 50 percent of the water, rather than 90 percent, would receive the contact time necessary to achieve the percent inactivation the CT value represents.

(b) *CT values for chlorine.* The CT values in the proposed rule were based on animal infectivity data (Hibler et al., 1987b) and application of a regression model to these data (Clark et al., 1987; Regli, 1987). To provide a margin of safety, the CT values to achieve 99.9 percent inactivation in the proposed rule were set equal to the CT values needed to achieve 99.99 percent inactivation under experimental conditions.

Many commenters recommended that EPA consider data obtained from disinfection studies using *in vitro* excystation of *Giardia lamblia* (specifically, data developed by Jarroll et al. (1981)) to develop the CT values in the final rule. Commenters indicated that CT values based on the Jarroll et al. data would be significantly lower than those in the proposed rule.

The CT values in the final rule are based on a statistical analysis (Clark et al., 1988), which considered both animal infectivity studies (Hibler et al., 1987b) and excystation studies (Jarroll et al., 1981; Rice et al., 1982; Rubin, 1988c). A multiplicative model (the one previously developed for the animal infectivity data alone, which formed the basis for CT values in the proposed rule, Clark et al., 1987) was selected to best represent the chemical reactions during the inactivation process. This model was applied to each of the data sets described above, and in various combinations (Clark et al., 1988). The animal infectivity data (Hibler et al., 1987b) were included in each of the combinations studied. The animal infectivity data were considered essential for inclusion in all the combined data sets because, unlike the other data sets, these data represented inactivation levels greater than 99.9 percent. Because of limitations with the excystation methodology, only data on conditions necessary for achieving less than 99.9 percent inactivation were available from these studies. Data at these lower inactivation levels were included in the analysis since the CT values in the rule may be used for calculating partial inactivation levels (i.e., less than 99.9 percent) which, in total, are considered in determining whether the overall minimum level of inactivation of 99.9 percent is met.

Statistical analysis indicated that combining the Hibler et al. (1987b) and Jarroll et al. (1981) data (and excluding the Rice et al. (1982) and Rubin et al. (1988c) data formed the best fit model for predicting CT values for different levels of inactivation. As a conservative regulatory strategy, Clark et al. (1988) recommended that CT values for different levels of inactivation be determined by applying first order kinetics to the 99 percent upper confidence interval of the $CT_{99.99}$ values predicted by the model. For CT values above 5 °C, where data were limited, the authors recommended that for every increase of 10 °C, the CT value be lowered by one half. This concept, which was applied for determining the CT values in the proposed rule, is also supported by Hoff (1986).

Accordingly, the best fit model (based on the Hibler et al. (1987b) and Jarroll et al. (1981) data) was applied, using the above two concepts, to determine the $CT_{99.9}$ values in the final rule. The $CT_{99.9}$ values in the final rule are between zero

and 10 percent lower than what was proposed.

(c) *CT values for ozone.* The CT values for ozone in the proposed rule were based on disinfection studies using *in vitro* excystation of *Giardia lamblia* (Wickramanayake *et al.*, 1985). CT_{99} values at 5 °C and pH 7 for ozone ranged from 0.46 to 0.64. No data on CT values were available for other pHs at 5 °C. Therefore, to obtain these data, the highest CT_{99} value, 0.64, was extrapolated using first order kinetics and multiplied by a safety factor of 3 to obtain the other $CT_{99.9}$ values in the proposed rule, as follows:

$CT_{99.9}=0.64\times3\times3/2=2.9$

CT values at temperatures above 5 °C were estimated using the same multiplier assumed for free chlorine, as discussed above. CT values at 1 °C or lower, for which no data were available, were estimated by multiplying the $CT_{99.9}$ value at 5 °C by 1.5.

A much larger safety factor was applied to the CT values for ozone than was used to determine the proposed CT values for chlorine because:

- Fewer data were available for ozone than for chlorine.
- The data available for ozone, because of the limitations of the excystation procedure, only reflect up to or slightly more than 99 percent inactivation, while the data for chlorine was based on animal infectivity studies indicating inactivation at 99.99 percent (Hibler et al., 1987b; Clark et al., 1988). Thus, extrapolation of data to determine CT values for 99.9 percent inactivation using ozone involved greater uncertainty than the determination of CT values for 99.9 percent inactivation using chlorine.
- The determination of CT at the water treatment plant also involves greater uncertainty for ozone than for chlorine because contact time and residual concentration cannot be monitored as precisely for ozone.
- EPA believed that the proposed CT values, even with a large safety factor, would be practical to achieve.

EPA applied a safety factor of two instead of three to the laboratory data to obtain the CT values in the final rule, i.e., the CT values for ozone in the final rule are two-thirds of those in the proposed rule, because:

- The laboratory data which formed the basis for the CT values used the Iodometric method for measuring ozone. The Iodometric method measures total oxidants present, not just ozone alone (e.g., this method measures ozonation by-products such as hydrogen peroxide, which is a much weaker disinfectant than ozone). The final rule requires systems to measure ozone using the Indigo method; this method measures ozone but not other oxidants. At the time of these experiments, the Iodometric method was the only prescribed method for measuring ozone in Standard Methods (16th edition, 1985). In the forthcoming 17th edition of Standard Methods, however, the Indigo method, rather than the Iodometric method, will be the recommended method for measuring ozone. Since the original CT values were based on a "C" which may have included the measurement of other oxidants in addition to ozone, the CT values from these experiments are conservative, i.e., they are probably somewhat higher than if ozone had been measured using the Indigo method.
- According to public comments received and further analysis by the Agency, the proposed CT values for ozone in the proposed rule could only be achieved at very high costs.

Depending upon source water characteristics, EPA believes that it will be feasible for many systems to use ozone to meet the revised CT values, and that these values provide an adequate margin of safety.

(d) *CT values for chlorine dioxide.* The CT values for chlorine dioxide in the proposed rule were based on disinfection studies using *in vitro* excystation of *Giardia muris* cysts (Leahy, 1985). CT_{99} values at 5 °C and pH 7 ranged from 7 to 18. The highest CT_{99} value, 18, was used as the basis for extrapolation, using the same principles as discussed for ozone, to obtain the $CT_{99.9}$ values in the proposed rule.

Limited data (i.e., at 25 °C only) indicate that chlorine dioxide is more effective for inactivating *Giardia muris* cysts at pH 9 than at pH 7 (Leahy, 1985). Because the data are limited, however, EPA proposed the same CT values for all other pHs.

Since the proposal, more data on the conditions necessary for achieving 99 percent inactivation of *Giardia muris* cysts, using *in vitro* excystation, has become available at 1 °C, 5 °C, and 15 °C (Rubin, 1988b). These new data, plus the data used to develop the CT values in the proposal, were used to develop the CT values in the final rule. The average CT_{99} value at each temperature (27.9 at 1 °C, 11.8 at 5 °C, 8.5 at 15 °C, and 4.7 at 25 °C) was extrapolated using first order kinetics and multiplied by a safety factor of 1.5 to obtain the $CT_{99.9}$ values. Thus $CT_{99.9}$ at 1 °C$=27.9\times1.5\times1.5=63$. Because of the limited data available at different pHs, the same CT values are specified for all pHs. Although most of the CT_{99} data were determined at pH 7, it is known that chlorine dioxide is more effective at pH 9. Thus, the CT values in the rule are more conservative for higher pHs than for lower pHs.

The CT values for chlorine dioxide in the final rule are about one-third less than those in the proposed rule. EPA believes the revised CT values in the rule provide an adequate margin of safety because of the additional data that was used, and because *Giardia muris* cysts, rather than *Giardia lamblia* cysts (which is the organism of concern in public water systems), were used in the laboratory experiments. Since *Giardia muris* appears to be more resistant than *Giardia lamblia* to chlorine (Leahy et al., 1987) and ozone (Wickramanayake et al., 1985), it is reasonable to assume it is more resistant to chlorine dioxide as well.

(e) *CT values for chloramines*—(1) *Inactivation of Giardia cysts.* The CT values for chloramines, based on disinfection studies using preformed chloramines and *in vitro* excystation of *Giardia muris* cysts (Rubin, 1988a; Regli, 1987), are the same in the proposed and final rules. No safety factor was applied to the laboratory data on which the CT values were based since EPA believes that chloramination, conducted in the field, is more effective than using preformed chloramines.

In the draft Guidance Manual, EPA stated that animal infectivity studies could be used to determine the CT values necessary to achieve 99.9 percent inactivation of *Giardia* cysts. EPA believes that other methodologies also may be appropriate. Therefore, in the final Guidance Manual, EPA will recommend that States also allow systems to use the methodology based on *in vitro* excystation discussed by Hoff et al., 1985, and more specifically, to determine CT values for achieving greater than or equal to 99.9 percent inactivation of *Giardia* cysts using chloramines. In addition, EPA will recommend in the final Guidance Manual that *Giardia muris* cysts be used as a model for *Giardia lamblia* cysts when conducting excystation studies because, as noted earlier, disinfection studies using excystation to measure viability indicate that *Giardia muris* cysts are more resistant to inactivation than *Giardia lamblia* cysts and thus provide a conservative estimate of disinfection effectiveness (Hoff, 1985); also, *Giardia muris* cysts are apparently not pathogenic to humans, and are thus safer to work with.

(2) *Inactivation of viruses.* Under the proposed rule, if a system used chlorine, ozone, or chlorine dioxide and achieved 99.9 percent inactivation of *Giardia* cysts (i.e., they achieved the CT values

in the rule), it was assumed that it would also achieve greater than 99.99 percent inactivation of viruses. However, the proposal explained that if a system used chloramines and was able to achieve the CT values for 99.9 percent inactivation of *Giardia* cysts, it could not be assumed that 99.99 percent or greater inactivation of viruses was also achieved.

No minimum CT values for achieving 99.99 percent inactivation of viruses were included in the proposed rule. Instead, under the proposal, systems using chloramines for primary disinfection would be required to conduct on-site challenge studies to demonstrate that they achieved at least 99.99 percent inactivation of viruses.

Since the proposal, new data have become available which indicate that Hepatitis A virus is more sensitive than *Giardia* cysts to inactivation by preformed chloramines (Sobsey, 1988). Thus, the CT values required to achieve 99.99 percent inactivation of Hepatitis A with preformed chloramines are lower than those needed to achieve 99.9 percent inactivation of *Giardia* cysts. These data contrast with other data which indicate that rotavirus is more resistant than *Giardia* cysts to preformed chloramines (Hoff, 1986). However, rotavirus is very sensitive to inactivation by free chlorine, much more so than Hepatitis A (Hoff, 1986; Sobsey, 1988). If chlorine is applied prior to ammonia, the short-term presence of free chlorine would be expected to provide at least 99.99 percent inactivation of rotavirus prior to the addition of ammonia and subsequent formation of chloramines. Thus, EPA believes it is appropriate to use the Hepatitis A data, in lieu of the rotavirus data, as a surrogate for determining minimum CT values for inactivation of viruses by chloramines, provided that chlorine is added to the water prior to the addition of ammonia.

Thus, under the final rule, a system which achieves a 99.9 percent or greater inactivation of *Giardia* cysts with chloramines is considered to be achieving at least 99.99 percent inactivation of viruses, provided that chlorine is added to the water prior to the addition of ammonia. If ammonia is added first, the CT values in the rule for achieving 99.9 percent inactivation of *Giardia* cysts cannot be considered adequate for achieving 99.99 percent inactivation of viruses. Thus, under the final rule, like the proposal, such systems must demonstrate, based on on-site challenge studies, that the system is achieving at least a 99.99 percent inactivation of viruses. Guidance for conducting such studies will be provided in the final Guidance Manual.

The proposed rule included a provision that excluded systems with no sources of human viruses within the watershed from the 99.99 percent virus inactivation requirement. This provision was based on the fact that there were no data available to indicate that viruses excreted by animals are pathogenic to humans. However, one commenter cited a study by Markwell and Shortridge (1981) indicating that a cycle of waterborne transmission and maintenance of influenza virus may exist within duck communities in southern China, and that it is conceivable that virus transmission could occur in this manner to other susceptible animals, including humans. Based on the results of this study, the exclusion in the proposal has been removed. Thus, the final rule requires that all systems, even if there is no human activity within the watershed, achieve the minimum inactivation requirements for viruses.

(f) *Alternative means for demonstrating adequate disinfection.* In the May 6, 1988, notice of availability, EPA explained why CT values were included in the proposed rule for unfiltered supplies but not for filtered supplies (52 FR 16357). EPA solicited comments on whether this rationale was reasonable. Specifically, EPA asked whether CT values for unfiltered systems should be placed in guidance rather than in the rule.

Most commenters thought that all CT values should be placed in guidance rather than in the rule to more easily allow for changes in CT values based upon new data, and to allow States flexibility in their application.

EPA has retained the CT values for unfiltered systems in the final rule because (a) the inclusion of CT values for unfiltered systems makes the rule "self-implementing" and directly enforceable, i.e., a system that does not meet the CT values must install filtration, regardless of whether the State has determined whether filtration is required for a given system (see the section entitled "Compliance," below); (b) in general, unfiltered supplies are at much greater risk to waterborne disease than are filtered supplies (from 1971 through 1985, reported waterborne disease outbreaks and illnesses were 8 and 15 times higher, respectively, in unfiltered supplies with disinfection than in filtered supplies with disinfection), so it is important to have self-implementing, directly enforceable requirements in the rule for such systems; (c) without CT values in the rule for unfiltered supplies, there would be no self-implementing, directly enforceable provision to ensure an adequate level of disinfection is provided (in contrast, filtered systems have self-implementing, directly enforceable turbidity performance criteria that indicate, at least in part, the efficiency of *Giardia* cyst and virus removal); and (d) for free chlorine, which is by far the most widely used disinfectant, especially for unfiltered supplies, EPA does not believe new data will soon become available to provide a basis for concluding that lower CT values that will achieve the required levels of *Giardia* cyst and virus inactivation.

However, EPA agrees with commenters that the CT values for chlorine dioxide, ozone, and chloramines in the final rule are based on limited data compared to the more extensive data that provide the basis for the chlorine CT values and that, for these disinfectants, new data are more likely to become available in the near future that may support different CT values or other means for determining what percent inactivation of *Giardia* cysts and viruses a disinfectant achieves. For example, pilot plant studies may show that the disinfection efficiency of ozone, because of its rapid rate of dissipation, may be better characterized by operational parameters other than CT. Also, a combination of ozone with ultraviolet light may be shown to be more effective than ozone alone in achieving the required inactivation efficiencies. As another example, for chloramines, use of on-site formation rather than preformed chloramines may prove to be significantly more efficient than the laboratory conditions in place during the studies that are the basis for the CT values in this rule, in which case, lower CT values may be appropriate (Hoff, 1986).

Recognizing that research in this field is ongoing, EPA has included a provision in the final rule which allows an unfiltered system using a disinfectant other than chlorine (i.e., chloramines, ozone, or chlorine dioxide) to demonstrate, by whatever means allowed by the State, that it is consistently meeting the 99.9 and 99.99 percent removal and/or inactivation requirements on a daily basis, instead of meeting the CT values in the rule. This method need not include use of CT values. For example, the efficiency of ozonation, under which disinfection occurs very rapidly, may best be indicated by different operational conditions (e.g., applied dosage and

energy mixing efficiencies) in place of, or in addition to, CT values. This provision is not provided for systems using only chlorine because: (1) A large data base was used for deriving the CT values in the rule and EPA believes that new data are unlikely to become available soon to support the basis for other CT values; and (2) the laboratory experiments on which the CT values are based more closely simulate field conditions for chlorine than they do for chloramines, ozone, or chlorine dioxide.

2. Filtered Systems

EPA proposed that filtered systems disinfect their water, and that the overall treatment (i.e., filtration and disinfection) achieve at least 99.9 percent removal and/or inactivation and 99.99 percent removal and/or inactivation of *Giardia lamblia* cysts and viruses, respectively. The State would determine whether the system complied with this treatment performance requirement. In the draft Guidance Manual, EPA recommended that, in general, filtration (with any pretreatment appropriate for the specific technology used) should be assumed to achieve 99 percent (2-log) to 99.9 (3-log) removal of *Giardia lamblia* cysts and 90 percent (1-log) to 99.9 percent (3-log) removal of viruses. Using this assumption, EPA recommended that, to achieve at least 99.9 percent and 99.99 percent removal and/or inactivation of *Giardia lamblia* cysts and viruses, respectively, with considerable margin of safety, a system that filters should provide disinfection which achieves at least a 90 percent (1-log) inactivation of *Giardia lamblia* cysts and a 99.9 percent (3-log) inactivation of viruses (higher levels of inactivation were recommended for systems with source waters having significant fecal contamination). For most systems, i.e., those which use chlorine, CT values which achieve greater than a 90 percent inactivation of *Giardia lamblia* cysts can be expected to achieve greater than a 99.99 percent inactivation of viruses. Thus, a system which uses chlorine and achieves greater than 90 percent inactivation of *Giardia lamblia* cysts would be assumed to satisfy the overall minimum performance requirement for viruses.

Most of the comments on CT values and the method of their calculation pertaining to unfiltered supplies also pertain to filtered supplies. Thus, most commenters thought that EPA's recommended procedures for calculating CT and the actual CT values in the draft Guidance Manual were overly conservative. According to a survey conducted by the American Water Works Association (AWWA, 1987), only 18 percent of the filtered systems participating in the survey would be able to comply year-round with the CT values recommended in the draft Guidance Manual, when calculated as recommended. Many commenters thought that systems should get credit for inactivation of *Giardia* and viruses with disinfection prior to filtration, regardless of the level of turbidity (rather than limiting such credit to systems with low turbidity), because these organisms are contained within particulate matter, and therefore are subsequently removed by either sedimentation or filtration. Some commenters thought that States should have broad discretion in how they apply the CT values in the Guidance Manual for evaluating percent inactivations for filtered supplies until the numbers are field tested and evaluated on the basis of actual experience. In contrast, however, other commenters stated that, for filtered systems, EPA should establish minimum disinfection performance standards, in the form of minimum CT values, in the rule (rather than simply making recommendations in the Guidance Manual) in order to assure uniform nationwide standards.

From 1971 through 1985, there were three reported waterborne disease outbreaks in filtered systems attributed to inadequate or interrupted disinfection versus 10 outbreaks due to inadequte filtration or pretreatment (in contrast to unfiltered supplies where there were 42 reported outbreaks due to inadequate or interrupted disinfection) (Craun, 1988). Although EPA strongly believes these statistics reflect only a small proportion of the disease outbreaks and illnesses actually occurring, EPA also believes that these data indicate, in general, that most filtered systems, when well-operated, are providing adequate levels of disinfection to protect from waterborne disease. Based on a review of these data and public comments, EPA has concluded that the many safety factors that it recommended in the draft Guidance Manual for estimating the total removal and/or inactivation of *Giardia* cysts and viruses in filtered systems, like the safety factors built into the requirements for unfiltered systems were, in total, overly conservative.

In response, the following changes will be made in the final Guidance Manual to address these concerns:

- In the draft Guidance Manual, EPA had recommended that credit toward *Giardia* and virus inactivation in the water prior to filtration be allowed only if the turbidity of that water is less than 5 and 1 NTU, respectively. The final Guidance Manual will recommend that credit be given for disinfection of *Giardia* cysts and viruses prior to filtration regardless of the turbidity level. This recommendation is based on the assumption that any pathogens present in the source water will be either removed by filtration or directly exposed to disinfection.
- The final Guidance Manual will recommend that, in general, systems using conventional treatment which are able to achieve turbidity levels of less than 0.5 NTU in the filtered water in 95 percent of the samples be assumed to achieve 2.5-log removal of *Giardia* cysts and 2-log inactivation of viruses, provided that coagulation and flocculation conditions are optimized for turbidity removal by filtration. These systems would thus only need to achieve a 0.5-log inactivation of *Giardia lamblia* cysts and a 2-log inactivation of viruses with disinfection to satisfy the overall 3-log and 4-log minimum performance requirements. EPA believes that these revisions are appropriate since sedimentation and filtration (preceded by coagulation) provide more removal of *Giardia* cysts and viruses than does filtration (preceded by coagulation) alone. This conclusion is based on two recent studies. In pilot plant studies using Ohio River water, Logsdon (1985) has shown that sedimentation achieves 0.5- to 1-log removal of *Giardia* cysts. Since filtration provides 2-log removal, it is appropriate to assume that sedimentation and filtration together provide at least 2.5-log removal. In addition, in pilot plant studies using Lake Houston water, Rao et al. (1988) have shown that sedimentation (preceded by coagulation) achieves generally greater than 90 percent removal of viruses and that sedimentation and filtration together generally achieve greater than 99 percent removal of viruses.
- The CT values for free chlorine have been lowered up to 10 percent, for the same reasons discussed above for unfiltered supplies.
- The CT values for ozone and chlorine dioxide have been lowered by about one-third, for the same reasons discussed above for unfiltered supplies.
- Regarding the use of chloramines, the final Guidance Manual will recommend that, in general, for the reasons discussed above for unfiltered systems, filtered systems which add chlorine to the water prior to ammonia addition be assumed to be achieving 99.99 percent removal and/or inactivation of viruses if they are achieving 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts.

This is a change from the draft Guidance Manual which recommended that all systems using chloramines for primary disinfection demonstrate the adequacy of virus inactivation based on on-site challenge studies. For systems which add ammonia to the water prior to chlorine, the final Guidance Manual will continue to recommend on-site challenge studies to determine the adequacy of disinfection for virus inactivation.

Figures III.1 and III.2 indicate the levels of *Giardia lamblia* cyst inactivation that filtered systems in the U.S. are currently achieving from disinfection alone, assuming the criteria in the final rule and final Guidance Manual for calculating percent inactivation were implemented. EPA estimates that 10 to 20 percent of filtered systems will need to augment existing disinfection in order to comply with this final rule and to meet the criteria recommended in the final Guidance Manual. This is a large reduction from AWWA's estimates that 82 percent of filtered systems would need to enhance their current disinfection practice to meet the criteria in the proposed rule and the draft Guidance Manual (AWWA, 1987).

H. Potential Conflict Between Today's Rule and Future Rules for Disinfectants and Disinfection By-Products

EPA intends to promulgate national primary drinking water regulations to regulate levels of disinfectants and disinfectant by-products for all systems when it promulgates disinfection requirements for groundwater systems. Many commenters expressed concern that changes that systems might need to make in their disinfection practice in order to comply with today's final rule might be inconsistent with the treatment changes necessary to comply with these forthcoming regulations for disinfectants and disinfection by-products.

EPA believes that many of the specific concerns expressed by commenters have been substantially mitigated by the changes in the final rule and planned changes in the final Guidance Manual discussed previously. As a result of these changes, EPA believes that many systems already are in compliance with today's rule, so changes in disinfection practice will not be necessary. In addition, under the final rule, the State has discretion to determine what disinfection conditions are needed for filtered systems to meet the 3- and 4-log removal and/or inactivation requirements for *Giardia lamblia* cysts and viruses (or any higher level of performance that might be specified by the State, depending upon source water quality conditions). In exercising this discretion, the State could take into account any potential conflict with forthcoming regulations for disinfectants and disinfection by-products. For example, if a system using conventional treatment is well-designed and is optimizing its clarification processes for turbidity removal, and is achieving very low filtered water turbidities, it may be appropriate for the State to give that system 3 logs of credit for *Giardia* cyst removal (in lieu of the generally recommended 2.5-log credit); in this way, the system can avoid substantial (if any) upgrades in disinfection practice and, in turn, potential increases in health risks from higher levels of disinfection by-products. In the final Guidance Manual, EPA expects to recommend that States give credit for 3 logs of *Giardia* cyst removal by conventional treatment only if: (a) The total treatment train achieves at least 99 percent turbidity removal, or filtered water turbidities are consistently less than 0.5 NTU, whichever results in lower levels; and (b) the level of HPC in the finished (disinfected) water entering the distribution system is consistently less than 10/ml.

In general, EPA believes that filtered systems need to achieve 0.5- to 1-log inactivation of *Giardia lamblia* cysts (depending on the type of filtration used) to achieve an overall 3-log removal and/or inactivation. However, it may be appropriate to allow more credit for filtration and thus require less disinfection, e.g., less than 0.5 logs for conventional treatment, until regulations for disinfectants and disinfection by-products are promulgated and the optimum treatment for achieving compliance with both regulations can be determined. However, EPA recommends that these lower levels of disinfection only be allowed if the source water is expected to have concentrations of less than one *Giardia* cyst/100 l. Likewise, for systems using slow sand filtration and diatomaceous earth filtration, EPA believes it would not be unreasonable for States to allow 2.5 or 3 logs of credit for *Giardia* cyst removal in lieu of the generally recommended guideline of 2 logs of credit, depending upon source water quality and concerns about disinfection by-products. Pilot plant studies have demonstrated (USEPA, 1988b) that these technologies, when well-operated, generally achieve these removals or better. Assuming these technologies achieve only a 2-log removal, as generally recommended by EPA for the purpose of determining the appropriate level of disinfection necessary for the system to meet the overall treatment performance standard, provides a very conservative margin of safety to control for microbiological concerns. However, EPA recognizes this assumption may not always be appropriate depending upon source water quality, reliability of system operation, and potential increased health risks from disinfection by-products. Thus, the final rule does not dictate how the State must calculate treatment efficiencies for filtered systems; it is left to State discretion.

In the final Guidance Manual EPA plans to recommend that States allow, for the interim (i.e., between now and the time EPA promulgates regulations for disinfectants and disinfection by-products), more credit for *Giardia* cyst removal (and, in turn, virus removal) only if it determines that a system is not currently at significant risk from microbiological concerns at the existing level of disinfection, and that a deferral is necessary for the system to upgrade its disinfection process to achieve compliance with this rule as well as the forthcoming regulations for disinfectants and disinfection by-products. Since EPA intends to regulate disinfectants and disinfection by-products by 1991 (*see* 53 FR 1899), and compliance with today's final rule for filtered systems is not required until June 1993, it is anticipated that most of such systems will have sufficient time to optimally address the requirements of both rules.

EPA does not believe that the same discretion discussed above for filtered systems is appropriate for unfiltered systems since (a) they are at much greater risk from waterborne disease than are filtered systems, (b) SDWA requires that the State determine whether filtration is required within 30 months following the promulgation of this rule, and the State cannot make the decision whether filtration is necessary without knowing what disinfection will be in place. Also, the installation of filtration by an unfiltered supply allows a system to use much lower levels of disinfection than is necessary in a system without filtration; as a result, levels of disinfectants and disinfectant by-products are lower in filtered systems, assuming the same source water quality conditions.

I. Turbidity Monitoring and Performance Criteria

1. Unfiltered Systems

EPA proposed that, to avoid filtration, a system demonstrate on an ongoing basis that the turbidity of the water prior to disinfection does not exceed 5 NTU, based on measurements at least

every four hours. Under the proposal, a system would not be required to filter if it occasionally exceeded the 5 NTU limit (although such an exceedance would be considered a violation of the treatment technique requirements which posed an acute risk to human health). Specifically, a system could exceed the 5 NTU limit no more than two periods during twelve consecutive months or five periods during 120 consecutive months, provided that (a) the system informed its customers and the State of the violation, as soon as possible but in no case later than 72 hours after the violation occurred, and customers were instructed to boil their water before consumption until it was determined that the water was safe, and (b) the State determined that the exceedance occurred because of unusual or unpredictable circumstances. A "period" would be defined as a series of consecutive days in which at least one turbidity measurement each day exceeded 5 NTU.

Some commenters were opposed to allowing any periods when turbidities exceeded 5 NTU since systems are most vulnerable to microbiological risk at such times. Others thought that the periods in which turbidity could exceed 5 NTU should be limited in duration. Some commenters stated that an absolute limit for turbidity was inappropriate since the significance of turbidity levels as an indicator of possible interference with disinfection depends on the size and chemical composition of the particulate matter present. Other commenters supported the proposed turbidity limits. Some commenters opposed the proposal to classify an exceedance of 5 NTU as an acute health risk since high turbidity does not necessarily indicate a health hazard, depending on the nature of the particulate matter present. Similarly, they objected to the proposal that systems issue a boil water notice to the public whenever the turbidity exceeded 5 NTU; many thought that such a requirement should be left to State discretion based upon an evaluation of actual health risk.

In the final rule, EPA has retained the provision that allows unfiltered systems to exceed the turbidity limit of 5 NTU a limited number of times, i.e., no more than two events during 12 consecutive months or five events during 120 consecutive months, as long as the State is informed of each exceedance and determines that it was caused by unusual or unpredictable circumstances. (In the final rule, EPA uses the term "event" rather than "period.") EPA believes that the other requirements for avoiding filtration in the rule ensure a high probability that adequate treatment is still being provided if the turbidity were to exceed 5 NTU for short periods of time. These include the requirements to (a) comply with fecal or total coliform source water quality limits; (b) maintain disinfection conditions sufficient to achieve at least 99.9 and 99.99 percent inactivation of *Giardia lamblia* cysts and viruses, respectively, as indicated by meeting the CT requirements; (c) comply with the total coliform MCL (the coliform rule, published elsewhere in today's **Federal Register**, requires unfiltered surface waters to take coliform measurements at or near the first customer on days when the turbidity exceeds 1 NTU and to include these measurements in the MCL compliance determination); and (d) maintain a watershed control program to restrict human activities. The requirement to have a watershed control program reduces the probability that human viruses will be present in large numbers, so there is less concern about turbidity interfering with disinfection of viruses. In addition, there is much less concern about turbidity interfering with inactivation of *Giardia* cysts by disinfection than viruses or bacteria since *Giardia* cysts are much larger than viruses and bacteria and are less likely to be occluded or protected by particulate matter.

The final rule does not specify a maximum duration for a turbidity event, as a condition for avoiding filtration, since other requirements (discussed above) must also be met to avoid filtration; EPA expects that, if the duration of an event is long, and the system is at risk (which will depend on the nature of the particulate matter causing the high turbidity level, and the source water quality), one of the other requirements for avoiding filtration is likely to be exceeded, thereby requiring the system to install filtration.

EPA agrees with public commenters who stated that interference with disinfection by turbidity will depend on the nature of the particulate matter that is present. However, as discussed in the proposal, EPA believes an upper limit of 5 NTU is appropriate. Increases in turbidity occurrence levels from less than 1 NTU to greater than 5–10 NTUs have been shown to correlate with decreases in disinfection effectiveness in unfiltered source waters (Le Chevalier et al., 1981). In addition, high turbidity waters may be unaesthetic in appearance and cause consumers to avoid use of the public water supply and possibly choose less safe waters.

The requirement that systems inform their customers to boil their water before consumption when source water turbidities exceed 5 NTU has been deleted from the final rule. EPA agrees with the commenters that States should determine if such an order should be issued, since certain site-specific factors might not warrant such action. Also, in the final rule, an exceedance of the turbidity limit of 5 NTU is considered a violation of a treatment technique requirement, but not, as proposed, one which poses an acute risk to human health. Therefore, violation of the 5 NTU limit does not require a system to notify the public via electronic media, posting, or hand delivery, depending on system type, within 72 hours. (Only written notice is required, as specified for Tier 1 violations. *See* the public notification regulations at 40 CFR 141.32.)

2. Filtered Systems

EPA proposed to require systems that filter to measure the turbidity level of a representative sample of filtered water every four hours when water is being delivered to the distribution system. For a system using conventional treatment or direct filtration, EPA proposed to require that the turbidity level of the system's filtered water be less than or equal to 0.5 NTU in at least 95 percent of the measurements taken each month. For a system using slow sand or diatomaceous earth filtration, EPA proposed to require that the turbidity level be less than 1 NTU in at least 95 percent of the measurements taken each month. Under the proposal, for systems using conventional treatment or direct filtration, if the State determined that on-site studies demonstrated at least 99.9 percent overall removal and/or inactivation of *Giardia* cysts, the State could specify a higher turbidity limit, up to 1 NTU in 95 percent of the samples in a month.

Many commenters, especially those representing small systems, favored retaining the current turbidity monitoring requirements in the interim regulations, i.e., one sample per day (40 CFR 141.22). Commenters claimed that monitoring of turbidity every four hours, or by continuous monitoring and recording equipment, is not feasible for small systems. In addition, many commenters objected to the 0.5 NTU limit for systems using conventional treatment or direct filtration; they favored retaining the existing standard of 1 NTU. Some commenters stated there is no evidence that the more stringent turbidity criteria EPA proposed would result in increased health protection, i.e., fewer waterborne disease outbreaks, compared to the existing turbidity MCL. Commenters

stated that many systems, especially smaller systems, would incur significant costs to make treatment changes to comply with the proposed turbidity criteria. In a survey by AWWA (1987), which sampled mostly large systems, 24 percent of the filtered systems which responded did not have filtered water with turbidity less than 0.5 NTU 95 percent of the time.

Some commenters supported the 0.5 NTU limit, claiming it would significantly improve the quality of drinking water nationwide. Other commenters supported the 0.5 NTU limit but only for large systems; they suggested EPA promulgate a separate limit of 1 NTU for small systems. Still other commenters favored the 0.5 NTU limit but thought the rule should allow the State to increase the limit if there was evidence of effective removal of *Giardia* cysts or *Giardia* cyst-sized particles at higher turbidities.

In response to these comments, EPA requested comment on alternatives to the proposed turbidity provisions in the May 6, 1988, notice of availability (53 FR 16354). Most commenters responding to this issue supported these changes. As a result, many have been included in the final rule. These changes are described below.

The final rule allows the State to reduce the monitoring frequency for turbidity to one grab sample per day for systems serving 500 or fewer people if the State finds that the historical performance and operation of the system indicates effective particulate removal under the variety of conditions expected to occur in that system. EPA believes this provision for reduced monitoring is appropriate because, for very small systems, grab sample monitoring every four hours of operation may not be feasible (i.e., it is economically infeasible to provide the degree of operator attention necessary to conduct such monitoring; likewise, it is costly to install and impractical to maintain automated turbidity monitoring equipment). At the reduced monitoring frequency, the same performance criteria would apply. Thus, for instance, if two or more of the 30 samples taken in one month exceed the turbidity limit, then less than 95 percent of the samples would meet the turbidity performance criterion, and the system would be in violation of a treatment technique requirement.

EPA believes that it is feasible for most systems using conventional treatment or direct filtration to achieve the turbidity performance criterion of 0.5 NTU (see 52 FR 42200, 42205–42206). EPA believes it is generally necessary for systems using conventional treatment or direct filtration to meet this turbidity limit to achieve at least 99.9 percent removal and/or inactivation of *Giardia* cysts with filtration and disinfection. EPA recognizes that many existing filtered systems currently may not be meeting the proposed turbidity limit; however, EPA believes that most of these systems can meet these limits with treatment modifications that involve very low costs (*see* Table VI–3).

EPA recognizes that it may be possible for some systems that currently are not meeting the turbidity performance criterion, depending upon raw water quality and other treatment characteristics, to still achieve the overall minimum (or better) removal and/or inactivation of *Giardia* cysts. Therefore, the final rule allows a system to operate at higher filtered turbidities, up to 1 NTU in at least 95 percent of the measurements, if the State determines that the system is achieving the minimum performance requirement of 99.9 percent removal and/or inactivation of *Giardia* cysts at the higher turbidity level. Unlike the proposal, the final rule does not require the system to actually demonstrate (e.g., with pilot plant study results) it is achieving the minimum performance requirements at the higher turbidity level to be allowed to operate at this level. Instead, the State's determination may be based upon an analysis of existing design and operating conditions (e.g., adequacy of treatment prior to filtration, percent turbidity removal across the entire treatment train, stringency of disinfection) and/or performance relative to certain water quality characteristics (e.g., microbiological analysis of the filtered water, particle size counts in water before and after filtration). The State may wish to consider such factors as source water quality and system size in determining the extent of analysis necessary. The final Guidance Manual will provide additional guidance to the States for determining when a higher turbidity limit might be appropriate.

For any filtration technology, EPA believes that filtered water turbidities should generally be less than 1 NTU in order to prevent interference with disinfection of viruses. Allowing an average turbidity of less than 1 NTU, as some commenters suggested, would allow systems to exceed 1 NTU a high percentage of the time, during which time there might be interference with disinfection. Therefore, EPA has set an upper limit for turbidity of 1 NTU in 95 percent of the measurements, rather than specifying an average. As in the proposal, exceptions to this limit are allowed for slow sand filtration, up to 5 NTU, but at no time exceeding 5 NTU, if the system demonstrates to the State that there is no interference with disinfection, because studies demonstrate that slow sand filters can achieve greater than 99.9 percent removal of *Giardia* cysts by filtration alone at turbidities exceeding 1 NTU (Bellamy et al., 1985a, b).

The additional flexibility in the final rule will allow States to apply engineering judgment, as appropriate, to determine what information is necessary for demonstrating adequate treatment performance. EPA anticipates that this added flexibility will reduce costs, especially for small systems, while still ensuring that adequate treatment is in place.

IV. Description of the Final Rule

EPA believes that all surface waters and ground water under the direct influence of surface water are at risk, at least to some degree, from contamination by *Giardia lamblia* and other protozoa, viruses, and pathogenic bacteria and that public water systems using such source waters should provide minimum levels of treatment to ensure protection from illness caused by these contaminants. Therefore, this rule applies to all public water systems (both community and non-community) which use a surface water source or a ground water source under the direct influence of surface water.

This rule defines "surface water" as all water open to the atmosphere and subject to surface runoff (e.g., rivers, lakes, streams, reservoirs, impoundments). This rule defines "ground water under the direct influence of surface water" as:

> any water beneath the surface of the ground with (i) significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as *Giardia lamblia*, or (ii) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. Direct influence must be determined for each individual source in accordance with criteria established by the State. The State determination of direct influence may be based on site-specific measurements of water quality and/or documentation of well construction characteristics and geology with field evaluation.

The State is responsible for determining whether a system uses ground water under the direct influence of surface water and is, therefore, subject to the requirements of this rule. Determinations of whether a ground water system is under the direct influence of surface water must be made within 5 years following the

promulgation date of this rule for community water supplies and within 10 years following the promulgation date of this rule for non-community water systems. Procedures that may be used for determining whether there is direct influence by surface water will be included in the final Guidance Manual. States may choose to apply general guidelines based on source characteristics to expedite the determination for easily characterized sources, and to apply more specific criteria, including microbiological analysis, for sources more difficult to characterize. For systems which use mixed source water supplies (i.e., ground water not under the direct influence of surface water and surface water), this rule applies only to the water originating from the surface water source.

A. Operator Personnel Requirements

Under the final rule, all systems using surface water or ground water under the direct influence of surface water must be operated by personnel that meet qualifications specified by the State. As described later, States must develop operator qualifications if they do not already have them and require that systems be operated by personnel who meet these qualifications. The appropriate criteria for determining if an operator is qualified depend upon the type and size of the system. EPA encourages States which do not yet have operator license certification programs in effect to develop such programs.

B. Treatment Requirements

1. Summary

Under this rule, all community and non-community public water systems using any surface water source must treat their surface water source(s) to achieve at least 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts, and at least 99.99 percent removal and/or inactivation of viruses. A system is deemed to be in compliance with this requirement if it complies with the treatment technique requirements specified in this rule. At a minimum, the treatment required for any surface water must include disinfection.

Thus, systems with very clean and protected source waters that meet the source water quality criteria (including low total coliform or fecal coliform levels and low turbidity levels, as specified in the rule) and certain site-specific criteria (including an effective watershed control program), are required to use only disinfection to achieve 99.9 percent and 99.99 percent inactivation of *Giardia lamblia* cysts and viruses, respectively. If such systems can continually meet the applicable CT values specified in the rule (or, if a disinfectant other than chlorine is used, other criteria specified by the State), the system is considered to be in compliance with the required removal and/or inactivation requirements for *Giardia lamblia* and viruses without monitoring for these organisms. Systems which cannot meet the source water quality criteria and site-specific criteria of this rule are required to filter their water.

Systems required to filter can use a variety of treatment technologies to meet the minimum 99.9 and 99.99 percent performance levels. A system with filtration that achieves certain turbidity levels and meets specified disinfection requirements is deemed to be in compliance with these performance requirements.

For most source waters in the United States, EPA considers conventional treatment (which includes coagulation, flocculation, sedimentation, rapid granular filtration, and disinfection) to be the best technology for controlling microbiological contaminants because of the multiple barriers of protection that it provides. Conventional treatment has been demonstrated to achieve at least 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts and 99.99 percent removal and/or inactivation of viruses under appropriate design and operating conditions (USEPA, 1988b); it is the benchmark against which water treatment decisions should be judged. Direct filtration (which includes coagulation), slow sand filtration, and diatomaceous earth filtration, each with disinfection, also have been demonstrated to achieve at least 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts and 99.99 percent removal and/or inactivation of viruses under appropriate design and operating conditions (USEPA, 1988b).

Under the final rule, a public water system also may use a filtration technology other than the four specified above if it demonstrates to the State using pilot plant challenge studies, or other appropriate means, that the filtration technology, in combination with disinfection, achieves at least 99.9 percent and 99.99 percent removal and/or inactivation of *Giardia lamblia* cysts and viruses, respectively. In addition, the State may approve a technology demonstrated to be effective at one site for use at another site if the source water quality conditions at the two sites are similar.

In determining the appropriate technology to be used, source water quality, site-specific factors (e.g., available land, location of the treatment plant relative to the water source, waste-disposal concerns), and cost effectiveness need to be considered. In general, the level of treatment provided should be commensurate with the potential for pathogen contamination in the source water. Table IV–1 provides guidelines for selecting filtration technology(ies) to be used based on source water quality. EPA recommends conducting pilot plant studies to help determine the most appropriate filtration technology and the optimum design conditions. More detailed guidelines for determining the appropriate technology and design conditions will be included in the final Guidance Manual.

TABLE IV–1.—GENERALIZED CAPABILITY OF FILTRATION SYSTEMS TO ACCOMMODATE VARIOUS RAW WATER QUALITY CONDITIONS

Treatment technology	General constraints (i.e., indicated values occasionally could be exceeded)		
	Total coliforms (#/100 ml)	Turbidity (NTU) [1]	Color (CU) [2]
Conventional Treatment	<20,000	no restrictions.	<75
(with no predisinfection)	<5,000	no restrictions.	<75
Direct Filtration	<500	<7–14	<40

TABLE IV-1.—GENERALIZED CAPABILITY OF FILTRATION SYSTEMS TO ACCOMMODATE VARIOUS RAW WATER QUALITY CONDITIONS—Continued

Treatment technology	General constraints (i.e., indicated values occasionally could be exceeded)		
	Total coliforms (#/100 ml)	Turbidity (NTU) [1]	Color (CU) [2]
Slow Sand Filtration	<800	<10	<5
Diatomaceous Earth Filtration	<50	<5	<5

[1] Nephelometric turbidity units.
[2] Colorimetric units.

2. Criteria for Determining if Filtration Is Required

Under the final rule, a public water system using surface water must use filtration unless it meets the following criteria:

Source Water Quality Criteria
- Coliforms
- Turbidity

Site-specific Criteria
- Disinfection
- Watershed control
- On-site inspection
- Absence of waterborne disease outbreaks
- Total coliform maximum contaminant level (MCL)
- Total trihalomethanes (TTHMs) MCL

These criteria are described in detail below.

(a) *Source Water Quality Criteria*—(1) *Coliform limits.* To avoid filtration, a system must meet one of the following criteria: (1) The fecal coliform concentration in water prior to disinfection is equal to or less than 20/100 ml in at least 90 percent of the samples; or (2) the total coliform concentration in water prior to disinfection is equal to or less than 100/100 ml in at least 90 percent of the samples. If a system monitors for both parameters, it may exceed the total coliform limit, but not the fecal coliform limit, and still avoid filtration, while a system that meets the total coliform limit, but not the fecal coliform limit, must install filtration. Minimum sampling frequencies for different system sizes are as follows:

Population served	Samples/week [1]
<500	1
501 to 3,300	2
3,301 to 10,000	3
10,001 to 25,000	4
>25,000	5

[1] Must be taken on separate days.

This sampling must include one measurement on every day during which the turbidity exceeds 1 NTU (unless the State determines that the system, for logistical reasons outside the system's control, cannot have the sample analyzed within 30 hours of collection). This sample counts towards the total number that must be taken each week.

The coliform limits are an ongoing requirement; at the end of each month, the system must evaluate the data collected for the preceding six months the system served water to the public and determine if this source water quality condition is still being met. If the criterion has not been met, the system must install filtration.

(2) *Turbidity limits.* To avoid filtration, the turbidity of the water prior to disinfection cannot exceed 5 NTU, on an ongoing basis, based on grab samples collected every four hours (or more frequently) that the system is in operation. A system may substitute continuous turbidity monitoring for grab sample monitoring if it validates such measurements for accuracy with grab sample measurements on a regular basis, as specified by the State. If a public water system uses continuous monitoring, it must use turbidity values recorded every four hours (or some shorter regular time interval) to determine whether it meets the turbidity limit for raw water. A system occasionally may exceed the 5 NTU limit and still avoid filtration as long as (a) the State determines that each event occurred because of unusual or unpredictable circumstances and (b) as a result of this event, there have not been more than two such events in the past twelve months the system served water to the public or more than five such events in the past 120 months the system served water to the public. An "event" is defined as a series of consecutive days in which at least one turbidity measurement each day exceeds 5 NTU.

It is important to note that every event, i.e., exceedance of the 5 NTU limit, regardless of whether the system must filter as a consequence, constitutes a violation of a treatment technique requirement. For example, if the turbidity exceeded 5 NTU in at least one measurement each day for three consecutive days, this would constitute one event and one treatment technique violation. If this was the third event in the past 12 months the system served water to the public, or the sixth event in the past 120 months the system had served water to the public, the system also would be required to install filtration. In all cases, the system must inform the State when the turbidity exceeds 5 NTU as soon as possible, but no later than the end of the next business day.

(b) *Site-Specific Criteria*—(1) *Disinfection requirements.* To avoid filtration, this rule requires that a system practice disinfection and have either (a) redundant disinfection capability, including an auxiliary power supply with automatic start-up and alarm, to ensure that continuous disinfection is provided; or (b) automatic shut-off of delivery of water to the distribution system whenever the disinfectant residual is less than 0.2 mg/l in the water. A system that fails to meet either of these requirements must install filtration. The option of automatic shut-off is not permitted if the State determines that this action could cause an unreasonable risk to health (e.g., automatic shut-off is not appropriate if it results in negative pressures within the distribution system or inadequate water supplies for fire protection).

(i) *Maintenance of a disinfectant residual at the point of entry.* To avoid filtration, the disinfectant residual in water entering the distribution system cannot be less than 0.2 mg/l for more than four hours, with one exception noted below. Systems serving more than 3,300 persons must monitor continuously. If there is a failure in the continuous monitoring equipment, the system may substitute grab sampling every four hours for up to five working days following the failure of the equipment. Systems serving 3,300 or fewer people may monitor continuously

or take grab samples at the frequencies prescribed below:

System size by population	Samples/day [1]
<500	1
50 to 1,000	2
1,001 to 2,500	3
2,501 to 3,300	4

[1] Samples cannot be taken at the same time. The sampling intervals are subject to State review and approval.

If at any time the residual disinfectant concentration falls below 0.2 mg/l in a system using grab sample monitoring, the system must continue to take a grab sample every four hours until the residual disinfectant concentration is equal to or greater than 0.2 mg/l. For all systems, if the residual concentration is not restored to at least 0.2 mg/l within four hours after a value of less than 0.2 mg/l is observed, the system is in violation of a treatment technique requirement, and must install filtration. However, if the State finds that the exceedance was caused by an unusual and unpredictable circumstance, the State may choose not to require filtration. EPA expects the States to use this provision sparingly; it is intended to encompass catastrophic events, not infrequent large storm events. In addition, any time the residual concentration falls below 0.2 mg/l, the system must notify the State. Notification must occur as soon as possible, but no later than by the end of the next business day. The system also must notify the State by the end of the next business day whether or not the residual was restored within four hours.

(ii) *Minimum percent inactivation requirements.* To avoid filtration, a system must maintain disinfection operational conditions which inactivate 99.9 percent of *Giardia lamblia* cysts and 99.99 percent of viruses. To make this demonstration, the system must determine disinfectant residual(s), disinfectant contact time(s), pH, and water temperature, and use these data to calculate whether it is meeting the minimum total percent inactivation requirements in the rule. (The CT values necessary to achieve 99.9 percent inactivation of *Giardia lamblia* cysts and 99.99 percent inactivation of viruses by various disinfectants and under various conditions are specified in the rule.) A system is deemed in compliance with the inactivation requirements if the CT value(s) calculated for its disinfection conditions meet (or exceed) the relevant CT value specified in the rule. The system must make this determination each day that it is delivering water to its customers. For disinfectants other than chlorine, a system may demonstrate, through use of a State-approved protocol for on-site disinfection challenge studies or other information satisfactory to the State, that disinfection conditions other than those specified in the rule are adequate for meeting the minimum levels of inactivation.

For the purpose of calculating CT values, disinfection contact time (in minutes) is the time it takes the water, during peak hourly flow, to move between the point of disinfectant application (or the previous point of measurement) to a point before or at the point where the residual disinfectant concentration (in mg/l) is measured (which in turn must be before or at the first customer). The point of disinfectant application is defined as the point where the disinfectant is applied and water downstream of that point is not subject to recontamination by surface water runoff. Contact time in pipelines must be calculated based on "plug flow" (i.e., where all water moves homogeneously in time between two points) by dividing the internal volume of the pipeline by the peak hourly flow rate through that pipeline. Contact time within mixing basins and storage reservoirs must be determined by tracer studies or an equivalent demonstration.

Under this rule, systems with only one point of disinfectant application may measure "C" at any number of points within the treatment train, determine each corresponding "T" and thereby calculate the CTs for each sequence to determine the percent inactivation achieved. The total inactivation ratio achieved is the sum of all the fractional inactivations calculated for each point where disinfectant residual was measured. To determine the total inactivation ratio achieved using this method, the system must calculate the CT for each point where "C" was measured (CTcalc) and compare this with the $CT_{99.9}$ value (the CT value required to achieve 99.9 percent inactivation of *Giardia* cysts) given in the rule for the particular conditions (pH, temperature, and residual disinfectant concentration) at that point. Specifically, the system must divide each calculated CT value by its corresponding $CT_{99.9}$ value in the rule to determine the inactivation ratio for each point where "C" was measured. If the sum of the inactivation ratios, or

$$\sum \frac{CTcalc}{CT_{99.9}}$$

is equal to or greater than 1.0 (i.e., the sum of all the sequences for which CT was calculated before or at the first customer provides 99.9 percent or more inactivation of *Giardia lamblia* cysts), the system is meeting the disinfection performance requirement. In other words, if: $C_1T_1/CT_{99.9} + C_2T_2/CT_{99.9} + C_3T_3/C\,T_{99.9} + \ldots + C_nT_n/CT_{99.9} \geq 1.0$ (where $CT_{99.9}$ is specified in the rule for each combination of C_1, C_2, C_3, . . . C_n; temperature; and pH), the system is meeting the disinfection performance requirement.

Systems need only calculate one CT (CTcalc) each day for a point before or at the first customer. Alternatively, systems have the option of calculating multiple CTs after the point of disinfectant application but before or at the first customer to determine the inactivation ratio. If one CT is calculated (CTcalc) and this exceeds the applicable $CT_{99.9}$, the system is meeting the disinfection performance requirement; this may be all that is necessary for systems with very low oxidant demand in the water or systems where it is obvious they will achieve at least 99.9 percent inactivation.

For systems with multiple points of disinfectant application (e.g., ozone followed by chlorine, or chlorine applied at two different points in the treatment train), the inactivation ratio of each disinfectant sequence before or at the first customer must be used to determine the total inactivation ratio. The disinfectant residual of each disinfection sequence and the corresponding contact time must be determined at some point prior to the subsequent disinfection application point(s) to determine the inactivation ratio for that sequence, and whether the total inactivation ratio of 1.0 or greater is achieved. For example, if the first disinfection sequence provided an inactivation ratio of ⅔ (or 99 percent inactivation) and the second disinfection sequence provided an inactivation ratio of ⅓ (or 90 percent inactivation), the total inactivation ratio would equal 1.0 (⅔ + ⅓ = 1). The total percent inactivation could also be determined as follows:

$$\% \text{ inactivation} = 100 - \frac{100}{10^y}$$

$$\text{where } y = \sum \frac{(CTcalc)}{(CT_{99.9})} \times 3$$

If the system fails to achieve at least 99.9 percent inactivation (i.e., the

inactivation ratio is less than 1.0) any two or more days in one month, the system is in violation of a treatment technique requirement for that month. If this violation occurs during a second month in any 12 consecutive months the system serves water to the public, the system must install filtration, unless the State determines that at least one of these violations was caused by circumstances that were unusual and unpredictable. A third violation in 12 months, regardless of the cause, triggers filtration.

Guidance for determining the percent inactivation of *Giardia* cysts and viruses under different conditions will be provided in the final Guidance Manual.

(iii) *Maintenance of a disinfectant residual in the distribution system.* To avoid filtration, the disinfectant residual in the distribution system cannot be undetectable in more than five percent of the samples in a month, for any two consecutive months that the system serves water to the public. Systems may measure HPC instead of disinfectant residual. Sites with HPC concentrations of less than or equal to 500/ml are considered equivalent to sites with detectable residuals for the purpose of determining compliance. Public water systems must monitor for the presence of a disinfectant residual (or HPC levels) at the same frequency and locations as total coliform measurements taken pursuant to the total coliform regulation published elsewhere in today's Federal Register. However, if the State determines, based on site-specific considerations, that a system has no means for having a sample transported and analyzed for HPC by a certified laboratory within the requisite time and temperature conditions (Method 907, APHA, 1985), but that the system is providing adequate disinfection in the distribution system, this requirement does not apply to that system.

For systems which use both surface and ground water sources, the State may allow the system to take disinfectant residual or HPC samples at points other than the total coliform sampling locations if the State determines that such points are more representative of treated (disinfected) water quality within the distribution system.

If a system fails to maintain a detectable disinfectant residual or an HPC level of less than or equal to 500/ml in more than 5 percent of the samples during a month, for any two consecutive months the system serves water to the public, the system is in violation of a treatment technique requirement. In addition, this system must install filtration unless the State determines that the violation was not due to a deficiency in treatment of the source water (e.g., the violation was due to a deficiency in the distribution system, such as cross-connection contamination or failure in the pipeline).

(2) *Watershed control requirements.* To avoid filtration, systems must establish and maintain an effective watershed control program to minimize the potential contamination by *Giardia lamblia* cysts and viruses in the source water.

The State must determine whether the watershed control program is adequate to limit potential contamination by *Giardia lamblia* cysts and viruses. In making this determination, the State must consider the comprehensiveness of the watershed review; the effectiveness of the system's program to monitor and control activities occurring in the watershed that could have an adverse effect on water quality; and the extent to which the system has maximized land ownership and/or control of land use within the watershed. At a minimum, the watershed control program must: (1) Characterize the watershed hydrology and land ownership; (2) identify watershed characteristics and activities which may have an adverse effect on source water quality; and (3) monitor the occurrence of activities which may have an adverse effect on source water quality. The public water system must demonstrate through ownership or written agreements with landowners in the watershed, or a combination of both, that it controls all human activities which may have an adverse effect on the microbiological quality of the source water. The system must submit an annual report to the State that identifies any special concerns about the watershed and how they are being handled; describes activities in the watershed that affect water quality; and projects what adverse activities are expected to occur in the future and describes how the public water system intends to address them. For systems using a ground water source under the direct influence of surface water, an approved wellhead protection program developed under section 1428 of the Safe Drinking Water Act may be used, if the State deems it appropriate, to meet these requirements. Guidance for developing and maintaining an effective watershed control program will be included in the final Guidance Manual.

(3) *On-site inspection requirements.* To avoid filtration, a system must have an annual on-site inspection conducted by the State, or by a party approved by the State, which demonstrates that the system is maintaining an adequate watershed control program and reliable disinfection treatment. The purpose of the on-site inspection is to identify all microbiological health hazards and assess their present and future importance. The on-site inspection must include:

(a) A review of the effectiveness of the watershed control program;

(b) A review of the physical condition of the source intake and how well it is protected;

(c) A review of the system's equipment maintenance program to ensure that there is low probability for failure of the disinfection process;

(d) An inspection of the disinfection equipment for physical deterioration;

(e) A review of operating procedures;

(f) A review of data records to insure that all required tests are being conducted and results recorded, and that disinfection is effectively practiced; and

(g) Identification of any improvements which are needed in the equipment, system maintenance and operation, or data collection.

The on-site inspection must be conducted by a competent individual(s) such as a sanitary or civil engineer, sanitarian, or technician who has experience in and knowledge about the operation and maintenance of a water system, and who has a sound understanding of public health principles and waterborne diseases. A report of the on-site inspection summarizing all findings must be prepared every year. The State will review the report and determine whether the system is maintaining an adequate watershed control program and reliable disinfection treatment. EPA will include detailed suggestions for conducting an on-site inspection and interpreting the results in the final Guidance Manual.

(4) *Absence of waterborne disease outbreaks.* To avoid filtration, a system cannot have been identified as a source of waterborne disease outbreak, or if it has been so identified, the system must have been modified sufficiently to prevent another such occurrence, as determined by the State. An unfiltered system that has a waterborne disease outbreak is in violation of a treatment technique requirement which poses an acute risk to health. A "waterborne disease outbreak" is defined as a significant occurrence of acute infectious illness that the State or local health agency has determined to be epidemiologically associated with the ingestion of water from a public water system that is deficient in treatment.

(5) *Compliance with the total coliform maximum contaminant level (MCL).* To

avoid filtration, a system must comply with the MCL for total coliforms, published elsewhere in today's **Federal Register**, at least 11 out of the previous 12 months the system served water to the public on an ongoing basis, unless the State determines that failure to meet this requirement was not caused by a deficiency in treatment of the source water. If the State makes such a determination, the system is not required to install filtration. The total coliform rule requires systems using surface water or ground water under the influence of surface water which do not filter to collect a sample at or near the first customer each day that the turbidity level exceeds 1 NTU within 24 hours of learning of the result and to analyze the sample for the presence of total coliforms. (If the State determines that it is not possible for the system to have such a sample analyzed within 24 hours, this time limit may be extended on a case-by-case basis.) This sample may be used to fulfill the routine compliance monitoring requirements of the total coliform rule. The results of the additional sample must be included in determining whether the system is in compliance with the monthly MCL for total coliforms.

(6) *Compliance with the total trihalomethane MCL.* To avoid filtration, a system must comply with the total trihalomethane (TTHM) regulation (40 CFR 141.12 and 141.30). An unfiltered system that violates the TTHM regulation must install filtration. Currently, this requirement only applies to systems serving more than 10,000 people. When new regulations for disinfection by-products are promulgated, EPA expects they will apply to smaller systems as well as these larger systems. At that time, those smaller systems would be required to comply with these requirements to avoid filtration.

3. Criteria for Determining if Treatment is Adequate for Filtered Systems

Systems which fail to meet one or more of the above criteria for avoiding filtration must install filtration. This section describes the performance criteria for these systems which must install filtration, as well as systems that already are filtering their water.

(a) *Disinfection requirements.* Under this final rule, the requirements for maintaining a disinfectant residual at the entry point to the distribution system and in the distribution system described above for unfiltered systems also apply to filtered systems. The State must determine the level of disinfection required for each system to ensure that the total treatment process (i.e. filtration and disinfection) achieves at least a 99.9 percent (3-log) and 99.99 percent (4-log) removal and/or inactivation of *Giardia lamblia* cysts and viruses, respectively. The final Guidance Manual will recommend different levels of disinfection as a function of different treatment technologies and source water qualities.

(b) *Turbidity monitoring requirements.* Under this rule, systems serving more than 500 people which use conventional treatment, direct filtration, or diatomaceous earth filtration must monitor the turbidity of representative filtered water by grab sample every four hours (or more frequently) that the system is in operation. A system may substitute continuous turbidity monitoring for grab sampling if it validates such measurements for accuracy with grab sample measurements on a regular basis, as specified by the State. If a system uses continuous monitoring, it must use the turbidity value for every four-hour interval (or some shorter regular time interval) to determine compliance with the turbidity performance criterion.

For systems using slow sand filtration or technologies other than conventional treatment, direct filtration, or diatomaceous earth filtration (such as cartridge filtration), the State may reduce the sampling frequency for turbidity to one sample per day if the State determines that less frequent monitoring is sufficient to indicate effective filtration performance.

For systems serving 500 or fewer people, the State may reduce the sampling frequency to once per day, regardless of the type of filtration treatment used, if the State determines that less frequent monitoring is sufficient to indicate effective filtration performance.

(c) *Turbidity performance criteria*—(1) *Conventional treatment or direct filtration.* For systems using conventional treatment or direct filtration, the final rule requires that the filtered water turbidity level be less than or equal to 0.5 NTU in 95 percent of the measurements taken every month, and at no time exceed 5 NTU. The system must inform the State when the turbidity exceeds 5 NTU as soon as possible, but not later than the end of the next business day.

The State may allow any system an alternate turbidity limit, up to 1 NTU in 95 percent of the measurements, if the State determines that the system is achieving the minimum overall performance requirement of 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts at the higher turbidity level. Such a determination may be based upon an analysis of existing design and operating conditions (e.g., adequacy of treatment prior to filtration, percent turbidity removal across the entire treatment train, and level of disinfection), and/or filtration effectiveness relative to certain water quality measurements (e.g., microbiological analysis of the filtered water, particle size counting before and after the filter). Under this provision, the State may consider such factors as source water quality, extent of treatment, and system size to determine the analysis necessary to justify the higher turbidity limit. In the final Guidance Manual, EPA will provide additional information for determining when it may be appropriate to allow higher turbidity performance criteria.

All systems are expected to optimize their treatment so as to achieve the lowest turbidities feasible at all times. This will promote optimal removal of *Giardia lamblia* cysts and other pathogens, and provide optimal conditions for disinfection.

(2) *Slow sand filtration.* For systems using slow sand filtration, the final rule requires that the filtered water turbidity be 1 NTU or less in 95 percent of the measurements taken each month and at no time exceed 5 NTU. However, the State may allow a turbidity value greater than 1 NTU, but below 5 NTU, in 95 percent of the measurements if the State determines there is no significant interference with disinfection at the higher turbidity level. The system must inform the State when the turbidity exceeds 5 NTU as soon as possible, but not later than the end of the next business day.

(3) *Diatomaceous earth filtration.* For systems using diatomaceous earth filtration, the filtered water turbidity must be less than or equal to 1 NTU in at least 95 percent of the measurements taken each month. At no time may the turbidity exceed 5 NTU. The system must inform the State when the turbidity exceeds 5 NTU as soon as possible, but not later than the end of the next business day.

(4) *Other filtration technologies.* A public water system may use a filtration technology other than one described above if it demonstrates to the State, using pilot plant studies, conducted on-site or at another site with similar source conditions, that the alternative filtration technology, together with disinfection, consistently achieves 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts and 99.99 percent removal and/or inactivation of viruses. The system must meet the same

turbidity limits prescribed for slow sand filtration.

C. Reporting Requirements

Reporting requirements for all public water systems which use a surface water source or a ground water source under the influence of surface water are specified in § 141.75 of the final rule. These reports are designed to document compliance with the treatment and monitoring requirements in §§ 141.71, 141.72, 141.73, and 141.74 (described above). Separate requirements are specified for systems which do not use filtration and systems which do use filtration.

1. Unfiltered Systems

Systems which do not use filtration are required to report to the State on a monthly basis whether they are meeting the treatment and monitoring requirements for avoiding filtration, for each month they serve water to the public. The report must include a summary of the results of source water monitoring for total or fecal coliforms (if the system monitors for both, only fecal coliforms must be reported) and turbidity, to demonstrate compliance with § 141.71(a). The specific items to be reported are listed in § 141.75(a)(1).

Each system that does not use filtration must report disinfection conditions monthly to demonstrate that: (1) It met the 99.9 percent *Giardia lamblia* cyst and 99.99 percent virus inactivation performance criteria; (2) there was not less than 0.2 mg/l disinfectant residual in the water supplied to the distribution system for more than four hours; (3) it met the requirement to have a detectable disinfectant residual or an HPC level less than or equal to 500/ml. The specific information about disinfection to be reported is listed in § 141.75(a)(2). After a system reports this information for one year, the State may waive most of the disinfection reporting requirements.

Other reporting requirements for systems which do not provide filtration include:

- An annual report which summarizes the system's compliance with all watershed control program requirements specified in § 141.71(b)(2).
- An annual report summarizing results of the on-site inspection which evaluated the effectiveness of the watershed control program and the reliability of the disinfection process, unless the on-site inspection was conducted by the State. If the inspection is conducted by the State, the State must provide a copy of its report to the public water system.
- Reports of waterborne disease outbreaks, turbidity measurements over 5 NTU, and failure to maintain a disinfectant residual of 0.2 mg/1 at the point of entry to the distribution system for more than 4 hours.

2. Filtered Systems

Public water systems which use filtration must report to the State on a monthly basis information regarding filtered water turbidity, disinfectant residual concentration in the water entering the distribution system, and disinfectant residual concentrations and/or HPC measurements in the distribution system. Turbidity reporting requirements vary depending upon the filtration technology used. Reporting requirements pertaining to disinfection requirements at the point of entry to the distribution system and within the distribution system are the same for filtered and unfiltered systems. The specific requirements are set out in § 141.75(b).

Systems must also report waterborne disease outbreaks, turbidity measurements over 5 NTU, and failure to maintain a disinfectant residual of 0.2 mg/1 at the point of entry to the distribution system for more than 4 hours.

D. Compliance

1. Compliance Transition with Current Turbidity Requirements

The existing (interim) NPDWR for turbidity, including the MCL in § 141.13 and the monitoring requirements in § 141.22 will continue in effect for unfiltered systems using a surface water source until 30 months after promulgation of this rule. However, there is an exception to this requirement. If the State determines that a system must filter (in writing, in accordance with section 1412(b)(7)(C)(iii)) earlier than 30 months from the promulgation date, that system must continue to comply with the interim turbidity rule until 48 months from promulgation or until filtration is installed, whichever is later. Thus, if the system installs filtration before 48 months from promulgation, it would comply with the interim turbidity requirements until 48 months from promulgation, and the turbidity requirements for filtered systems promulgated today in § 141.73 and § 141.74(c) would apply after that date.

It is important to note that, for awhile, unfiltered systems will be subject to both the interim turbidity MCL and monitoring requirements, and the turbidity monitoring requirements for unfiltered systems promulgated in § 141.74(b)(2), at the same time. This is appropriate because the monitoring required under § 141.22 is different from that required under § 141.74(b)(2): § 141.22, requires that samples be taken daily at a representative entry point to the distribution system, while § 141.74(b)(2) requires that samples be taken every four hours prior to the point of disinfectant application. Thus, the former is a measure of finished water, while the latter is a measure of source water quality.

The interim requirements for turbidity under §§ 141.13 and 141.22 will apply to filtered systems using a surface water source until 48 months after the promulgation of this rule. Beginning 48 months after the promulgation of this rule, the turbidity performance criteria for filtered systems in § 141.73 and the monitoring requirements under § 141.74(c), both promulgated today, will apply.

2. Systems Using a Surface Water Source (Not Including Systems Using a Ground Water Source Under the Direct Influence of Surface Water)

As required by SDWA, within 18 months following the promulgation of this rule, States must promulgate any regulations necessary to implement this rule. Under section 1413, these rules must be at least as stringent as those required by EPA. Within 30 months following promulgation of this rule, each State must determine which systems are required to install filtration. If filtration is required, it must be installed within 48 months following the promulgation of this rule. If it is not feasible for a system to install filtration within this time, the State may allow for a longer period under the exemption provisions of section 1416, as discussed in Section IV.G, below. Procedures for State implementation of today's rule appear in Section V, below.

As described above, today's rule specifies (a) conditions systems must meet to avoid filtration (and other criteria for unfiltered systems), and (b) requirements that apply to filtered systems. Regardless of whether the State complies with the statutory schedule for adopting the criteria and applying them to determine which systems must install filtration, each system using a surface water source must comply with one or the other, i.e., either the criteria for avoiding filtration and other requirements for unfiltered systems or the requirements for filtered systems, by the relevant statutory deadline. Thus, beginning 30 months after promulgation of this rule, the requirements for avoiding filtration

specified in § 141.71 (a) and (b) and the requirements of § 141.71(c) and § 141.72(a) go into effect unless the State already has determined that filtration is required; a system that fails to meet any one of the criteria for avoiding filtration in § 141.71 (a) and (b) must install filtration and comply with all the requirements for filtered systems (the general requirements in § 141.73 and the disinfection requirements in § 141.72(b)) within 48 months of promulgation. Likewise, beginning 30 months after promulgation, if a system fails to meet any one of the criteria for avoiding filtration, even if the system was meeting all the criteria up to that point, it must install filtration and comply with the requirements for filtered systems within 18 months of the failure. In either case, whenever a State determines that filtration is required, it may specify interim requirements for the period prior to installation of filtration treatment.

To obtain the information necessary to determine whether an unfiltered system is meeting the criteria for avoiding filtration in § 141.71 (a) and (b), the rule includes monitoring and reporting requirements for unfiltered systems (*see* §§ 141.74(b) and 141.75(a), respectively). These requirements go into effect 18 months after promulgation of this rule, unless the State has already determined that filtration is required.

In reviewing these data, it is up to the State to determine how it will weigh the data gathered during the first 30 months following promulgation in deciding whether filtration is required. Thus, for instance, a system may not meet the specified CT requirements for the first four months of monitoring (i.e., months 19–23), upgrade its disinfection practice and then begin meeting the CT values in subsequent months. In this case, the State could conclude that the system would be able to meet this criterion for avoiding filtration, even though the system did not meet the criterion 11 out of the 12 previous months, as specified in § 141.71(b)(1). In other words, the time periods specified in the criteria for avoiding filtration (e.g., six months for total coliforms, one year and ten years for turbidity, one year for CT requirements) do not begin until 30 months from the date of promulgation (unless the State specifies an earlier date).

All systems with filtration in place must meet the treatment technique requirements specified in § 141.73 (filtration criteria) and § 141.72(b) (disinfection criteria), and the monitoring and reporting requirements specified in §§ 141.74(c) and 141.75(b), respectively, beginning 48 months after promulgation.

The above compliance dates are different from what were proposed. Under the proposed rule, all monitoring, reporting, and treatment technique requirements for unfiltered and filtered systems would have gone into effect beginning 48 months after promulgation of this rule. EPA believes that this schedule would not have been consistent with the intent of the SDWA. First, EPA believes that the statutory schedule (i.e., States make filtration decisions within 30 months and systems install filtration 18 months later) contemplates that systems which meet the criteria for avoiding filtration will meet them beginning no later than 30 months from promulgation, since this is the date by which all filtration decisions are to be made. Accordingly, EPA changed the compliance date in the rule. Second, it is clear that States will need monitoring information to determine whether systems are meeting the criteria for avoiding filtration. Therefore, the final rule requires unfiltered systems to begin monitoring 18 months from promulgation (unless the State has already determined that filtration is required).

3. Systems Using a Ground Water Source Under the Direct Influence of Surface Water

As explained in the section on State Implementation, below, the State's program revisions to adopt this final rule must include procedures for determining, for each system in the State served by a ground water source, whether that source is under the direct influence of surface water. Within five and ten years following the promulgation of this rule (i.e., by June 29, 1994 and June 29, 1999 each State must determine which community and non-community public water systems, respectively, use ground water which is under the direct influence of surface water. EPA recommends that these determinations be made in conjunction with related activities required by other regulations (e.g., sanitary surveys pursuant to the final coliform rule, vulnerability assessments pursuant to the volatile organic chemicals rule, assessment requirements in the forthcoming disinfection rule for ground water systems). In addition, section 1428 of the Safe Drinking Water Act requires States to develop wellhead protection programs for ground-water supply wells. EPA-approved wellhead protection programs may contain methods and criteria for determining zones of contribution, assessments of potential contamination, and management of sources of contamination. These programs may be used as a partial basis for determining (a) whether a system is under the direct influence of surface water and (b) if direct influence exists, whether current watershed controls are adequate to meet the watershed control requirement for avoiding filtration (§ 141.71(b)(2)). Guidelines for developing and implementing a State wellhead protection program are found in "Guidelines for Applicants for State Wellhead Protection Program Assistance Funds under the Safe Drinking Water Act" (U.S. EPA, 1987d).

A system using a ground water source under the influence of surface water that does not have filtration in place must begin monitoring and reporting in accordance with §§ 141.74(b) and 141.75(a), respectively, to determine whether it meets the criteria for avoiding filtration in § 141.71 (a) and (b) beginning 18 months after promulgation or six months after the State determines that the ground water source is under the influence of surface water, whichever is later. Within 18 months following the determination that a system is under the direct influence of surface water, the State must determine, using the same criteria that apply to systems using a surface water source, whether the system must provide filtration treatment. (The 18-month period was derived by adding the six months until monitoring begins to the 12 months SDWA provides States to make the filtration decision for systems using a surface water source.) Beginning 30 months after promulgation of this rule, or 18 months after the determination that a system is under the direct influence of surface water, whichever is later, the criteria for avoiding filtration in § 141.71 (a) and (b) and the requirements for unfiltered systems in § 141.71(c) and § 141.72(a) go into effect, unless the State has determined that filtration is required. Thus, a system using a ground water source under the influence of surface water that fails to meet any one of the criteria for avoiding filtration after the relevant date must install filtration and comply with all of the requirements for filtered systems (the general requirements in § 141.73 and the disinfection requirements in § 141.72(b)) 48 months after promulgation of this rule, or within 18 months of the failure to meet the criteria for avoiding filtration, whichever is later. As with systems using a surface water source, subsequent failure to comply with any one of the criteria for avoiding filtration also requires the installation of filtration treatment. Thus, beginning 30 months after promulgation

or 18 months after the State determines that a system is using a ground water source under the direct influence of surface water, whichever is later, if that system fails to meet any one of those criteria (even if the system was meeting the criteria for avoiding filtration up to that point), it must install filtration and comply with the requirements for filtered systems within 18 months of the failure. As with systems using a surface water source, in reviewing the data collected by an unfiltered system using ground water under the influence of surface water, for the first 18 months following the determination, it is up to the State to determine how it will weigh the data in deciding whether filtration is required.

Any system using a ground water source that the State determines is under the direct influence of surface water that already has filtration in place at the time of the State determination must meet the treatment technique requirements specified in § 141.73 (filtration criteria) and § 141.72(b) (disinfection criteria) and the monitoring and reporting requirements specified in §§ 141.74(c) and 141.75(b), respectively, beginning 48 months after promulgation or 18 months after the State determination, whichever is later.

4. Strategies for Implementation

To comply with this final rule, a system that uses surface water and does not currently disinfect its water must begin disinfection, and possibly filtration. While the system is being evaluated to determine what treatment needs to be installed (e.g., disinfection without filtration; disinfection first and filtration later because of time differences needed for construction; or filtration and disinfection at the same time), the State may determine that interim measures to reduce risk to health (e.g., notice to consumers that water should be boiled before use or distribution of bottled water) might be appropriate.

Similarly, for systems which are already disinfecting, but do not meet one or more of the requirements for avoiding filtration, the State may determine that interim measures are necessary to reduce risk to health (e.g., maintaining more stringent disinfection conditions until filtration is installed).

Some systems already have filtration and disinfection in place. While many such systems are already in compliance with all the requirements of the rule, other systems will require significant upgrades in treatment to meet all the performance criteria. As discussed earlier, filtration without disinfection, with proper pretreatment where appropriate, can be expected to achieve 99 to 99.9 percent (2- to 3-log) removal of *Giardia* cysts and 90 to 99.9 percent (1- to 3-log) removal of viruses (Logsdon, 1987). Some disinfection will be necessary to supplement filtration so that the overall treatment achieves the minimum treatment requirements of the rule, i.e., 99.9 percent removal and/or inactivation of *Giardia* cysts and 99.99 percent removal and/or inactivation of viruses. To achieve these performance criteria with a substantial margin of safety, EPA recommends different minimum levels of disinfection, depending upon the filtration technology in place. Table IV–2 summarizes the level of *Giardia* cyst and virus removal that EPA recommends generally be assumed for different filtration technologies (assuming they are well-operated), and the corresponding recommended minimum levels of disinfection needed for such systems to meet the overall minimum performance requirements. CT values for achieving 1-log inactivation of *Giardia* cysts are indicated in Table IV–3. CT values to achieve 0.5-log inactivation are one-half those indicated in Table IV.3. Recommended CT values for achieving different levels of virus inactivation are indicated in Table IV–4.

TABLE IV–2. RECOMMENDED MINIMUM LEVEL OF DISINFECTION AND ASSUMED LOG REMOVALS BY FILTRATION METHOD

Treatment	Assumed log removals		Recommended minimum level of disinfection	
	Giardia	Viruses	*Giardia*	Viruses
Conventional	2.5	2.0	0.5	2.0
Direct filtration	2.0	1.0	1.0	–3.0
Slow sand filtration	2.0	2.0	1.0	2.0
Diatomaceous earth filtration	2.0	1.0	1.0	3.0

TABLE IV–3.—CT VALUES FOR ACHIEVING 1-LOG INACTIVATION OF GIARDIA LAMBLIA [1]

	pH	Temperature			
		0.5 °C	5 °C	10 °C	15 °C
Free Chlorine [2]	6	49	35	26	19
	7	70	50	37	28
	8	101	72	54	36
	9	146	146	78	59
Ozone		0.97	0.63	0.48	0.32
Chlorine Dioxide		21	8.4	7.4	6.3
Chloramines (preformed)		1,270	730	620	500

[1] From 3/31/89 draft Guidance Manual. Values to achieve 0.5-log inactivation are one half those shown in the table.
[2] CT values will vary depending on the concentration of free chlorine. Indicated CT values are for 2.0 mg/l free chlorine. (For other free chlorine concentrations, see the final Guidance Manual.)

TABLE IV-4.—CT VALUES FOR ACHIEVING INACTIVATION OF VIRUSES AT PHS 6 THROUGH 9 [1]

	Log inactivation	Temperature			
		0.5 °C	5 °C	10 °C	15 °C
Free chlorine	2	6	4	3	2
	3	9	6	4	3
Ozone	2	0.9	0.6	0.5	0.3
	3	1.4	0.9	0.8	0.5
Chlorine Dioxide [2]	2	8.4	5.6	4.2	2.8
	3	25.6	17.1	12.8	8.6
Chloramines [3]	2	1,243	857	643	428
	3	2,063	1,423	1,067	712

[1] CT values for free chlorine, ozone, and chlorine dioxide include safety factors. CT values for chloramines are based on laboratory data using preformed chloramine to inactivate Hepatitis A and do not include a safety factor (Sobsey, 1988).
[2] CT values for chlorine dioxide were based on laboratory studies at pH 6 (Sobsey, 1988). Based on limited data, chlorine dioxide appears much more effective at higher pHs. Procedures for demonstrating if lower CT values may be appropriate will be included in the final Guidance Manual.
[3] CT values for chloramines are only applicable if chlorine is added prior to ammonia. Procedures for demonstrating that lower CT values are appropriate will be included in the final Guidance Manual.

Systems using chlorine with CT values that achieve the recommended minimum level of inactivation for *Giardia* cysts will also achieve the recommended minimum level of inactivation for viruses. However, for other disinfectants, depending upon the filtration technology in place, the CT values for achieving the recommended minimum level of virus inactivation may in some cases be higher than those necessary to achieve the minimum recommended level of *Giardia* cyst inactivation. Guidance for making these determinations will be included in the final Guidance Manual.

The degree of disinfection should be commensurate with the degree of potential pathogen contamination in the source water and the type of clarification and filtration. For example, the system should provide higher levels of disinfection (e.g., 99 or 99.9 percent inactivation of *Giardia* cysts) when there is evidence of significant *Giardia* cyst contamination in the source water. Guidelines for providing an appropriate level of disinfection as a function of source water quality conditions and the extent of treatment processes will be available in the final Guidance Manual.

E. Public Notification

On October 29, 1987, EPA promulgated regulations to revise the existing public notification requirements in 40 CFR 141.32 to implement the 1986 amendments to the public notification provisions in section 1414(c) of the Safe Drinking Water Act. These regulations specify general notification requirements, including the frequency, manner, and content of notices, and require the inclusion of EPA-specified health effects information in each public notice. The public notification regulations divide violations into two tiers based on the seriousness of the violation, with each tier having different public notification requirements. Tier 1 violations include violations of an MCL, a treatment technique requirement, or a variance or exemption schedule. Some Tier 1 violations are designated as violations posing an "acute" risk to health. Tier 2 violations include violation of a monitoring requirement, failure to comply with a testing procedure prescribed by a NPDWR, and operating under a variance or exemption. Under this rule, §§ 141.70, 141.71(c), 141.72, and 141.73 prescribe treatment technique requirements. Thus, violation of these requirements are classified as Tier 1 violations. Violations of § 141.74, which prescribes testing procedures and monitoring requirements, are classified as Tier 2 violations. Violations of § 141.75 (reporting requirements) do not require public notification.

All of the requirements of § 141.32, the general public notification requirements, including the manner and frequency of notification, apply to violations of this final rule. The mandatory language to be included in public notices for violations of the filtration and disinfection requirements of this rule (i.e., §§ 141.70, 141.71(c), 141.72, and 141.73), including an acute violation (i.e., a waterborne disease outbreak in an unfiltered supply), is specified below:

Microbiological contaminants (for use when there is a violation of the treatment technique requirements for filtration and disinfection in Subpart H of this part). The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that the presence of microbiological contaminants are a health concern at certain levels of exposure. If water is inadequately treated, microbiological contaminants in that water may cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. EPA has set enforceable requirements for treating drinking water to reduce the risk of these adverse health effects. Treatment such as filtering and disinfecting the water removes or destroys microbiological contaminants. Drinking water which is treated to meet EPA requirements is associated with little to none of this risk and should be considered safe.

The above mandatory public notification language was changed from what was proposed. Types of disease, namely hepatitis, giardiasis, and gastroenteritis, which might be caused by consumption of inadequately treated water, have been deleted. Also, wording has been added which indicates that symptoms which may be associated with consumption of inadequately treated water may be caused by other factors not associated with drinking water. These changes were made in response to public comments which expressed concern that the general public would not be familiar with disease names such as giardiasis and gastroenteritis, and that most of the symptoms mentioned in the notice are so common that the water treatment plant might be considered responsible without justification.

F. Variances

Section 1415 allows States to grant variances from national primary drinking water regulations under certain conditions. However, section 1412(b)(7)(C)(ii) of the Safe Drinking Water Act states that, in lieu of the variance provisions of section 1415, EPA is to specify criteria by which States will determine which public water systems will be required to filter. This notice promulgates these filtration criteria.

Accordingly, the rule does not permit variances from the filtration requirements. As for the disinfection requirements in this rule, due to the acute nature and high risk associated with poor disinfection of surface waters, no variances are allowed.

C. Exemptions

Section 1416 of the Safe Drinking Water Act allows a State to exempt any public water system within its jurisdiction from any treatment technique requirement imposed by a national primary drinking water regulation upon a finding that:

1. Due to compelling factors (which may include economic factors), the public water system is unable to comply with the treatment technique requirement;

2. The public water system was in operation on the effective date of the treatment technique requirement or, for a system that was not in operation by that date, only if no reasonable alternative source of drinking water is available to the new system; and

3. The granting of the exemption will not result in an unreasonable risk to health.

If a State grants a public water system an exemption, the State must prescribe, at the time the exemption is granted, a schedule for:

1. Compliance (including increments of progress) by the public water system with each treatment technique requirement with respect to which the exemption was granted; and

2. Implementation by the system of such control measures as the State may require during the period the exemption is in effect.

Before prescribing a schedule, the State must provide notice and opportunity for a public hearing on the schedule. The schedule prescribed must require compliance by the public water system with the treatment technique requirement as expeditiously as practicable, but in no case later than one year after the exemption is issued (except that, if the system meets certain requirements, the final date for compliance may be extended for a period not to exceed three years from the date the exemption is granted). For systems serving fewer than 500 service connections, and meeting certain additional requirements, the State may renew the exemption for one or more additional two-year periods.

Under this rule, no exemptions are allowed from the requirement to provide disinfection for surface water systems, for the same reason variances are not allowed. However, exemptions are available to reduce the degree of disinfection required. Exemptions from the filtration requirements are available as well. For example, under certain conditions, it might be appropriate for an unfiltered system to receive an exemption, for a limited time, if it achieves only 99 percent inactivation of *Giardia lamblia* cysts (i.e., it did not meet the 99.9 percent inactivation requirement). Guidance for determining conditions under which an exemption might be appropriate is provided in the final Guidance Manual.

V. State Implementation of the Surface Water Treatment Requirements

A. General

Section 1413 of the Safe Drinking Water Act establishes requirements a State must meet to have primary enforcement responsibility for public water systems ("primacy"). These include: (1) Adopting drinking water regulations no less stringent than the NPDWRs in effect under sections 1412(a) and 1412(b) of the Act; (2) adopting and implementing adequate procedures for enforcement; (3) keeping records and making such reports with respect to its activities as EPA may require by regulation; (4) issuing variances and exemptions (if allowed at all by the State) under conditions no less stringent than allowed by sections 1415 and 1416; and (5) adopting and being able to implement an adequate plan for the provision of safe drinking water under emergency situations.

40 CFR Part 142 sets out the specific program implementation requirements for States to obtain primacy for the public water system supervision (PWSS) program as authorized under Section 1413 of SDWA. EPA first promulgated these regulations on January 20, 1976. Since 1976, however, much has happened in the PWSS program, and portions of the implementation regulations at 40 CFR Part 142 have become outdated. In response, on August 2, 1988, the Agency proposed revisions to 40 CFR Part 142, Subpart B which take into account the program's evolution since 1976, as well as the new legislative mandates (53 FR 29194). These regulations, when promulgated, will specify the procedures and timing for States to follow to obtain approval of program changes to adopt new or revised regulations that EPA promulgates.

When today's regulations for surface water treatment were proposed on November 3, 1987 (52 FR 42178), the schedule for revising the implementation regulations (40 CFR Part 142) was not known. Consequently, the implementation portion of the proposed surface water treatment requirements included a complete list of requirements for States to meet to obtain approval of their program revisions, including both general requirements applicable to all program revisions (e.g., regulations that are no less stringent than the NPDWRs that EPA promulgates in Part 141), as well as specific requirements applicable only to the surface water treatment provisions. However, EPA expects to promulgate the revised implementation regulations shortly. These implementation regulations will specify procedures, timing, and other general requirements a State must meet to retain primary enforcement responsibility. For instance, these final rules will make it clear that each time EPA adopts (or revises) an NPDWR under section 1412, primacy States must adopt drinking water regulations that are no less stringent than the new regulations. Therefore, today's amendments to Part 142 only address "special primacy requirements," i.e., requirements that are unique to the surface water treatment requirements promulgated in Part 141; general primacy requirements applicable to all NPDWRs are not addressed in today's amendment of 40 CFR Part 142.

In some respects, the State implementation of the regulations in 40 CFR Part 141, Subpart H—Filtration and Disinfection, is different from implementation of other NPDWRs. The surface water treatment requirements promulgated today consist of both objective, uniform criteria and criteria that provide the primacy State broad discretion to decide whether to implement them (and if so, how), considering the objectives of the regulations and the variability encountered in surface water treatment throughout the diverse geographical areas of the United States

As a condition of primacy, States must promulgate regulations that incorporate requirements that are no less stringent than these objective criteria in the surface water treatment requirements. Since the general primacy rule will require all State program revisions to include requirements that are no less stringent than Federal requirements, today's amendments to Part 142 do not list each provision of the surface water treatment requirements for which the State must adopt a corresponding revision which is no less stringent. (However, to assist States developing program revisions to adopt today's regulations, Section V.B.1. below identifies such provisions.)

Where it was not possible to develop uniform national criteria or where States

are provided flexibility to modify the national criteria to account for site-specific circumstances, the surface water treatment requirements give the States discretion to adopt appropriate requirements. For purposes of implementation, EPA has divided these areas of State discretion into two categories. For items in the first category, the State must demonstrate that it has adopted enforceable requirements in the form of State rules, regulations, and/or permit requirements. For items in the second category, the State need only describe the practices or procedures it will use to implement those parts of its program. The specific items in these two categories are listed in Sections V.B.2 and 3 below.

Where the State must have enforceable rules, regulations, and/or permit requirements, i.e., elements in the first category, EPA review of this portion of the State program revision will generally be limited to a determination that the State requirements are enforceable, rather than a detailed evaluation of the content of the requirements per se. For items in the second category, where the State only is required to describe the practices or procedures it will use in exercising the discretion provided in the surface water treatment requirements, EPA review of the State program revision will generally be even more limited. It will consider whether the State practices or procedures are clear and unambiguous. In both cases, however, EPA will consider whether the State's provisions can be reasonably expected to accomplish the objectives of the surface water treatment requirements.

B. Specific Primacy Requirements for States to Adopt 40 CFR Part 141 Subpart H—Filtration and Disinfection

The three types of provisions States must adopt are described in greater detail below.

1. General Primacy Requirements—State Requirements Must Be No Less Stringent than Federal Requirements

As explained above, for those portions of the surface water treatment requirements promulgated today which establish objective criteria, primacy States must adopt equivalent, i.e., no less stringent, requirements. Although these objective criteria are not listed in the revisions to Part 142 for the reasons described in the previous section, EPA has, for convenience, summarized these criteria below. (Some of these criteria allow exceptions on a case-by-case basis, as described in Part 141, Subpart H. These exceptions are listed in § 142.16(b)(2) (iii) and (iv) of the rule and Section V.B.3 of this preamble. For each provision that allows exceptions, States may choose to simply adopt the requirement as listed here (allowing for exceptions), or permit the exceptions described in the later section.) At a later date, specific guidance will be developed and provided to States to assist them in preparing their program revisions.

(a) Section 141.2—New definitions.

(b) Section 141.32(a)(1)(iii)(D)—Waterborne disease public notification requirements.

(c) Section 141.32(e)(10)—Mandatory health effects language for microbiological contaminants.

(d) Section 141.70(a)(1)—Requirement for 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts.

(e) Section 141.70(a)(2)—Requirement for 99.99 percent removal and/or inactivation of viruses.

(f) Section 141.70(b)—Compliance requirements for public water systems that filter and systems that do not filter.

(g) Section 141.70(c)—Requirement that public water systems be operated by qualified personnel.

(h) Section 141.71—Deadlines for installation of filtration and compliance with filtration requirements for systems using a surface water source or ground water under the direct influence of surface water which do not meet all the requirements for avoiding filtration; deadlines for meeting criteria for avoiding filtration for systems which choose not to filter.

(i) Section 141.71(a)—Source water quality conditions for public water systems that choose to avoid filtration, including:

(1) Section 141.71(a)(1)—Coliform limits.

(2) Section 141.71(a)(2)—Turbidity limits.

(j) Section 141.71(b)—Site-specific conditions for public water systems that wish to avoid filtration, including:

(1) Section 141.71(b)(1)—Disinfection compliance requirements.

(2) Section 141.71(b)(2)—Requirement to have, and mandatory elements of, a watershed control program.

(3) Section 141.71(b)(3)—Requirement that system have an annual on-site inspection that includes the elements specified.

(4) Section 141.71(b)(4)—Requirement that system has not been identified as a source of a waterborne disease outbreak (or, if it was, that the system has been sufficiently modified to prevent recurrence).

(5) Section 141.71(b)(5)—Requirement that system be in compliance with the total coliform MCL for 11 of the last 12 consecutive months.

(6) Section 141.71(b)(6)—Requirement that system comply with total trihalomethane monitoring and MCL requirements.

(k) Section 141.71(c)—Treatment technique requirements whose failure does not trigger filtration for public water systems which do not filter.

(l) Section 141.72—Deadlines for compliance with disinfection requirements for systems that filter and those that do not.

(m) Section 141.72(a)—Disinfection requirements for systems which do not filter, including:

(1) Section 141.72(a)(1)—Requirement for 99.9 and 99.99 percent removal of *Giardia lamblia* cysts and viruses, respectively, as determined by CT calculations;

(2) Section 141.72(a)(2)—Requirement for either redundant components or automatic shutoff;

(3) Section 141.72(a)(3)—Requirement that water entering the distribution system have at least a 0.2 mg/l disinfectant residual concentration; and

(4) Section 141.72(a)(4)(i)—Requirement for a detectable residual or certain HPC levels in the distribution system.

(n) Section 141.72(b)—Disinfection requirements for systems which filter, including:

(1) Section 141.72(b)(1)—Requirement for 99.9 and 99.99 percent removal of *Giardia lamblia* cysts and viruses, respectively, by the combined treatment processes of the system;

(2) Section 141.72(b)(2)—Requirement that water entering the distribution system have at least 0.2 mg/l disinfectant residual concentration; and

(3) Section 141.72(b)(3)(i)—Requirement for a detectable residual or certain HPC levels in the distribution system.

(o) Section 141.73—Requirements (including deadlines for compliance) for systems that provide filtration treatment including:

(1) Section 141.73—Deadlines for installation of filtration equipment;

(2) Section 141.73(a)—Turbidity limits for systems using conventional or direct filtration;

(3) Section 141.73(b)—Turbidity limits for systems using slow sand filtration;

(4) Section 141.73 (c)—Turbidity limits for systems using diatomaceous earth filtration; and

(5) Section 141.73(d)—If the State allows alternative filtration technologies, the requirement that such technologies, at a minimum, meet the

turbidity limits for systems using slow sand filtration.

(p) Section 141.74(a)—Requirement that only EPA-approved analytical methods be used to demonstrate compliance; requirement that analyses for total coliforms, fecal coliforms, and heterotrophic bacteria be conducted by certified laboratories, and that remaining measurements (pH, temperature, turbidity, residual disinfectant concentration) be made by a party approved by the State.

(q) Section 141.74(b)—Monitoring requirements for systems that do not provide filtration treatment, including:

(1) Section 141.74(b)—Deadlines for compliance with monitoring requirements;

(2) Section 141.74(b)(1)—Coliform monitoring requirements;

(3) Section 141.74(b)(2)—Turbidity monitoring requirements;

(4) Section 141.74(b)(3)—Monitoring requirements and methods for calculating CT values;

(5) Section 141.74(b)(4)—Method for calculating inactivation ratios;

(6) Section 141.74—Tables 1.1–1.6, 2.1, and 3.1 (CT values);

(7) Section 141.74(b)(5)—Disinfectant residual monitoring requirements for water entering the distribution system; and

(8) Section 141.74(b)(6)(i)—Disinfectant residual monitoring requirements for water in the distribution system.

(r) Section 141.74(c)—Monitoring requirements for systems that provide filtration treatment, including:

(1) Section 141.74(c)—Deadlines for compliance with monitoring requirements;

(2) Section 141.74(c)(1)—Turbidity monitoring requirements;

(3) Section 141.74(c)(2)—Disinfectant residual monitoring requirements for water entering the distribution system; and

(4) Section 141.74(c)(3)(i)—Disinfectant residual monitoring requirements for water in the distribution system.

(s) Section 141.75(a)—Reporting requirements for systems which do not filter, including:

(1) Section 141.75(a)—Deadlines for compliance with reporting requirements;

(2) Section 141.75(a)(1)—Source water quality reporting requirements;

(3) Section 141.75(a)(2)—Disinfection reporting requirements;

(4) Section 141.75(a)(3)—Watershed control program reporting requirements;

(5) Section 141.75(a)(4)—On-site inspection reporting requirements; and

(6) Section 141.75(a)(5)—Reporting requirements when there is a waterborne disease outbreak, certain turbidity violations, and failure to maintain a disinfectant residual entering the distribution system.

(t) Section 141.75(b)—Reporting requirements for public water systems that filter, including:

(1) Section 141.75(b)—Deadlines for compliance with reporting requirements;

(2) Section 141.75(b)(1)—Turbidity reporting requirements;

(3) Section 141.75(b)(2)—Disinfection reporting requirements; and

(4) Section 141.75(b)(3)—Reporting requirements when there is a waterborne disease outbreak, certain turbidity violations, and failure to maintain a disinfectant residual entering the distribution system.

(u) Section 142.64—Limits on State issuance of variances and exemptions.

(v) SDWA section 1412(b)(7)(C)(ii)—Requirement for procedures to provide notice and opportunity for public hearing for determination of whether a public water system shall adopt filtration.

2. Special Primacy Requirements—State Requirements Must Be Enforceable

State program revisions to adopt the surface water treatment requirements promulgated today in Part 141, Subpart H must include enforceable requirements that specify design and operating conditions for all disinfection and filtration treatment processes and/or equipment used by public water systems to comply with 40 CFR 141.70, 141.71, 141.72 and 141.73. Alternatively (or in combination with enforceable design and operating conditions), the State may establish a procedure for setting enforceable design and operating requirements on a system-by-system basis (e.g., a permit system).

3. Special Primacy Requirements—State Must Establish Practices or Procedures

An application for approval of a State program revision must describe the practices or procedures that the State will use to implement provisions of the surface water treatment requirements that provide the State flexibility with respect to how the objectives of the regulation are to be achieved. Examples include the authority to modify certain monitoring, analytical, performance, and reporting requirements; approve alternate disinfection processes or technologies; determine whether the combination of treatments provided achieve the required level of removal and/or disinfection; establish qualifications for public water system operators and parties conducting on-site inspections; and determine which systems supplied by ground water are under the direct influence of surface water.

It is important to note that these provisions take two forms: Provisions in Part 141, Subpart H, that give the States full implementation discretion and provisions that allow the State to modify the stated requirements under certain circumstances if the State so chooses. The corresponding primacy requirements depend on the category of the provision.

For each of the provisions in § 142.16(b)(2)(i), which fall in the first category, State program revisions must include a description of the practices and procedures (or regulations, if they cover these items) that explain how the State will exercise its discretion. Likewise, States which allow public water systems to avoid filtration by meeting the requirements of § 141.71 must also submit the practices and procedures (or regulations) describing how they will exercise their discretion for each of the provisions listed in § 142.16(b)(2)(ii).

Provisions in the second category are listed in § 142.16(b)(2)(iii) (which are options available to all States) and in § 142.16(b)(2)(iv) (which are options available to States that allow systems to avoid filtration by meeting the requirements of § 141.71). For each of the provisions in this second category, the State needs to submit procedures and practices (or regulations) that explain how it will exercise the discretion allowed only for those options it plans to exercise. For instance, if the State does not plan to set alternative turbidity limits under § 141.73 (a)(1) or (b)(1), its program revision need not address this provision, i.e., it need not submit anything under § 142.16(b)(2)(iii)(C).

C. State Reporting and Recordkeeping Requirements

Today's notice amends 40 CFR Part 142 to require States with primary enforcement responsibility to retain records and report information to EPA sufficient to ensure adequate oversight of the States' activities to implement the surface water treatment requirements. Specifically, States must:

(1) Retain for not less than one year records of microbiological analyses, i.e., analyses for total coliforms, fecal coliforms, and heterotrophic plate count (in both finished water and source water), in a form which makes possible comparison with the total coliform, fecal coliform, and heterotrophic plate count limits specified in 40 CFR 141.63, 141.71, and 141.72.

(2) Retain for not less than one year records of disinfectant residual monitoring and other parameters necessary to document disinfection

effectiveness in accordance with § 141.72. Reports submitted by public water systems must comply with § 141.75.

(3) Retain for not less than one year records of turbidity monitoring necessary to document filtration effectiveness in accordance with § 141.73. Reports submitted by public water systems must comply with § 141.75.

(4) Retain, for specified periods, records of determinations made by the State where the State has exercised discretionary authority allowed by § 142.16(b). This discretionary authority includes modified monitoring, analytical, performance, and reporting requirements, as well as authority to qualify operators or approve on-site inspectors. Where such decisions are made on a system-by-system or case-by-case basis, the State must keep a record in its files which documents that decision. A State is required to provide a formal, written notice of certain determinations to the system (e.g., reduced monitoring and substitute turbidity limits), and it may want to do so in other instances to prevent confusion on the part of the system or other party. Appropriate cases could include notification of qualified operators and approved on-site inspectors. A list of determinations for which these records must be kept is included in the rule promulgated today in § 142.14(a)(4)(ii).

(5) Retain indefinitely records of any determination under § 141.71 that a public water system using a surface water source or a ground water source under the direct influence of surface water is not required to provide filtration treatment.

(6) Report annually the name and PWS identification number of each public water system using a surface water source or a ground water source under the direct influence of surface water that the State has determined need not provide filtration treatment, and the date that the State made the determination for each such system.

(7) Report annually the name and PWS identification number and date of each determination of each public water system supplied by a surface water source or a ground water source under the direct influence of surface water that the State determined is providing adequate disinfection even if the system is not meeting the criteria for residual disinfectant concentration specified by § 141.72(a)(4)(i) or 141.72(b)(3)(i).

(8) Notify EPA within 60 days of the end of each calendar quarter of any determination that a public water system using a surface water source or a ground water source under the direct influence of surface water is not required to provide filtration treatment.

D. EPA Oversight of State Decisions Regarding Filtration Requirements

EPA intends to periodically review States' decisions as to whether public water systems supplied by a surface water source or a ground water source under the direct influence of surface water are required to provide filtration. EPA will use procedures similar to those spelled out in Section 1415(a)(1)(F) of the Act for EPA oversight of variances issued by States. EPA considers this to be an appropriate procedure for review of filtration decisions since (1) the Act links filtration determinations and decisions on variances by requiring EPA to specify "in lieu of the variance requirements of Section 1415" procedures by which States are to determine which public water systems must adopt filtration, and (2) the filtration and variance decisions are similar in nature. Essential elements of this procedure which appears at 40 CFR Part 142, Subpart I include: (1) Reporting by States of filtration decisions; (2) periodic review, preceded by **Federal Register** notice, of State filtration decisions by EPA; (3) notice to the State if the Administrator finds the State has abused its discretion in making filtration decisions; (4) an opportunity for the State to take corrective action; (5) a public hearing conducted by a hearing officer to review testimony; and (6) a final decision by the Administrator that upholds or rescinds the finding that the State has abused its discretion. In the event the Administrator finds that the State has abused its discretion, (s)he would revoke decisions with regard to filtration made by the State and/or revoke any compliance schedule approved by the State.

It is important to note that EPA need not undergo these procedures prior to taking an enforcement action against a specific public water system for failure to comply with today's rule, if, for instance, the State has determined that the system is not required to filter, but the system is not complying with the requirements for avoiding filtration. Likewise, promulgation of the procedures in Part 142, Subpart I does not preclude EPA from using other appropriate means to ensure that the State exercises its discretion properly. Such measures may include grant conditions or initiation of primacy revocation procedures when there is evidence that a State is not making appropriate filtration decisions.

E. Response to Comments on Proposed Requirements for State Implementation of the Surface Water Treatment Requirements

Commenters on the proposed surface water treatment requirements and the associated proposed implementation regulations at 40 CFR 142.16 (52 FR 42178, November 3, 1987) generally focused on the requirements addressed to public water systems in the primary regulation (i.e., the Part 141 provisions) rather than the proposed State implementation requirements. However, some commenters did express concern that the proposed SWTR implementation regulations would require them to adopt enforceable regulations, which EPA could disapprove, without EPA having to propose and receive comment on the appropriate criteria for approving such revisions. Some commenters also expressed concern that EPA, through the primacy review process, would attempt to establish uniform national criteria for treatment requirements that would not account for local variability. Finally, some commenters were concerned that the proposed amendments to § 142.17 (special primacy requirements, promulgated today in § 142.16) implied that States must adopt provisions to exempt some systems using surface water sources from the filtration requirements. Other commenters suggested that EPA was asking for too much information from both systems and States.

In the final rule, EPA has revised the State implementation requirements in response to commenters' concerns. First, EPA expects to promulgate revised general implementation regulations shortly; these revised provisions will establish standard procedures, timing, and other requirements States must meet to revise their programs following promulgation by EPA of new or revised national primary drinking water regulations. Accordingly, the general State program revision requirements in the November 3, 1987, notice are not included in today's final rule. Since the forthcoming amendments of the primacy rule will require that, whenever EPA adopts new or revised NPDWRs, States adopt requirements no less stringent than these NPDWRs, it is not necessary to list each new requirement promulgated in Part 141 in Part 142 as well. As a result, the list of special primacy requirements to adopt this regulation has been significantly reduced. Special primacy requirements are limited to those included in 40 CFR

142.16(b), promulgated today (and described earlier).

Today's implementation provisions (in both the regulation and preamble) make it clear that EPA is not establishing uniform national treatment requirements through the program revision process. States are given a great deal of discretion in implementation; many provisions in the final rule may be modified by the States in appropriate circumstances. Also, the language promulgated in § 142.16(b)(2) clearly indicates that States have the option to require that all public water systems using surface water sources or ground water directly influenced by surface water provide filtration treatment.

Finally, the amount of public water system reporting to States has been reduced to the lowest level practicable. This reduces the State recordkeeping requirements as well. In addition, the number and frequency of reports States are required to provide EPA has been reduced. Those that remain are considered essential for EPA to perform its oversight function.

VI. Economic Analysis

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirements of a Regulatory Impact Analysis. This action constitutes a "major" regulatory action because it will have a major financial or adverse impact on the regulated community of over $100 million per year. Therefore, EPA prepared a Regulatory Economic Impact Analysis for both the proposed and final rules and submitted them to the Office of Management and Budget for review. In the draft RIA (USEPA, 1987c), the capital cost was estimated to be $2.0 billion, and the annualized cost, $338 million.

In response to public comments on the estimated cost of complying with the rule as proposed, EPA made several changes in its estimating methodology which resulted in a significant increase in the projected compliance cost. The nature of these changes, and their corresponding effects on the original cost estimates, are described below.

1. *Land, piping, and pumping costs in newly installed filtration plants.* These items were not included in the earlier analysis because they are highly site-specific. Including these costs increases EPA's previous estimate by $695 million for capital, or $121 million/year on an annualized basis. It should be borne in mind, however, that the costs used are extremely rough estimates.

2. *Disinfection for filtered systems.* At the time of proposal, EPA did not include any costs for upgrading disinfection practices because the Agency believed that most systems were already complying with disinfection standards similar to those in the proposed rule (e.g., the "Ten-State Standards"). Subsequently, EPA learned that, in fact, many systems will need to upgrade their disinfection practice to comply with the disinfection requirements of this rule, and has adjusted its cost estimate accordingly. EPA expects systems to expend an estimated $258 million in capital costs for improved disinfection. On an annualized basis, this amounts to an additional $27 million/year.

Other costs which commenters suggested EPA should include in the estimate have not been estimated, as explained below:

1. *Covering open distribution reservoirs.* Apparently, some commenters thought this was a requirement of the proposed rule. This is incorrect. Such a requirement was not part of the proposed rule and is not required in the final rule, either. Therefore, the cost of covering reservoirs is not considered to be a compliance cost imposed by this rule.

2. *Preparation of environmental impact statements and mitigation of environmental impacts.* Costs for these items are highly site-specific. To project them with any degree of accuracy would require an engineering cost study of each system in the U.S. Clearly, this is not possible. Also, relative to other costs, these costs are not expected to be significant. Therefore, the final RIA (USEPA, 1989a) does not assess these costs.

3. *Installation of meters and correction of leaks in the distribution system.* EPA agrees that, in systems experiencing high rates of leakage, it may well make good economic sense to correct excessive leaks in view of the higher cost of produced water resulting from compliance with this rule. Likewise, unmetered systems tend to encourage extravagant use and the additional costs imposed by this rule might cause operators to feel that the provision of unmetered water can no longer be justified. Nevertheless, the correction of leaks and installation of meters are economy measures and are not required to achieve compliance with the rule. Therefore, their cost is not properly attributable to these requirements. (Even if such costs were attributable to the rule, they should be offset by the savings from the reduction in leakage and wasteful use. In fact, it is conceivable that, over the long run, such savings could largely offset the cost of compliance with this rule.) Finally, the cost of correcting leaks is highly site-specific and EPA knows of no way to make a reasonably accurate estimate of such costs other than performing engineering studies at each affected location, which clearly is not feasible. Based upon these considerations, EPA has not included any costs for leak correction and meter installation.

The following sections summarize EPA's detailed cost analysis provided elsewhere (USEPA, 1987c, 1989a).

A. Total Cost of the Final Rule

The filtration and disinfection requirements of this rule will impose costs on four groups of public water systems using surface water sources:

1. An estimated 1,346 community water systems that are currently unfiltered.

2. An estimated 1,536 non-community water systems that are currently unfiltered (non-community water systems include systems serving transient and non-transient populations).

3. An estimated 4,611 community water systems that are currently filtered.

4. An estimated 2,308 non-community water systems that are currently filtered.

There are, therefore, an estimated total of 2,882 water systems that are currently unfiltered and 6,919 systems that are currently filtered which will be affected by this rule. All 2,882 unfiltered surface water systems will incur some costs under this rule. However, systems that meet the specified requirements for avoiding filtration will not incur the costs associated with installing filtration.

Of the estimated 6,919 filtered surface water systems, EPA estimates that about 5,128 will incur total annualized costs of $113 million per year to upgrade their systems from their current level of performance to meet the new turbidity requirements. Were all of them in compliance with the existing (interim) national primary drinking water regulations at this time, the annualized cost to the nation would be only $95 million per year. However, EPA estimates that 1,409 systems are not. Thus, these systems will have to do more than those in compliance with the interim rule to meet the new requirements. For these deficient systems, the additional cost of meeting the new regulations is $18 million per year. The annualized cost of $95 million is considered to be the "incremental" cost of this rule because it is based on a comparison between the cost of complying with the new requirements and the cost of complying with the interim regulations (assuming 100 percent compliance). The annualized

cost of $113 million is considered to be the "total" cost of today's rule because it takes into account the additional expense to be incurred by systems not presently complying with the interim regulations.

The same 6,919 filtered water systems will also be subject to the disinfection performance requirements. As discussed earlier, at the time of proposal, these costs were not believed to be significant and thus were not included in the estimates. It is now estimated that approximately 1,200 of these systems will have to upgrade their disinfection practices, at a cost of $27 million/year. EPA also has estimated compliance costs for systems using a ground water source under the direct influence of surface water. These systems will incur capital costs of $164 million and annualized costs of $11 million per year.

All systems subject to this rule, except those which are able to avoid filtration, will incur incremental annualized monitoring costs of $17 million. The total annualized monitoring cost of $18 million takes into account the additional expense to be incurred by systems not currently complying with the interim monitoring regulations. Monitoring costs for systems that meet the criteria for avoiding filtration were counted as costs of treatment for unfiltered systems. States will incur annualized implementation costs of $12 million.

The estimated costs of the proposed and final surface water treatment requirements are presented in Table VI-1.

TABLE VI-1.—PROJECTED COST OF THE PROPOSED AND FINAL SURFACE WATER TREATMENT REQUIREMENTS

Cost category	Costs under the proposed rule		Current estimate	
	Capital cost ($mil)	Annualized cost ($mil/yr.)	Capital cost ($mil)	Annualized cost ($mil/yr.)
Treatment Requirements				
Unfiltered Systems (installing or avoiding filtration)	1613	216	2308	337
Filtered Systems				
Turbidity Reduction				
Incremental	333	95	333	95
Total	NA	NA	403	113
Disinfection	0	0	258	27
Surface-Influenced Ground Water Systems	0	0	164	11
Monitoring Requirements				
All Surface Systems Except Those Able to Avoid Filtration [1]				
Incremental	58	20	30	17
Total	NA	NA	30	18
State Program Costs	0	7	0	12
Cost of Rule				
Incremental	2004	338	3093	499
Total	NA	NA	3163	518

NA=not applicable.
[1] For the projected 16 percent of systems able to avoid filtration, the monitoring costs associated with meeting the criteria for avoiding filtration are included as costs of treatment for unfiltered systems.

B. Concepts of Cost Analysis

Capital, operating, and annualized costs for individual filtration and disinfection technologies appear in "Technologies and Costs for the Removal of Microbiological Contaminants from Potable Water Supplies" (USEPA, 1988b). The annualizing procedure used in that document is intended to reflect the actual financing cost that a typical water system might face in capital markets, i.e., it is an estimate of the "market" cost. However, the total annual cost estimate of $518 million discussed above (see Table VI-1) is intended to represent the total "social" cost to the nation for purposes of making benefit/cost comparisons. It is computed using a different discount rate. The discount rate used to assess "market" cost is ten percent. This is made up of three components: (1) A risk premium (reflecting the market's assessment of the risk of default); (2) an inflation premium (reflecting the market's expectations about the economy); and, (3) the true carrying cost of capital (the time value of money). The first two components are financial concepts while the third is both a financial and an economic concept. The "social" discount rate consists only of the third of these three components because the benefits to which costs are being compared are a risk-free, inflation-free economic concept. Three percent was selected for use in these analyses.

An analysis of costs based on the financing options a typical system might face in capital markets appears in Figure VI-1.

C. Costs of Compliance for Currently Unfiltered Surface Water Systems

EPA based its estimates of the number of community and non-community water systems that are currently unfiltered on a survey conducted by the Association of State Drinking Water Administrators (ASDWA, 1986). EPA estimated the total national cost of compliance for the 2,882 currently unfiltered systems using a straightforward procedure for forecasting likely compliance choices. Predicted compliance choices for the 2,867 systems which each serves fewer than 100,000 people, appear in Table VI-2.

TABLE VI-2.—PREDICTED COMPLIANCE CHOICES FOR UNFILTERED SYSTEMS

Number of systems	Projected action
457	Meet requirements for avoiding filtration.
899	Switch to an alternate water source (ground or purchased).
221	Install a package treatment plant.
58	Install conventional treatment.
89	Install direct filtration.
115	Install diatomaceous earth filtration.
990	Install slow sand filtration.
36	Install ultrafiltration.

EPA based the forecasts of compliance choices largely on the comparative costs of the different options. The Agency predicted that slow sand filtration, switching to an alternate source, and package treatment plants would be popular solutions due to the relatively low costs of these technologies compared to other technologies and the preponderance of small water systems among those affected (over 90 percent of currently unfiltered water systems serve fewer than 10,000 people).

It is important to note that a large proportion of total costs for currently unfiltered systems is attributable to a small group of fifteen unfiltered systems which each serves more than 100,000 people. These fifteen systems account for approximately 40 percent of the $518 million total annualized cost. However, these fifteen systems also serve approximately 16 million of the estimated 21.4 million people exposed to unfiltered surface water (75 percent).

As discussed above, the cost estimates presented with the proposed rule did not include certain site-specific cost elements, such as land costs and costs of additional piping and pumping, due to the difficulty of assessing these site-specific factors. EPA believes these costs could increase the total cost of installing filtration on the order of $695 million, or $121 million per year on an annualized basis, over the original estimate.

Figure VI–1 illustrates the system level market costs of complying with the filtration requirement for system size categories serving fewer than 100,000 persons. The costs shown represent the approximate high and low extremes of the cost of installing filtration. For systems serving fewer than 10,000 people, EPA used slow sand filtration as the basis for the low-cost estimate and package treatment as the basis for the high-cost estimate. For systems serving between 10,000 and 100,000 people, EPA used direct filtration to represent the low-cost case and conventional treatment for the high-cost estimate. System level costs for installing filtration in the 15 large systems, i.e., the systems which serve more than 100,000 persons and not represented in Figure VI–1, were based on a case-by-case assessment of the actual types and sizes of filter plants that might be built in those cities. These costs ranged from $0.37 to $0.72 per thousand gallons of water produced.

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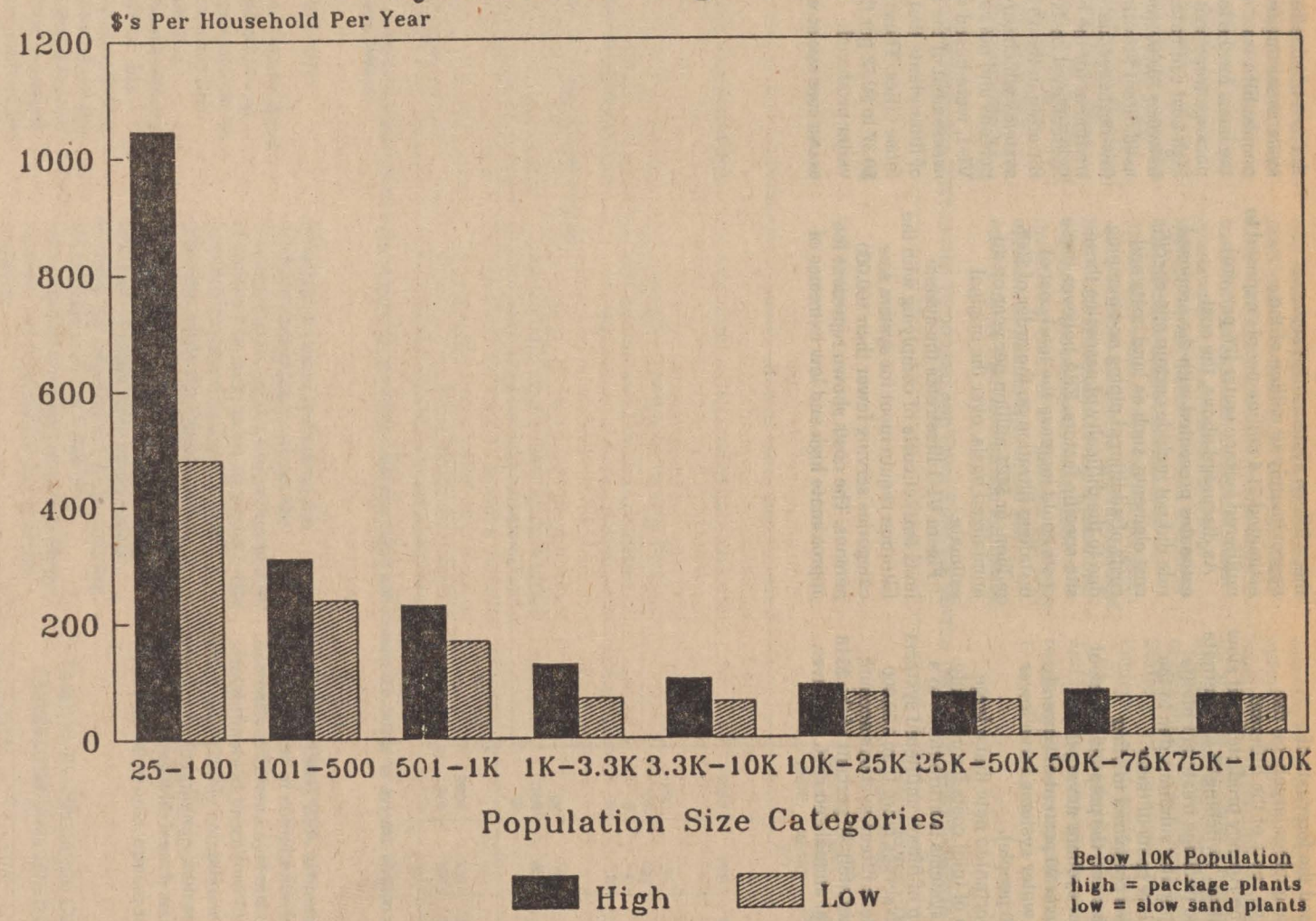
FIGURE VI-1

Cost of Installing Filtration in Systems Serving < 100,000



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D. Costs of Compliance for Currently Filtered Surface Water Systems

EPA estimated the total national cost of the turbidity performance requirements for filtered systems using a methodology which utilized survey data from a random sample of over 500 water systems, stratified by system size. The survey data provide a profile of the type of filtration technologies currently in place and their turbidity performance. A summary of the survey data is presented elsewhere (ASDWA, 1986).

EPA estimates that the average monthly turbidity in the water industry is currently 0.7 NTU. For the purposes of the Regulatory Impact Analysis, EPA assumed that the turbidity performance requirement in this final rule (less than 0.5 NTU, 95 percent of the time) for systems using rapid granular media filtration, i.e., direct filtration or conventional treatment (systems using diatomaceous earth or slow sand have less stringent turbidity performance requirements), is equivalent to a monthly average of about 0.3 NTU. From the survey data, EPA estimated that approximately 5,128 systems exceed this average. Of these, 1,409 are estimated to be in violation of the interim turbidity requirement, which is a monthly average of 1 NTU.

EPA further subdivided the systems which currently do not meet the turbidity performance requirements in the final rule by size and type of filtration process currently in place. A forecast of the likely compliance choices of systems in each subcategory was developed. The compliance choices evaluated include various combinations of the following:

- Hiring a consulting engineer to do a diagnostic analysis;
- Improving operation and maintenance practices;
- Adding rapid mix;
- Adding pH adjustment capability;
- Replacing filter media;
- Adding polymer;
- Adding alum or $FeCl_3$;
- Adding flocculation or contact chambers.

The system-level cost of each of the above compliance options is estimated elsewhere (USEPA, 1987c, 1988a). Average system-level costs based on various combinations of these options, are shown in Table VI–3. The total national capital cost, based on predicted compliance choices, is $403 million. The total annualized cost is $113 million.

TABLE VI–3.—COSTS OF UPGRADING TO MEET TURBIDITY PERFORMANCE REQUIREMENTS

System size (by population served)	Costs (¢/1,000 gallons)
25 to 100	78
101 to 500	32
501 to 1,000	27
1,001 to 3,300	15
3,301-10,000	7
10,001-25,000	3
25,001-50,000	2
>50,000	<2

These national cost estimates for compliance with the turbidity requirements may be on the high side because the turbidity performance profile which underlies the analysis is based on survey results which embody a certain amount of statistical error. The foremost concern is that the survey solicited data on monthly average turbidity. Under the interim turbidity requirement, it is conceivable that there are many water systems that are monitoring well enough to document they are below a 1 NTU monthly average, but not well enough to document lower levels with precision. Measurement in the 0.3 NTU range would require greater care. Thus, some of the systems believed to be above a monthly average of 0.3 NTU may require no more than better monitoring to demonstrate compliance.

On the basis of data developed in a survey conducted by the American Water Works Association (AWWA, 1987), EPA estimates that approximately 1,163 filtered surface water systems currently do not meet the disinfection performance requirements of this final rule and will have to undertake modifications to upgrade their disinfection practices.

To meet the inactivation levels specified in the final rule, systems are expected to choose from among several compliance options, including:

- Increasing the chlorine or ozone dose;
- Baffling clearwells;
- Relocating the point(s) of ammoniation/chlorination;
- Adding storage to increase disinfectant contact time;
- Applying ozone or chlorine dioxide as alternate disinfectants;
- Combinations of the above.

From this mix of compliance options, assumptions were made regarding the ones which will be selected by systems in different size categories, and the average cost of compliance estimated. The results are presented in Table VI–4.

TABLE VI–4.—COSTS OF UPGRADING TO MEET DISINFECTION PERFORMANCE REQUIREMENTS

System size (by population served)	Costs (¢/1,000 gallons)
25 to 100	61
101 to 500	22
501 to 1,000	10
1,001 to 3,300	6
3,301 to 10,000	4
10,001 to 25,000	3
25,001 to 50,000	2
50,001 to 100,000	2
>100,000	1

E. Benefits

In the November 3, 1987 proposal, EPA estimated there are between 212,000 and 470,000 cases of waterborne disease annually in the United States among persons served by surface water systems, as described below.

- First, EPA used data collected over a 15-year period by the Centers for Disease Control (CDC) on the number of reported outbreaks (106) and the number of cases of disease (34,436) to obtain an estimate of the average number of illnesses per outbreak (325).
- Second, to compensate for widespread underreporting in the number of outbreaks, the reported number above (106) was multiplied by a factor of four.
- Third, the adjusted number of outbreaks per year (424 divided by 15) was multiplied by the average number of cases per outbreak (325) to obtain an estimate of the number of cases of disease per year attributable to waterborne disease outbreaks. EPA considered this result (9,183 cases of illness) the "lower bound" estimate.
- Next, the "upper bound" estimate of cases of illness was calculated. To compensate for underreporting in the number of cases of illness in systems serving 100,000 or fewer people, it was assumed that half of the population exposed during an outbreak episode became ill. (This assumption replaced the estimate of 325 cases of illness per outbreak.) Using this approach, the number of cases of illness per year was estimated to be 50,740.
- In addition, for systems serving more than 100,000 people, it was assumed that there would be two outbreaks per year—one in a large filtered system, and one in a large unfiltered system. Assuming an average of 6,000 cases of illness per outbreak in large systems, based upon CDC data of recent record, EPA estimated that there would be 12,000 cases of illness per year

attributable to outbreaks in systems serving more than 100,000 people.

• Finally, the 50,740 and 12,000 cases, calculated above, were added together to obtain a total of 62,740 cases of illness, taking into account underreporting of the number of cases.

In addition to illnesses observed during an outbreak, there are waterborne illnesses occurring throughout the year, but not at sufficiently high rates to attract attention as an outbreak. These endemic illnesses were estimated using a different methodology, as follows:

• First, it was assumed that the rate of giardiasis in unfiltered systems was similar to that observed in townships adjacent to Luzerne County, Pennsylvania, (i.e., one percent) at the time a significant outbreak occurred in 1983. For populations served by unfiltered systems, it was assumed that the rate ranged from a maximum of one percent to a minimum of one-quarter of one percent. For filtered systems, it was assumed that the rates were half those of unfiltered systems.

• Next, EPA applied these rates to the population served by filtered and unfiltered systems to obtain an estimate of the upper and lower bounds of the number of endemic cases of illness per year (see Table VI–5).

TABLE VI–5.—BASELINE NUMBER OF ENDEMIC CASES PER YEAR AS ESTIMATED IN THE DRAFT REGULATORY IMPACT ANALYSIS (USEPA, 1987c)

Endemic analysis	Assumed endemic rate		Population exposed	Lower bound endemic cases/yr	Upper bound endemic cases/yr
	Lower bound	Upper bound			
Unfiltered systems:					
Large systems (>100,000)	0.0025	0.005	16,000,000	40,000	80,000
Small systems (<100,000)	0.005	0.01	5,649,353	28,247	56,494
Total, unfiltered			21,649,353	68,247	136,494
Filtered systems:					
Large systems (>100,000)	0.00125	0.0025	34,288,580	42,861	85,721
Small systems (<100,000)	0.0025	0.005	36,764,700	91,912	183,824
Total, filtered			71,053,280	134,773	269,545
Total, filtered and unfiltered			92,702,633	203,020	406,039

• Finally, the lower bound estimates of cases of illness from outbreaks (9,183) and endemic illnesses (203,020) were added together to obtain the lower end of the range of illnesses (212,203). Doing the same for the upper bound estimates (62,740 + 406,039) resulted in an estimate of 468,779 total cases of waterborne illness.

Based on information submitted by several commenters, new data on the occurrence of *Giardia*, and a revised methodology for the estimation of the number of endemic cases of illness, these estimates have been substantially revised. EPA now estimates that currently there are approximately 89,000 cases of waterborne disease annually in systems using surface water. This figure was derived as follows:

• Using data on occurrence of *Giardia* in source water from Rose (1988) and estimates of treatment efficiences, EPA estimated the present exposure to *Giardia* of people served by filtered and unfiltered systems in different size categories.

• Next, these data were applied to a dose-response model (Rose, 1988) to determine the daily individual risk of disease associated with the above exposure.

• The daily individual risk was then converted to an annual risk and applied to the population served to estimate the number of cases of endemic illness per year from giardiasis in the absence of the treatment requirements of this rule.

• Then, based on an analysis of the relative rates of all waterborne disease, this value was adjusted upwards by 85 percent to take into account diseases other than giardiasis.

• Finally, the number of cases of disease which will be avoided by compliance with the rule was estimated based on the increase in removal and/or inactivation of pathogenic microorganisms expected from implementation of today's requirements.

Using this methodology, EPA estimated that this final rule will prevent 79,854 endemic cases of disease per year. In addition, 9,294 outbreak cases will be avoided as a result of compliance with this rule. This number was estimated using the same methodology employed in the draft Regulatory Impact Analysis (USEPA, 1987c) but is slightly higher (9,294 versus 9,183 for the lower bound estimate) because of revisions to the data base since the rule was proposed.

The total number of cases avoided per year, 89,148, represents EPA's best point estimate, or best single value, of the benefits of the rule. The Agency also calculated an upper and lower bound, based on the 95 percent confidence interval around the dose-response curve. By this method, the number of endemic cases could be as high as 149,181, or as low as 36,980. Thus, the total cases avoided per year could range from 46,274 to 158,475. In addition, EPA believes that many more cases than the number given may be avoided by implementation of this rule because the number of cases per outbreak is understated (it was not adjusted, as was done for underreporting in the number of outbreaks). By one account, the underreporting in cases per outbreak could be on the order of twenty-five times the actual levels reported (Hauschild, A.F. and Bryan, F., 1980).

EPA also examined the net benefits of installing filtration at the individual water system level. Net benefits were analyzed for systems of various sizes by estimating the annual expected value of economic damages resulting from various levels of endemic and outbreak disease incidence in communities of various sizes and subtracting the annual cost of installing filtration.

It is important to note that it is difficult to estimate the value of the benefits associated with reducing the endemic and outbreak incidence of waterborne disease, because there are many benefits which cannot be quantified. As described at length previously (USEPA, 1987c), EPA's analysis is structured upon hypothetical

assumptions which have been developed on the basis of the insights gained in two documented case studies: A 1981 outbreak of viral gastroenteritis in Eagle-Vail, Colorado (Hopkins, 1986), and a 1983 outbreak of giardiasis in Luzerne County, Pennsylvania (Harrington, 1985). The damage functions derived from these studies consist primarily of two types of costs: (1) Direct costs of medical treatment and the value of lost work, and (2) costs incurred due to "averting behavior" such as boiling water or purchasing bottled water undertaken in the event of an outbreak. While it is difficult to generalize from the results of case studies, it is currently the best means of estimating damages.

Another shortcoming with the net benefits analysis at the time of proposal, and perhaps the biggest one, is the degree of uncertainty in the assumptions made regarding both the endemic and outbreak incidence of waterborne disease. It was estimated (Craun, 1987) that the annual probability of outbreak incidence in unfiltered surface water systems—averaging all such systems together—is roughly once in every one hundred years. Data with which to assess the endemic level of waterborne disease (the sub-outbreak, baseline level of disease) were not available at the time of the November 1987 proposal. Therefore, the net benefits analysis was conducted in a manner intended to show what assumptions regarding the endemic level of disease would have to hold true in order to produce net benefits near the margin (i.e., the point where net benefits approach zero), indicating that filtration is a breakeven or better proposition.

In the draft Regulatory Impact Analysis (USEPA, 1987c), an assumption of an endemic level of disease of 0.5 percent of the exposed population was required to produce marginally positive or marginally negative net benefits in the fifteen unfiltered systems serving more than 100,000 persons, assuming a one percent annual probability of an outbreak (once every 100 years). An endemic level assumption of 1.0 percent was required to produce marginally positive or marginally negative net benefits in systems serving between 1,000 and 100,000 persons. It was not possible to produce positive net benefit estimates near the margin for systems serving fewer than 1,000 persons. (Endemic level assumptions significantly above 1.0 percent were required; such levels would probably begin to become associated with epidemic, rather than endemic, incidence.)

The breakeven assumptions regarding the probability of outbreak and the endemic level of waterborne disease were the subject of extensive comments on the proposed rule.

Several large systems stated that the probability of outbreak, computed by averaging all unfiltered systems together, yields an estimate which overstates the risk of outbreak in large systems that have diligent watershed management and disinfection programs. It has been contended that such systems can reduce the risk of outbreak to a level comparable to that achieved by filtered systems (the reported outbreak risk in filtered systems is 1/750 years according to Craun, 1987). This perception of outbreak risk in large systems is consistent with the rationale for providing criteria to avoid filtration for such systems in the proposed rule. On the other hand, two systems among the fifteen unfiltered surface systems serving more than 100,000 persons have experienced outbreaks since 1982, suggesting there may be some large systems for which the probability of an outbreak is greater than 1/750.

Many commenters expressed the view that the endemic levels of waterborne disease assumed in the net benefits analysis (5×10^{-3} for systems >100,000; 1×10^{-2} for systems ≤100,000) are much higher than the levels actually occurring.

As explained earlier, since publication of the proposed rule, new information has become available which has made it possible to assess the validity of the endemic level assumptions using a toxicological, or dose/response, approach to estimation. The average concentration of *Giardia* cysts in water sources with "pristine," or protected, watersheds has been estimated to be 9×10^{-3} cysts per liter (Rose, 1988). An EPA study (USEPA, 1988a) of disinfection practices at unfiltered systems shows that systems are currently achieving an average of 1.34 logs of inactivation. Thus, the implied average dose to consumers is 4×10^{-4} cysts/liter. A recently developed dose/response function (Rose, 1988) indicates that this exposure results in a daily risk of 1.65×10^{-5} and is equivalent to an annual endemic rate of 3×10^{-3}. This estimated average endemic level is relatively close to the range of 5×10^{-3} to 1×10^{-2} originally assumed to be the endemic level in the net benefits analysis at the time of proposal, lending support to the validity of the assumption.

The above risk assessment indicates that unfiltered systems achieving average levels of inactivation may be facing greater risk of outbreak and incurring higher levels of endemic disease than may be evident from the number of cases reported. It should be noted however that, since this estimate is based on average influent levels and average inactivation rates, actual levels will vary. Systems achieving higher inactivation rates are probably correct in their assessment that they are not experiencing endemic levels on the order of 10^{-3} or 10^{-2}. On the other hand, by definition, there also is variation on the other side of the average estimate, indicating that there may be systems which are experiencing endemic levels higher than 3×10^{-3}. In addition, it must be kept in mind that *Giardia* is not the only pathogen that contributes to the overall endemic incidence of waterborne disease. Data reported to the Centers for Disease Control indicate there are 0.85 cases of other types of waterborne disease for every case of giardiasis. Thus, while it is true that some systems are not experiencing the levels of outbreak risk and endemic incidence that are associated with breakeven benefit/cost economics, it is also clear that there are other water systems which may fall within the range of the breakeven assumptions. Most importantly, there may be many water systems in which it is not possible to make a definitive assessment of the risk.

If the *Giardia* occurrence data presently available to EPA is representative of unfiltered systems, the treatment requirements will, by requiring a minimum of 3-log removal and/or inactivation of *Giardia*, reduce the maximum daily risk—the risk on days of peak occurrence—to 4.56×10^{-5}; the average daily risk to 3.6×10^{-7}; and the average annual endemic level to 6.57×10^{-5}. These levels provide virtually complete assurance against outbreaks caused by *Giardia* cysts, as well as most other pathogens, and assure negligible levels of endemic incidence. A significant additional benefit of the treatment requirements, therefore, is the confidence derived from knowing they factor in an adequate margin of safety.

As stated earlier, the estimated cost of this rule is approximately 50 percent greater than that estimated at the time of proposal. When combined with substantially fewer cases of illness avoided, the net benefits for systems in different size categories necessarily become less advantageous than previously estimated. But the way to best generalize about the effect on public water systems is not unequivocal. On the one hand, an analysis focusing on the typical system in each size category and using EPA's best estimate

of the benefits (Exhibit 5–10 of the Regulatory Impact Analysis) leads to the conclusion that household net benefits may be negative for currently unfiltered systems required to install filtration, possibly as much as $262 per household per year (in systems serving fewer than 100 people). However, this interpretation is not entirely valid because this result applies to the typical system in each of these size categories, not to all systems. Moreover, the benefit analysis did not include all business benefits; benefits accruing from the avoidance of pain and suffering; and benefits from reduced anxiety over the safety of the water. Since EPA's calculation is only a partial measure of benefits it is reasonable to conclude that actual net benefits in all size categories may be greater. In addition, small systems unable to meet the criteria to avoid filtration would probably investigate less expensive options than filtration, such as conversion to ground water or connection to a larger regional water system, which will increase the net benefits. Under SDWA, exemptions are also available. Under this provision, a system might use interim alternatives such as bottled water and point-of-use devices, with State approval, thereby incurring lower compliance costs (at least temporarily), and thus experience concomitant higher net benefits. In the case of systems which do not serve more than 500 service connections and which need financial assistance for the necessary improvements, the SDWA permits the exemption to be renewed for one or more additional two-year periods if the system establishes that it is taking all practical steps and there is no unreasonable risk to health, thereby further reducing cost impacts.

Another way of evaluating the benefits of these requirements is to consider the percent of the population experiencing positive and negative net benefits. This is presented in Table VI–6. For the estimate of outbreak probability most in keeping with available data (once in one hundred years), systems serving approximately 90 percent of the population will achieve positive net benefits, predominantly because currently filtered systems will incur small costs to comply with the rule. In most of the remaining systems, customers will generally pay only up to about $20 more than the value of the benefits quantified. Less than one percent of the affected population is expected to incur household net benefits of minus $40 or more, and these would only occur in systems serving fewer than 1,000 people. And these percentages would be even lower if all of the benefits had been captured in the analysis, and alternatives to filtration considered.

TABLE VI–6.—PERCENT OF AFFECTED POPULATION INCURRING VARYING LEVELS OF POSITIVE AND NEGATIVE NET HOUSEHOLD BENEFITS WHERE THE PROBABILITY OF AN OUTBREAK IS 1/100 YEARS

Net household benefits ($/HH/Yr)	Approximate percent of the affected population
Greater than 0	90
−20 to 0	8
−40 to −20	1
Less than −40	<1

VII. Other Requirements

A. Regulatory Flexibility Act

The Regulatory Flexibility Act, 5 U.S.C. 602 *et seq.*, requires EPA to explicitly consider the effect of proposed regulations on small entities. If there is a significant effect on a substantial number of small systems, the Agency must seek means to minimize the effects. EPA has concluded that this final rule will not have a significant effect on a substantial number of small entities, for purposes of the Regulatory Flexibility Act.

The Small Business Administration defines a "small water utility" as one which serves fewer than 50,000 people. There are about 199,000 public water systems using surface and ground water supplies which are considered small systems under this definition. Of those, about 11,000 systems are expected to incur total annualized costs of $333 to $439 million per year to comply with the rule. Compared to total operating expenses of $14.7 billion per year for this group, the cost of compliance amounts to an increase of 2.3 percent to 3.0 percent over current operating costs. EPA believes that an increase of this magnitude is not a substantial economic impact within the meaning of the Regulatory Flexibility Act. However, EPA recognizes that today's action could have a substantial effect on some small systems. Therefore, the Agency has attempted to provide less burdensome alternatives to achieve the rule's goals for small systems wherever possible. To illustrate:

- With respect to monitoring of the disinfectant residual at the entry point to the distribution system, systems serving fewer than 3,300 people may take grab samples in lieu of using continuous-monitoring equipment;
- With respect to disinfectant residuals in the distribution system, systems which are unable to maintain such residuals will still be considered in compliance if the State determines that it is not feasible for that system to monitor for HPC, and that disinfection is adequate, based on a review of site-specific considerations (e.g., source water quality, past coliform monitoring results);
- With respect to the turbidity monitoring, for filtered systems serving fewer than 500 people, the State may reduce the number of samples to one per day if it finds that the historical performance and operation of the system indicates effective particle removal under the conditions expected to occur in that system.

In addition, many of the provisions of this rule allow the State to modify the stated requirements in appropriate cases, regardless of system size. Although not specifically aimed at reducing the burden on small systems, these systems may avail themselves of such flexibility in the same manner as their larger counterparts.

B. Paperwork Reduction Act

The information collection requirements contained in this rule have been submitted to the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* The information collection requirements are not effective until OMB approves them and a technical amendment to that effect is published in the **Federal Register.**

The public reporting burden on public water systems for this collection of information is estimated to average 0.1 hours per response (i.e., sample taken, or report submitted to the State or EPA), including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM–223, U.S. Environmental Protection Agency, 401 M St., SW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, marked "Attention: Desk Officer for EPA."

C. National Drinking Water Advisory Council and Science Advisory Board

In accordance with section 1412 (d) and (e) of the Safe Drinking Water Act, EPA consulted with the Secretary and the National Drinking Water Advisory Council and requested comments from the Science Advisory Board in the course of developing these MCLGs and NPDWRs.

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List of Subjects in 40 CFR Parts 141 and 142

Chemicals, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements, Water supply, Administrative practice and procedure.

Dated: June 19, 1989.

William K. Reilly,

Administrator.

For the reasons set forth in the preamble, Title 40 of the Code of Federal Regulations is amended as follows:

PART 141—NATIONAL PRIMARY DRINKING WATER REGULATIONS

1. The authority for Part 141 is revised to read as follows:

Authority: 42 U.S.C. 300f, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–4, and 300j–9.

2. In § 141.2, the following definitions are added and arranged alphabetically to read as follows:

§ 141.2 Definitions.

* * * * *

"Coagulation" means a process using coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into flocs.

"Conventional filtration treatment" means a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal.

* * * * *

"CT" or "CTcalc" is the product of "residual disinfectant concentration" (C) in mg/1 determined before or at the first customer, and the corresponding "disinfectant contact time" (T) in minutes, i.e., "C" x "T". If a public water system applies disinfectants at more than one point prior to the first customer, it must determine the CT of each disinfectant sequence before or at the first customer to determine the total percent inactivation or "total inactivation ratio." In determining the total inactivation ratio, the public water system must determine the residual disinfectant concentration of each disinfection sequence and corresponding contact time before any subsequent disinfection application point(s). "$CT_{99.9}$" is the CT value required for 99.9 percent (3–log) inactivation of *Giardia lamblia* cysts. $CT_{99.9}$ for a variety of disinfectants and conditions appear in Tables 1.1–1.6, 2.1, and 3.1 of § 141.74(b)(3).

$$\frac{CTcalc}{CT_{99.9}}$$

is the inactivation ratio. The sum of the inactivation ratios, or total inactivation ratio shown as

$$\sum \frac{(CTcalc)}{(CT_{99.9})}$$

is calculated by adding together the inactivation ratio for each disinfection sequence. A total inactivation ratio equal to or greater than 1.0 is assumed to provide a 3-log inactivation of *Giardia lamblia* cysts.

"Diatomaceous earth filtration" means a process resulting in substantial particulate removal in which (1) a precoat cake of diatomaceous earth filter media is deposited on a support membrance (septum), and (2) while the water is filtered by passing through the cake on the septum, additional filter media known as body feed is continuously added to the feed water to maintain the permeability of the filter cake.

"Direct filtration" means a series of processes including coagulation and filtration but excluding sedimentation resulting in substantial particulate removal.

* * * * *

"Disinfectant contact time" ("T" in CT calculations) means the time in minutes that it takes for water to move from the point of disinfectant application or the previous point of disinfectant residual measurement to a point before or at the point where residual disinfectant concentration ("C") is measured. Where only one "C" is measured, "T" is the time in minutes that it takes for water to move from the point of disinfectant application to a point before or at where residual disinfectant concentration ("C") is measured. Where more than one "C" is measured, "T" is (a) for the first measurement of "C", the time in minutes that it takes for water to move from the first or only point of disinfectant application to a point before or at the point where the first "C" is measured and (b) for subsequent measurements of "C", the time in minutes that it takes for water to move from the previous "C" measurement point to the "C" measurement point for which the particular "T" is being calculated. Disinfectant contact time in pipelines must be calculated based on "plug flow" by dividing the internal volume of the pipe by the maximum hourly flow rate through that pipe. Disinfectant contact time within mixing basins and storage reservoirs must be determined by tracer studies or an equivalent demonstration.

"Disinfection" means a process which inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.

* * * * *

"Filtration" means a process for removing particulate matter from water by passage through porous media.

"Flocculation" means a process to enhance agglomeration or collection of smaller floc particles into larger, more easily settleable particles through gentle stirring by hydraulic or mechanical means.

"Ground water under the direct influence of surface water" means any water beneath the surface of the ground with (1) significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as *Giardia lamblia*, or (2) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. Direct influence must be determined for individual sources in accordance with criteria established by the State. The State determination of direct influence may be based on site-specific measurements of water quality and/or documentation of well construction characteristics and geology with field evaluation.

* * * * *

"*Legionella*" means a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires Disease.

"Point of disinfectant application" is the point where the disinfectant is applied and water downstream of that point is not subject to recontamination by surface water runoff.

"Residual disinfectant concentration" ("C" in CT calculations) means the concentration of disinfectant measured in mg/l in a representative sample of water.

* * * * *

"Sedimentation" means a process for removal of solids before filtration by gravity or separation.

"Slow sand filtration" means a process involving passage of raw water

through a bed of sand at low velocity (generally less than 0.4 m/h) resulting in substantial particulate removal by physical and biological mechanisms.

* * * * *

"Surface water" means all water which is open to the atmosphere and subject to surface runoff.

* * * * *

"Waterborne disease outbreak" means the significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a public water system which is deficient in treatment, as determined by the appropriate local or State agency.

"Virus" means a virus of fecal origin which is infectious to humans by waterborne transmission.

3. Section 141.13 is amended by adding introductory text to read as follows:

§ 141.13 Maximum contaminant levels for turbidity.

The requirements in this section apply to unfiltered systems until December 30, 1991, unless the State has determined prior to that date, in writing pursuant to § 1412(b)(7)(C)(iii), that filtration is required. The requirements in this section apply to filtered systems until June 29, 1993. The requirements in this section apply to unfiltered systems that the State has determined, in writing pursuant to § 1412(b)(7)(C)(iii), must install filtration, until June 29, 1993, or until filtration is installed, whichever is later.

* * * * *

4. Section 141.22 is amended by adding introductory text to read as follows:

§ 141.22 Turbidity sampling and analytical requirements.

The requirements in this section apply to unfiltered systems until December 30,1991, unless the State has determined prior to that date, in writing pursuant to section 1412(b)(7)(iii), that filtration is required. The requirements in this section apply to filtered systems until June 29, 1993. The requirements in this section apply to unfiltered systems that the State has determined, in writing pursuant to section 1412(b)(7)(C)(iii), must install filtration, until June 29, 1993, or until filtration is installed, whichever is later.

* * * * *

5. Section 141.32 is amended by adding new paragraphs (a)(1)(iii)(D) and (e)(10) to read as follows:

§ 141.32 Public notification.

* * * * *

(a) * * *

(1) * * *

(iii) * * *

(D) Occurrence of a waterborne disease outbreak, as defined in § 141.2, in an unfiltered system subject to the requirements of Subpart H of this part, after December 30, 1991 (see § 141.71(b)(4)).

* * * * *

(e) * * *

(10) *Microbiological contaminants* (for use when there is a violation of the treatment technique requirements for filtration and disinfection in Subpart H of this part). The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that the presence of microbiological contaminants are a health concern at certain levels of exposure. If water is inadequately treated, microbiological contaminants in that water may cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. EPA has set enforceable requirements for treating drinking water to reduce the risk of these adverse health effects. Treatment such as filtering and disinfecting the water removes or destroys microbiological contaminants. Drinking water which is treated to meet EPA requirements is associated with little to none of this risk and should be considered safe.

6. In Part 141, a new § 141.52 is added to read as follows:

§ 141.52 Maximum contaminant level goals for microbiological contaminants.

MCLGs for the following contaminants are as indicated:

Contaminant	MCLG
(1) *Giardia lamblia*	zero
(2) Viruses	zero
(3) *Legionella*	zero

7. A new Subpart H is added to read as follows:

Subpart H—Filtration and Disinfection

Sec.

Subpart H—Filtration and Disinfection

§ 141.70 General requirements.

(a) The requirements of this Subpart H constitute national primary drinking water regulations. These regulations establish criteria under which filtration is required as a treatment technique for public water systems supplied by a surface water source and public water systems supplied by a ground water source under the direct influence of surface water. In addition, these regulations establish treatment technique requirements in lieu of maximum contaminant levels for the following contaminants: *Giardia lamblia*, viruses, heterotrophic plate count bacteria, *Legionella*, and turbidity. Each public water system with a surface water source or a ground water source under the direct influence of surface water must provide treatment of that source water that complies with these treatment technique requirements. The treatment technique requirements consist of installing and properly operating water treatment processes which reliably achieve:

(1) At least 99.9 percent (3-log) removal and/or inactivation of *Giardia lamblia* cysts between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer; and

(2) At least 99.99 percent (4-log) removal and/or inactivation of viruses between a point where the raw water is not subject to recontamination by surface water runoff and a point downstream before or at the first customer.

(b) A public water system using a surface water source or a ground water source under the direct influence of surface water is considered to be in compliance with the requirements of paragraph (a) of this section if:

(1) It meets the requirements for avoiding filtration in § 141.71 and the disinfection requirements in § 141.72(a); or

(2) It meets the filtration requirements in § 141.73 and the disinfection requirements in § 141.72(b).

(c) Each public water system using a surface water source or a ground water source under the direct influence of surface water must be operated by qualified personnel who meet the requirements specified by the State.

§ 141.71 Criteria for avoiding filtration.

A public water system that uses a surface water source must meet all of the conditions of paragraphs (a) and (b) of this section, and is subject to

paragraph (c) of this section, beginning December 30, 1991, unless the State has determined, in writing pursuant to § 1412(b)(7)(C)(iii), that filtration is required. A public water system that uses a ground water source under the direct influence of surface water must meet all of the conditions of paragraphs (a) and (b) of this section and is subject to paragraph (c) of this section, beginning 18 months after the State determines that it is under the direct influence of surface water, or December 30, 1991, whichever is later, unless the State has determined, in writing pursuant to § 1412(b)(7)(C)(iii), that filtration is required. If the State determines in writing pursuant to § 1412(b)(7)(C)(iii) before December 30, 1991, that filtration is required, the system must have installed filtration and meet the criteria for filtered systems specified in §§ 141.72(b) and 141.73 by June 29, 1993. Within 18 months of the failure of a system using surface water or a ground water source under the direct influence of surface water to meet any one of the requirements of paragraphs (a) and (b) of this section or after June 29, 1993, whichever is later, the system must have installed filtration and meet the criteria for filtered systems specified in §§ 141.72(b) and 141.73.

(a) *Source water quality conditions.* (1) The fecal coliform concentration must be equal to or less than 20/100 ml, or the total coliform concentration must be equal to or less than 100/100 ml (measured as specified in § 141.74 (a)(1) and (2) and (b)(1)), in representative samples of the source water immediately prior to the first or only point of disinfectant application in at least 90 percent of the measurements made for the 6 previous months that the system served water to the public on an ongoing basis. If a system measures both fecal and total coliforms, the fecal coliform criterion, but not the total coliform criterion, in this paragraph must be met.

(2) The turbidity level cannot exceed 5 NTU (measured as specified in § 141.74 (a)(4) and (b)(2)) in representative samples of the source water immediately prior to the first or only point of disinfectant application unless: (i) the State determines that any such event was caused by circumstances that were unusual and unpredictable; and (ii) as a result of any such event, there have not been more than two events in the past 12 months the system served water to the public, or more than five events in the past 120 months the system served water to the public, in which the turbidity level exceeded 5 NTU. An "event" is a series of consecutive days during which at least one turbidity measurement each day exceeds 5 NTU.

(b) *Site-specific conditions.* (1)(i) The public water system must meet the requirements of § 141.72(a)(1) at least 11 of the 12 previous months that the system served water to the public, on an ongoing basis, unless the system fails to meet the requirements during 2 of the 12 previous months that the system served water to the public, and the State determines that at least one of these failures was caused by circumstances that were unusual and unpredictable.

(ii) The public water system must meet the requirements of § 141.72(a)(2) at all times the system serves water to the public.

(iii) The public water system must meet the requirements of § 141.72(a)(3) at all times the system serves water to the public unless the State determines that any such failure was caused by circumstances that were unusual and unpredictable.

(iv) The public water system must meet the requirements of § 141.72(a)(4) on an ongoing basis unless the State determines that failure to meet these requirements was not caused by a deficiency in treatment of the source water.

(2) The public water system must maintain a watershed control program which minimizes the potential for contamination by *Giardia lamblia* cysts and viruses in the source water. The State must determine whether the watershed control program is adequate to meet this goal. The adequacy of a program to limit potential contamination by *Giardia lamblia* cysts and viruses must be based on: the comprehensiveness of the watershed review; the effectiveness of the system's program to monitor and control detrimental activities occurring in the watershed; and the extent to which the water system has maximized land ownership and/or controlled land use within the watershed. At a minimum, the watershed control program must:

(i) Characterize the watershed hydrology and land ownership;

(ii) Identify watershed characteristics and activities which may have an adverse effect on source water quality; and

(iii) Monitor the occurrence of activities which may have an adverse effect on source water quality.

The public water system must demonstrate through ownership and/or written agreements with landowners within the watershed that it can control all human activities which may have an adverse impact on the microbiological quality of the source water. The public water system must submit an annual report to the State that identifies any special concerns about the watershed and how they are being handled; describes activities in the watershed that affect water quality; and projects what adverse activities are expected to occur in the future and describes how the public water system expects to address them. For systems using a ground water source under the direct influence of surface water, an approved wellhead protection program developed under section 1428 of the Safe Drinking Water Act may be used, if the State deems it appropriate, to meet these requirements.

(3) The public water system must be subject to an annual on-site inspection to assess the watershed control program and disinfection treatment process. Either the State or a party approved by the State must conduct the on-site inspection. The inspection must be conducted by competent individuals such as sanitary and civil engineers, sanitarians, or technicians who have experience and knowledge about the operation and maintenance of a public water system, and who have a sound understanding of public health principles and waterborne diseases. A report of the on-site inspection summarizing all findings must be prepared every year. The on-site inspection must indicate to the State's satisfaction that the watershed control program and disinfection treatment process are adequately designed and maintained. The on-site inspection must include:

(i) A review of the effectiveness of the watershed control program;

(ii) A review of the physical condition of the source intake and how well it is protected;

(iii) A review of the system's equipment maintenance program to ensure there is low probability for failure of the disinfection process;

(iv) An inspection of the disinfection equipment for physical deterioration;

(v) A review of operating procedures;

(vi) A review of data records to ensure that all required tests are being conducted and recorded and disinfection is effectively practiced; and

(vii) Identification of any improvements which are needed in the equipment, system maintenance and operation, or data collection.

(4) The public water system must not have been identified as a source of a waterborne disease outbreak, or if it has been so identified, the system must have been modified sufficiently to prevent another such occurrence, as determined by the State.

(5) The public water system must comply with the maximum contaminant level (MCL) for total coliforms in § 141.63 at least 11 months of the 12 previous months that the system served water to the public, on an ongoing basis, unless the State determines that failure to meet this requirement was not caused by a deficiency in treatment of the source water.

(6) The public water system must comply with the requirements for trihalomethanes in §§ 141.12 and 141.30.

(c) *Treatment technique violations.* (1) A system that (i) fails to meet any one of the criteria in paragraphs (a) and (b) of this section and/or which the State has determined that filtration is required, in writing pursuant to § 1412(b)(7)(C)(iii), and (ii) fails to install filtration by the date specified in the introductory paragraph of this section is in violation of a treatment technique requirement.

(2) A system that has not installed filtration is in violation of a treatment technique requirement if:

(i) The turbidity level (measured as specified in § 141.74(a)(4) and (b)(2)) in a representative sample of the source water immediately prior to the first or only point of disinfection application exceeds 5 NTU; or

(ii) The system is identified as a source of a waterborne disease outbreak.

§ 141.72 Disinfection.

A public water system that uses a surface water source and does not provide filtration treatment must provide the disinfection treatment specified in paragraph (a) of this section beginning December 30, 1991, unless the State determines that filtration is required in writing pursuant to § 1412 (b)(7)(C)(iii). A public water system that uses a ground water source under the direct influence of surface water and does not provide filtration treatment must provide disinfection treatment specified in paragraph (a) of this section beginning December 30, 1991, or 18 months after the State determines that the ground water source is under the influence of surface water, whichever is later, unless the State has determined that filtration is required in writing pursuant to § 1412(b)(7)(C)(iii). If the State has determined that filtration is required, the system must comply with any interim disinfection requirements the State deems necessary before filtration is installed. A system that uses a surface water source that provides filtration treatment must provide the disinfection treatment specified in paragraph (b) of this section beginnng June 29, 1993, or beginning when filtration is installed, whichever is later. A system that uses a ground water source under the direct influence of surface water and provides filtration treatment must provide disinfection treatment as specified in paragraph (b) of this section by June 29, 1993, or beginning when filtration is installed, whichever is later. Failure to meet any requirement of this section after the applicable date specified in this introductory paragraph is a treatment technique violation.

(a) *Disinfection requirements for public water systems that do not provide filtration.* Each public water system that does not provide filtration treatment must provide disinfection treatment as follows:

(1) The disinfection treatment must be sufficient to ensure at least 99.9 percent (3-log) inactivation of *Giardia lamblia* cysts and 99.99 percent (4-log) inactivation of viruses, every day the system serves water to the public, except any one day each month. Each day a system serves water to the public, the public water system must calculate the CT value(s) from the system's treatment parameters, using the procedure specified in § 141.74(b)(3), and determine whether this value(s) is sufficient to achieve the specified inactivation rates for *Giardia lamblia* cysts and viruses. If a system uses a disinfectant other than chlorine, the system may demonstrate to the State, through the use of a State-approved protocol for on-site disinfection challenge studies or other information satisfactory to the State, that $CT_{99.9}$ values other than those specified in Tables 2.1 and 3.1 in § 141.74(b)(3) or other operational parameters are adequate to demonstrate that the system is achieving minimum inactivation rates required by paragraph (a)(1) of this section.

(2) The disinfection system must have either (i) redundant components, including an auxiliary power supply with automatic start-up and alarm to ensure that disinfectant application is maintained continuously while water is being delivered to the distribution system, or (ii) automatic shut-off of delivery of water to the distribution system whenever there is less than 0.2 mg/l of residual disinfectant concentration in the water. If the State determines that automatic shut-off would cause unreasonable risk to health or interfere with fire protection, the system must comply with paragraph (a)(2)(i) of this section.

(3) The residual disinfectant concentration in the water entering the distribution system, measured as specified in § 141.74(a)(5) and (b)(5), cannot be less than 0.2 mg/l for more than 4 hours.

(4)(i) The residual disinfectant concentration in the distribution system, measured as total chlorine, combined chlorine, or chlorine dioxide, as specified in § 141.74(a)(5) and (b)(6), cannot be undetectable in more than 5 percent of the samples each month, for any two consecutive months that the system serves water to the public. Water in the distribution system with a heterotrophic bacteria concentration less than or equal to 500/ml, measured as heterotrophic plate count (HPC) as specified in § 141.74(a)(3), is deemed to have a detectable disinfectant residual for purposes of determining compliance with this requirement. Thus, the value "V" in the following formula cannot exceed 5 percent in one month, for any two consecutive months.

$$V = \frac{c+d+e}{a+b} \times 100$$

where:

a = number of instances where the residual disinfectant concentration is measured;

b = number of instances where the residual disinfectant concentration is not measured but heterotrophic bacteria plate count (HPC) is measured;

c = number of instances where the residual disinfectant concentration is measured but not detected and no HPC is measured;

d = number of instances where the residual disinfectant concentration is measured but not detected and where the HPC is >500/ml; and

e = number of instances where the residual disinfectant concentration is not measured and HPC is >500/ml.

(ii) If the State determines, based on site-specific considerations, that a system has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions specified by § 141.74(a)(3) and that the system is providing adequate disinfection in the distribution system, the requirements of paragraph (a)(4)(i) of this section do not apply to that system.

(b) *Disinfection requirements for public water systems which provide filtration.* Each public water system that provides filtration treatment must provide disinfection treatment as follows.

(1) The disinfection treatment must be sufficient to ensure that the total treatment processes of that system achieve at least 99.9 percent (3-log) inactivation and/or removal of *Giardia lamblia* cysts and at least 99.99 percent

(4-log) inactivation and/or removal of viruses, as determined by the State.

(2) The residual disinfectant concentration in the water entering the distribution system, measured as specified in § 141.74 (a)(5) and (c)(2), cannot be less than 0.2 mg/l for more than 4 hours.

(3)(i) The residual disinfectant concentration in the distribution system, measured as total chlorine, combined chlorine, or chlorine dioxide, as specified in § 141.74 (a)(5) and (c)(3), cannot be undetectable in more than 5 percent of the samples each month, for any two consecutive months that the system serves water to the public. Water in the distribution system with a heterotrophic bacteria concentration less than or equal to 500/ml, measured as heterotrophic plate count (HPC) as specified in § 141.74(a)(3), is deemed to have a detectable disinfectant residual for purposes of determining compliance with this requirement. Thus, the value "V" in the following formula cannot exceed 5 percent in one month, for any two consecutive months.

$$V = \frac{c+d+e}{a+b} \times 100$$

where:

a = number of instances where the residual disinfectant concentration is measured;

b = number of instances where the residual disinfectant concentration is not measured but heterotrophic bacteria plate count (HPC) is measured;

c = number of instances where the residual disinfectant concentration is measured but not detected and no HPC is measured;

d = number of instances where no residual disinfectant concentration is detected and where the HPC is >500/ml; and

e = number of instances where the residual disinfectant concentration is not measured and HPC is >500/ml.

(ii) If the State determines, based on site-specific considerations, that a system has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions specified in § 141.74(a)(3) and that the system is providing adequate disinfection in the distribution system, the requirements of paragraph (b)(3)(i) of this section do not apply.

§ 141.73 Filtration.

A public water system that uses a surface water source or a ground water source under the direct influence of surface water, and does not meet all of the criteria in § 141.71 (a) and (b) for avoiding filtration, must provide treatment consisting of both disinfection, as specified in § 141.72(b), and filtration treatment which complies with the requirements of paragraph (a), (b), (c), (d), or (e) of this section by June 29, 1993, or within 18 months of the failure to meet any one of the criteria for avoiding filtration in § 141.71 (a) and (b), whichever is later. Failure to meet any requirement of this section after the date specified in this introductory paragraph is a treatment technique violation.

(a) *Conventional filtration treatment or direct filtration.* (1) For systems using conventional filtration or direct filtration, the turbidity level of representative samples of a system's filtered water must be less than or equal to 0.5 NTU in at least 95 percent of the measurements taken each month, measured as specified in § 141.74 (a)(4) and (c)(1), except that if the State determines that the system is capable of achieving at least 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts at some turbidity level higher than 0.5 NTU in at least 95 percent of the measurements taken each month, the State may substitute this higher turbidity limit for that system. However, in no case may the State approve a turbidity limit that allows more than 1 NTU in more than 5 percent of the samples taken each month, measured as specified in § 141.74 (a)(4) and (c)(1).

(2) The turbidity level of representative samples of a system's filtered water must at no time exceed 5 NTU, measured as specified in § 141.74 (a)(4) and (c)(1).

(b) *Slow sand filtration.* (1) For systems using slow sand filtration, the turbidity level of representative samples of a system's filtered water must be less than or equal to 1 NTU in at least 95 percent of the measurements taken each month, measured as specified in § 141.74 (a)(4) and (c)(1), except that if the State determines there is no significant interference with disinfection at a higher turbidity level, the State may substitute this higher turbidity limit for that system.

(2) The turbidity level of representative samples of a system's filtered water must at no time exceed 5 NTU, measured as specified in § 141.74 (a)(4) and (c)(1).

(c) *Diatomaceous earth filtration.* (1) For systems using diatomaceous earth filtration, the turbidity level of representative samples of a system's filtered water must be less than or equal to 1 NTU in at least 95 percent of the measurements taken each month, measured as specified in § 141.74 (a)(4) and (c)(1).

(2) The turbidity level of representative samples of a system's filtered water must at no time exceed 5 NTU, measured as specified in § 141.74 (a)(4) and (c)(1).

(d) *Other filtration technologies.* A public water system may use a filtration technology not listed in paragraphs (a)-(c) of this section if it demonstrates to the State, using pilot plant studies or other means, that the alternative filtration technology, in combination with disinfection treatment that meets the requirements of § 141.72(b), consistently achieves 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts and 99.99 percent removal and/or inactivation of viruses. For a system that makes this demonstration, the requirements of paragraph (b) of this section apply.

§ 141.74 Analytical and monitoring requirements.

(a) *Analytical requirements.* Only the analytical method(s) specified in this paragraph, or otherwise approved by EPA, may be used to demonstrate compliance with the requirements of §§ 141.71, 141.72, and 141.73. Measurements for pH, temperature, turbidity, and residual disinfectant concentrations must be conducted by a party approved by the State. Measurements for total coliforms, fecal coliforms, and HPC must be conducted by a laboratory certified by the State or EPA to do such analysis. Until laboratory certification criteria are developed for the analysis of HPC and fecal coliforms, any laboratory certified for total coliform analysis by EPA is deemed certified for HPC and fecal coliform analysis. The following procedures shall be performed in accordance with the publications listed in the following section. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of the methods published in *Standard Methods for the Examination of Water and Wastewater* may be obtained from the American Public Health Association et al., 1015 Fifteenth Street, NW., Washington, DC 20005; copies of the Minimal Medium ONPG–MUG Method as set forth in the article "National Field Evaluation of a Defined Substrate Method for the Simultaneous Enumeration of Total Coliforms and *Escherichia coli* from Drinking Water: Comparison with the Standard Multiple Tube Fermentation Method" (Edberg et al.), Applied and Environmental Microbiology, Volume 54, pp. 1595–1601, June 1988 (as amended under Erratum, Applied and Environmental Microbiology, Volume 54, p. 3197, December, 1988), may be obtained from

the American Water Works Association Research Foundation, 6666 West Quincy Avenue, Denver, Colorado, 80235; and copies of the Indigo Method as set forth in the article "Determination of Ozone in Water by the Indigo Method" (Bader and Hoigne), may be obtained from Ozone Science & Engineering, Pergamon Press Ltd., Fairview Park, Elmsford, New York 10523. Copies may be inspected at the U.S. Environmental Protection Agency, Room EB15, 401 M Street, SW., Washington, DC 20460 or at the Office of the Federal Register, 1100 L Street, NW., Room 8401, Washington, DC.

(1) Fecal coliform concentration—Method 908C (Fecal Coliform MPN Procedures), pp. 878–880, Method 908D (Estimation of Bacterial Density), pp. 880–882, or Method 909C (Fecal Coliform Membrane Filter Procedure), pp. 896–898, as set forth in *Standard Methods for the Examination of Water and Wastewater*, 1985, American Public Health Association et al., 16th edition.

(2) Total coliform concentration—Method 908A (Standard Total Coliform Multiple—Tube (MPN) Tests), pp. 872–876, Method 908B (Application of Tests to Routine Examinations), pp. 876–878, Method 908D (Estimation of Bacterial Density), pp. 880–882, Method 909A (Standard Total Coliform Membrane Filter Procedure), pp. 887–894, or Method 909B (Delayed—Incubation Total Coliform Procedure), pp. 894–896, as set forth in *Standard Methods for the Examination of Water and Wastewater*, 1985, American Public Health Association et al., 16th edition; Minimal Medium ONPG–MUG Test, as set forth in the article "National Field Evaluation of a Defined Substrate Method for the Simultaneous Enumeration of Total Coliforms and *Escherichia coli* from Drinking Water: Comparison with the Standard Multiple Tube Fermentation Method" (Edberg et al.), Applied and Environmental Microbiology, Volume 54, pp. 1595–1601, June 1988 (as amended under Erratum, Volume 54, p. 3197, December, 1988).

[Note: The Minimal Medium ONPG–MUG Test is sometimes referred to as the Autoanalysis Colilert System). Systems may use a five-tube test or a ten-tube test.

(3) Heterotrophic Plate Count—Method 907A (Pour Plate Method), pp. 864–866, as set forth in *Standard Methods for the Examination of Water and Wastewater*, 1985, American Public Health Association et al., 16th edition.

(4) Turbidity—Method 214A (Nephelometric Method—Nephelometric Turbidity Units), pp. 134–136, as set forth in *Standard Methods for the Examination of Water and Wastewater*, 1985, American Public Health Association et al., 16th edition.

(5) Residual disinfectant concentration—Residual disinfectant concentrations for free chlorine and combined chlorine (chloramines) must be measured by Method 408C (Amperometric Titration Method), pp. 303–306, Method 408D (DPD Ferrous Titrimetric Method), pp. 306–309, Method 408E (DPD Colorimetric Method), pp. 309–310, or Method 408F (Leuco Crystal Violet Method), pp. 310–313, as set forth in *Standard Methods for the Examination of Water and Wastewater*, 1985, American Public Health Association et al., 16th edition. Residual disinfectant concentrations for free chlorine and combined chlorine may also be measured by using DPD colorimetric test kits if approved by the State. Residual disinfectant concentrations for ozone must be measured by the Indigo Method as set forth in Bader, H., Hoigne, J., "Determination of Ozone in Water by the Indigo Method; A Submitted Standard Method"; Ozone Science and Engineering, Vol. 4, pp. 169–176, Pergamon Press Ltd., 1982, or automated methods which are calibrated in reference to the results obtained by the Indigo Method on a regular basis, if approved by the State.

Note: This method will be published in the 17th edition of *Standard Methods for the Examination of Water and Wastewater*, American Public Health Association et al.; the Iodometric Method in the 16th edition may not be used.

Residual disinfectant concentrations for chlorine dioxide must be measured by Method 410B (Amperometric Method) or Method 410C (DPD Method), pp. 322–324, as set forth in *Standard Methods for the Examination of Water and Wastewater*, 1985, American Public Health Association et al., 16th edition.

(6) Temperature—Method 212 (Temperature), pp. 126–127, as set forth in *Standard Methods for the Examination of Water and Wastewater*, 1985, American Public Health Association et al., 16th edition.

(7) pH—Method 423 (pH Value), pp. 429–437, as set forth in *Standard Methods for the Examination of Water and Wastewater*, 1985, American Public Health Association, 16th edition.

(b) *Monitoring requirements for systems that do not provide filtration.* A public water system that uses a surface water source and does not provide filtration treatment must begin monitoring, as specified in this paragraph (b), beginning December 31, 1990, unless the State has determined that filtration is required in writing pursuant to § 1412(b)(7)(C)(iii), in which case the State may specify alternative monitoring requirements, as appropriate, until filtration is in place. A public water system that uses a ground water source under the direct influence of surface water and does not provide filtration treatment must begin monitoring as specified in this paragraph (b) beginning December 31, 1990, or 6 months after the State determines that the ground water source is under the direct influence of surface water, whichever is later, unless the State has determined that filtration is required in writing pursuant to § 1412(b)(7)(C)(iii), in which case the State may specify alternative monitoring requirements, as appropriate, until filtration is in place.

(1) Fecal coliform or total coliform density measurements as required by § 141.71(a)(1) must be performed on representative source water samples immediately prior to the first or only point of disinfectant application. The system must sample for fecal or total coliforms at the following minimum frequency each week the system serves water to the public:

System size (persons served)	Samples/week[1]
<500	1
501 to 3,300	2
3,301 to 10,000	3
10,001 to 25,000	4
>25,000	5

[1] Must be taken on separate days.

Also, one fecal or total coliform density measurement must be made every day the system serves water to the public and the turbidity of the source water exceeds 1 NTU (these samples count towards the weekly coliform sampling requirement) unless the State determines that the system, for logistical reasons outside the system's control, cannot have the sample analyzed within 30 hours of collection.

(2) Turbidity measurements as required by § 141.71(a)(2) must be performed on representative grab samples of source water immediately prior to the first or only point of disinfectant application every four hours (or more frequently) that the system serves water to the public. A public water system may substitute continuous turbidity monitoring for grab sample monitoring if it validates the continuous measurement for accuracy on a regular basis using a protocol approved by the State.

(3) The total inactivation ratio for each day that the system is in operation

must be determined based on the $CT_{99.9}$ values in Tables 1.1–1.6, 2.1, and 3.1 of this section, as appropriate. The parameters necessary to determine the total inactivation ratio must be monitored as follows:

(i) The temperature of the disinfected water must be measured at least once per day at each residual disinfectant concentration sampling point.

(ii) If the system uses chlorine, the pH of the disinfected water must be measured at least once per day at each chlorine residual disinfectant concentration sampling point.

(iii) The disinfectant contact time(s) ("T") must be determined for each day during peak hourly flow.

(iv) The residual disinfectant concentration(s) ("C") of the water before or at the first customer must be measured each day during peak hourly flow.

(v) If a system uses a disinfectant other than chlorine, the system may demonstrate to the State, through the use of a State-approved protocol for on-site disinfection challenge studies or other information satisfactory to the State, that $CT_{99.9}$ values other than those specified in Tables 2.1 and 3.1 in this section other operational parameters are adequate to demonstrate that the system is achieving the minimum inactivation rates required by § 141.72(a)(1).

TABLE 1.1—CT VALUES ($CT_{99.9}$) FOR 99.9 PERCENT INACTIVATION OF GIARDIA LAMBLIA CYSTS BY FREE CHLORINE AT 0.5 °C OR LOWER [1]

Residual (mg/l)	pH						
	≤6.0	6.5	7.0	7.5	8.0	8.5	≤9.0
≤0.4	137	163	195	237	277	329	390
0.6	141	168	200	239	286	342	407
0.8	145	172	205	246	295	354	422
1.0	148	176	210	253	304	365	437
1.2	152	180	215	259	313	376	451
1.4	155	184	221	266	321	387	464
1.6	157	189	226	273	329	397	477
1.8	162	193	231	279	338	407	489
2.0	165	197	236	286	346	417	500
2.2	169	201	242	297	353	426	511
2.4	172	205	247	298	361	435	522
2.6	175	209	252	304	368	444	533
2.8	178	213	257	310	375	452	543
3.0	181	217	261	316	382	460	552

[1] These CT values achieve greater than a 99.99 percent inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature and at the higher pH.

TABLE 1.2— CT VALUES ($CT_{99.9}$) for 99.9 PERCENT INACTIVATION OF GIARDIA LAMBLIA CYSTS BY FREE CHLORINE AT 5.0 °C[1]

Free residual (mg/l)	pH						
	≤6.0	6.5	7.0	7.5	8.0	8.5	≤9.0
≤0.4	97	117	139	166	198	236	279
0.6	100	120	143	171	204	244	291
0.8	103	122	146	175	210	252	301
1.0	105	125	149	179	216	260	312
1.2	107	127	152	183	221	267	320
1.4	109	130	155	187	227	274	329
1.6	111	132	158	192	232	281	337
1.8	114	135	162	196	238	287	345
2.0	116	138	165	200	243	294	353
2.2	118	140	169	204	248	300	361
2.4	120	143	172	209	253	306	368
2.6	122	146	175	213	258	312	375
2.8	124	148	178	217	263	318	382
3.0	126	151	182	221	268	324	389

[1] These CT values achieve greater than a 99.99 percent inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature, and at the higher pH.

TABLE 1.3— CT VALUES ($CT_{99.9}$) for 99.9 PERCENT INACTIVATION OF GIARDIA LAMBLIA CYSTS BY FREE CHLORINE AT 10.0 °C[1]

Free residual (mg/l)	pH						
	≤6.0	6.5	7.0	7.5	8.0	8.5	≤9.0
≤0.4	73	88	104	125	149	177	209
0.6	75	90	107	128	153	183	218
0.8	78	92	110	131	158	189	226
1.0	79	94	112	134	162	195	234
1.2	80	95	114	137	166	200	240
1.4	82	98	116	140	170	206	247
1.6	83	99	119	144	174	211	253
1.8	86	101	122	147	179	215	259

TABLE 1.3— CT VALUES ($CT_{99.9}$) for 99.9 PERCENT INACTIVATION OF GIARDIA LAMBLIA CYSTS BY FREE CHLORINE AT 10.0 °C[1]— Continued

Free residual (mg/l)	pH						
	≤6.0	6.5	7.0	7.5	8.0	8.5	≤9.0
2.0	87	104	124	150	182	221	265
2.2	89	105	127	153	186	225	271
2.4	90	107	129	157	190	230	276
2.6	92	110	131	160	194	234	281
2.8	93	111	134	163	197	239	287
3.0	95	113	137	166	201	243	292

[1] These CT values achieve greater than a 99.99 percent inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature, and at the higher pH.

TABLE 1.4— CT VALUES ($CT_{99.9}$) for 99.9 PERCENT INACTIVATION OF GIARDIA LAMBLIA CYSTS BY FREE CHLORINE AT 15.0 °C[1]

Free residual (mg/l)	pH						
	≤6.0	6.5	7.0	7.5	8.0	8.5	≤9.0
≤0.4	49	59	70	83	99	118	140
0.6	50	60	72	86	102	122	146
0.8	52	61	73	88	105	126	151
1.0	53	63	75	90	108	130	156
1.2	54	64	76	92	111	134	160
1.4	55	65	78	94	114	137	165
1.6	56	66	79	96	116	141	169
1.8	57	68	81	98	119	144	173
2.0	58	69	83	100	122	147	177
2.2	59	70	85	102	124	150	181
2.4	60	72	86	105	127	153	184
2.6	61	73	88	107	129	156	188
2.8	62	74	89	109	132	159	191
3.0	63	76	91	111	134	162	195

[1] These CT values achieve greater than a 99.99 percent inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature, and at the higher pH.

TABLE 1.5—CT Values ($CT_{99.9}$) FOR 99.9 PERCENT INACTIVATION OF GIARDIA LAMBLIA CYSTS BY FREE CHLORINE AT 20 °C[1]

Free residual (mg/l)	pH						
	≤ 6.0	6.5	7.0	7.5	8.0	8.5	≤ 9.0
≤ 0.4	36	44	52	62	74	89	105
0.6	38	45	54	64	77	92	109
0.8	39	46	55	66	79	95	113
1.0	39	47	56	67	81	98	117
1.2	40	48	57	69	83	100	120
1.4	41	49	58	70	85	103	123
1.6	42	50	59	72	87	105	126
1.8	43	51	61	74	89	108	129
2.0	44	52	62	75	91	110	132
2.2	44	53	63	77	93	113	135
2.4	45	54	65	78	95	115	138
2.6	46	55	66	80	97	117	141
2.8	47	56	67	81	99	119	143
3.0	47	57	68	83	101	122	146

[1] These CT values achieve greater than a 99.99 percent inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature, and at the higher pH.

TABLE 1.6—CT Values ($CT_{99.9}$) FOR 99.9 PERCENT INACTIVATION OF GIARDIA LAMBLIA CYSTS BY FREE CHLORINE AT 25 °C[1] AND HIGHER

Free residual (mg/l)	pH						
	≤ 6.0	6.5	7.0	7.5	8.0	8.5	≤ 9.0
≤ 0.4	24	29	35	42	50	59	70
0.6	25	30	36	43	51	61	73
0.8	26	31	37	44	53	63	75
1.0	26	31	37	45	54	65	78
1.2	27	32	38	46	55	67	80
1.4	27	33	39	47	57	69	82

TABLE 1.6—CT Values ($CT_{99.9}$) for 99.9 Percent Inactivation of Giardia Lamblia Cysts by Free Chlorine at 25 °C[1] and Higher—Continued

Free residual (mg/l)	pH						
	≤ 6.0	6.5	7.0	7.5	8.0	8.5	≤ 9.0
1.6	28	33	40	48	58	70	84
1.8	29	34	41	49	60	72	86
2.0	29	35	41	50	61	74	88
2.2	30	35	42	51	62	75	90
2.4	30	36	43	52	63	77	92
2.6	31	37	44	53	65	78	94
2.8	31	37	45	54	66	80	96
3.0	32	38	46	55	67	81	97

[1] These CT values achieve greater than a 99.99 percent inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature, and at the higher pH.

TABLE 2.1—CT Values ($CT_{99.9}$) for 99.9 Percent Inactivation of Giardia Lamblia Cysts by Chlorine Dioxide and Ozone[1]

	Temperature					
	≤ 1 °C	5 °C	10 °C	15 °C	20 °C	≥ 25 °C
Chlorine dioxide	63	26	23	19	15	11
Ozone	2.9	1.9	1.4	0.95	0.72	0.48

[1] These CT values achieve greater than 99.99 percent inactivation of viruses. CT values between the indicated temperatures may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature for determining $CT_{99.9}$ values between indicated temperatures.

TABLE 3.1—CT Values ($CT_{99.9}$) for 99.9 Percent Inactivation of Giardia Lamblia Cysts By Chloramines[1]

Temperature					
≤ 1 °C	5 °C	10 °C	15 °C	20 °C	25 °C
3,800	2,200	1,850	1,500	1,100	750

[1] These values are for pH values of 6 to 9. These CT values may be assumed to achieve greater than 99.99 percent inactivation of viruses only if chlorine is added and mixed in the water prior to the addition of ammonia. If this condition is not met, the system must demonstrate, based on on-site studies or other information, as approved by the State, that the system is achieving at least 99.99 percent inactivation of viruses. CT values between the indicated temperatures may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature for determining $CT_{99.9}$ values between indicated temperatures.

(4) The total inactivation ratio must be calculated as follows:

(i) If the system uses only one point of disinfectant application, the system may determine the total inactivation ratio based on either of the following two methods:

(A) One inactivation ratio ($CTcalc/CT_{99.9}$) is determined before or at the first customer during peak hourly flow and if the $CTcalc/CT_{99.9} \geq 1.0$, the 99.9 percent *Giardia lamblia* inactivation requirement has been achieved; or

(B) Successive $CTcalc/CT_{99.9}$ values, representing sequential inactivation ratios, are determined between the point of disinfectant application and a point before or at the first customer during peak hourly flow. Under this alternative, the following method must be used to calculate the total inactivation ratio:

(1) Determine $\frac{CTcalc}{CT_{99.9}}$ for each sequence.

(2) Add the $\frac{CTcalc}{CT_{99.9}}$ values together $\left(\sum \frac{(CTcalc)}{CT_{99.9}} \right)$

(3) If $\sum \left(\frac{CTcalc}{CT_{99.9}} \right) \geq 1.0$, the 99.9 percent *Giardia lamblia* inactivation requirement has been achieved.

(ii) If the system uses more than one point of disinfectant application before or at the first customer, the system must determine the CT value of each disinfection sequence immediately prior to the next point of disinfectant application during peak hourly flow. The $CTcalc/CT_{99.9}$ value of each sequence and

$$\sum \frac{CTcalc}{CT_{99.9}}$$

must be calculated using the method in paragraph (b)(4)(i)(B) of this section to determine if the system is in compliance with § 142.72(a).

(iii) Although not required, the total percent inactivation for a system with one or more points of residual disinfectant concentration monitoring may be calculated by solving the following equation:

$$\text{Percent inactivation} = 100 - \frac{100}{10^z}$$

where $z = 3 \times \sum \left(\frac{CTcalc}{CT_{99.9}} \right)$

(5) The residual disinfectant concentration of the water entering the

distribution system must be monitored continuously, and the lowest value must be recorded each day, except that if there is a failure in the continuous monitoring equipment, grab sampling every 4 hours may be conducted in lieu of continuous monitoring, but for no more than 5 working days following the failure of the equipment, and systems serving 3,300 or fewer persons may take grab samples in lieu of providing continous monitoring on an ongoing basis at the frequencies prescribed below:

System size by population	Samples/day[1]
< 500	1
501 to 1,000	2
1,001 to 2,500	3
2,501 to 3,300	4

[1] The day's samples cannot be taken at the same time. The sampling intervals are subject to State review and approval.

If at any time the residual disinfectant concentration falls below 0.2 mg/l in a system using grab sampling in lieu of continuous monitoring, the system must take a grab sample every 4 hours until the residual concentration is equal to or greater than 0.2 mg/l.

(6)(i) The residual disinfectant concentration must be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in § 141.21, except that the State may allow a public water system which uses both a surface water source or a ground water source under direct influence of surface water, and a ground water source, to take disinfectant residual samples at points other than the total coliform sampling points if the State determines that such points are more representative of treated (disinfected) water quality within the distribution system. Heterotrophic bacteria, measured as heterotrophic plate count (HPC) as specified in paragraph (a)(3) of this section, may be measured in lieu of residual disinfectant concentration.

(ii) If the State determines, based on site-specific considerations, that a system has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions specified by paragraph (a)(3) of this section and that the system is providing adequate disinfection in the distribution system, the requirements of paragraph (b)(6)(i) of this section do not apply to that system.

(c) *Monitoring requirements for systems using filtration treatment.* A public water system that uses a surface water source or a ground water source under the influence of surface water and provides filtration treatment must monitor in accordance with this paragraph (c) beginning June 29, 1993, or when filtration is installed, whichever is later.

(1) Turbidity measurements as required by § 141.73 must be performed on representative samples of the system's filtered water every four hours (or more frequently) that the system serves water to the public. A public water system may substitute continuous turbidity monitoring for grab sample monitoring if it validates the continuous measurement for accuracy on a regular basis using a protocol approved by the State. For any systems using slow sand filtration or filtration treatment other than conventional treatment, direct filtration, or diatomaceous earth filtration, the State may reduce the sampling frequency to once per day if it determines that less frequent monitoring is sufficient to indicate effective filtration performance. For systems serving 500 or fewer persons, the State may reduce the turbidity sampling frequency to once per day, regardless of the type of filtration treatment used, if the State determines that less frequent monitoring is sufficient to indicate effective filtration performance.

(2) The residual disinfectant concentration of the water entering the distribution system must be monitored continuously, and the lowest value must be recorded each day, except that if there is a failure in the continuous monitoring equipment, grab sampling every 4 hours may be conducted in lieu of continuous monitoring, but for no more than 5 working days following the failure of the equipment, and systems serving 3,300 or fewer persons may take grab samples in lieu of providing continuous monitoring on an ongoing basis at the frequencies each day prescribed below:

System size by population	Samples/day[1]
<500	1
501 to 1,000	2
1,001 to 2,500	3
2,501 to 3,300	4

[1] The day's samples cannot be taken at the same time. The sampling intervals are subject to State review and approval.

If at any time the residual disinfectant concentration falls below 0.2 mg/l in a system using grab sampling in lieu of continuous monitoring, the system must take a grab sample every 4 hours until the residual disinfectant concentration is equal to or greater than 0.2 mg/l.

(3)(i) The residual disinfectant concentration must be measured at least at the same points in the distribution system and at the same time as total coliforms are sampled, as specified in § 141.21, except that the State may allow a public water system which uses both a surface water source or a ground water source under direct influence of surface water, and a ground water source to take disinfectant residual samples at points other than the total coliform sampling points if the State determines that such points are more representative of treated (disinfected) water quality within the distribution system. Heterotrophic bacteria, measured as heterotrophic plate count (HPC) as specified in paragraph (a)(3) of this section, may be measured in lieu of residual disinfectant concentration.

(ii) If the State determines, based on site-specific considerations, that a system has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions specified by paragraph (a)(3) of this section and that the system is providing adequate disinfection in the distribution system, the requirements of paragraph (c)(3)(i) of this section do not apply to that system.

§ 141.75 Reporting and recordkeeping requirements.

(a) A public water system that uses a surface water source and does not provide filtration treatment must report monthly to the State the information specified in this paragraph (a) beginning December 31, 1990, unless the State has determined that filtration is required in writing pursuant to section 1412(b)(7)(C)(iii), in which case the State may specify alternative reporting requirements, as appropriate, until filtration is in place. A public water system that uses a ground water source under the direct influence of surface water and does not provide filtration treatment must report monthly to the State the information specified in this paragraph (a) beginning December 31, 1990, or 6 months after the State determines that the ground water source is under the direct influence of surface water, whichever is later, unless the State has determined that filtration is required in writing pursuant to § 1412(b)(7)(C)(iii), in which case the State may specify alternative reporting requirements, as appropriate, until filtration is in place.

(1) Source water quality information must be reported to the State within 10

days after the end of each month the system serves water to the public. Information that must be reported includes:

(i) The cumulative number of months for which results are reported.

(ii) The number of fecal and/or total coliform samples, whichever are analyzed during the month (if a system monitors for both, only fecal coliforms must be reported), the dates of sample collection, and the dates when the turbidity level exceeded 1 NTU.

(iii) The number of samples during the month that had equal to or less than 20/100 ml fecal coliforms and/or equal to or less than 100/100 ml total coliforms, whichever are analyzed.

(iv) The cumulative number of fecal or total coliform samples, whichever are analyzed, during the previous six months the system served water to the public.

(v) The cumulative number of samples that had equal to or less than 20/100 ml fecal coliforms or equal to or less than 100/100 ml total coliforms, whichever are analyzed, during the previous six months the system served water to the public.

(vi) The percentage of samples that had equal to or less than 20/100 ml fecal coliforms or equal to or less than 100/100 ml total coliforms, whichever are analyzed, during the previous six months the system served water to the public.

(vii) The maximum turbidity level measured during the month, the date(s) of occurrence for any measurement(s) which exceeded 5 NTU, and the date(s) the occurrence(s) was reported to the State.

(viii) For the first 12 months of recordkeeping, the dates and cumulative number of events during which the turbidity exceeded 5 NTU, and after one year of recordkeeping for turbidity measurements, the dates and cumulative number of events during which the turbidity exceeded 5 NTU in the previous 12 months the system served water to the public.

(ix) For the first 120 months of recordkeeping, the dates and cumulative number of events during which the turbidity exceeded 5 NTU, and after 10 years of recordkeeping for turbidity measurements, the dates and cumulative number of events during which the turbidity exceeded 5 NTU in the previous 120 months the system served water to the public.

(2) Disinfection information specified in § 141.74(b) must be reported to the State within 10 days after the end of each month the system serves water to the public. Information that must be reported includes:

(i) For each day, the lowest measurement of residual disinfectant concentration in mg/l in water entering the distribution system.

(ii) The date and duration of each period when the residual disinfectant concentration in water entering the distribution system fell below 0.2 mg/l and when the State was notified of the occurrence.

(iii) The daily residual disinfectant concentration(s) (in mg/l) and disinfectant contact time(s) (in minutes) used for calculating the CT value(s).

(iv) If chlorine is used, the daily measurement(s) of pH of disinfected water following each point of chlorine disinfection.

(v) The daily measurement(s) of water temperature in °C following each point of disinfection.

(vi) The daily CTcalc and CTcalc/$CT_{99.9}$ values for each disinfectant measurement or sequence and the sum of all CTcalc/$CT_{99.9}$ values ((CTcalc/$CT_{99.9}$)) before or at the first customer.

(vii) The daily determination of whether disinfection achieves adequate *Giardia* cyst and virus inactivation, i.e., whether (CTcalc/$CT_{99.9}$) is at least 1.0 or, where disinfectants other than chlorine are used, other indicator conditions that the State determines are appropriate, are met.

(viii) The following information on the samples taken in the distribution system in conjunction with total coliform monitoring pursuant to § 141.72:

(A) Number of instances where the residual disinfectant concentration is measured;

(B) Number of instances where the residual disinfectant concentration is not measured but heterotrophic bacteria plate count (HPC) is measured;

(C) Number of instances where the residual disinfectant concentration is measured but not detected and no HPC is measured;

(D) Number of instances where the residual disinfectant concentration is detected and where HPC is >500/ml;

(E) Number of instances where the residual disinfectant concentration is not measured and HPC is >500/ml;;

(F) For the current and previous month the system served water to the public, the value of "V" in the following formula:

$$V = \frac{c+d+e}{a+b} \times 100$$

where

a = the value in paragraph (a)(2)(viii)(A) of this section,

b = the value in paragraph (a)(2)(viii)(B) of this section,

c = the value in paragraph (a)(2)(viii)(C) of this section,

d = the value in paragraph (a)(2)(viii)(D) of this section, and

e = the value in paragraph (a)(2)(viii)(E) of this section.

(G) If the State determines, based on site-specific considerations, that a system has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions specified by § 141.74(a)(3) and that the system is providing adequate disinfection in the distribution system, the requirements of paragraph (a)(2)(viii)(A)–(F) of this section do not apply to that system.

(ix) A system need not report the data listed in paragraphs (a)(2)(i), and (iii)–(vi) of this section if all data listed in paragraphs (a)(2) (i)–(viii) of this section remain on file at the system, and the State determines that:

(A) The system has submitted to the State all the information required by paragraphs (a)(2) (i)–(viii) of this section for at least 12 months; and

(B) The State has determined that the system is not required to provide filtration treatment.

(3) No later than ten days after the end of each Federal fiscal year (September 30), each system must provide to the State a report which summarizes its compliance with all watershed control program requirements specified in § 141.71(b)(2).

(4) No later than ten days after the end of each Federal fiscal year (September 30), each system must provide to the State a report on the on-site inspection conducted during that year pursuant to § 141.71(b)(3), unless the on-site inspection was conducted by the State. If the inspection was conducted by the State, the State must provide a copy of its report to the public water system.

(5)(i) Each system, upon discovering that a waterborne disease outbreak potentially attributable to that water system has occurred, must report that occurrence to the State as soon as possible, but no later than by the end of the next business day.

(ii) If at any time the turbidity exceeds 5 NTU, the system must inform the State as soon as possible, but no later than the end of the next business day.

(iii) If at any time the residual falls below 0.2 mg/l in the water entering the distribution system, the system must notify the State as soon as possible, but no later than by the end of the next business day. The system also must notify the State by the end of the next business day whether or not the residual

was restored to at least 0.2 mg/l within 4 hours.

(b) A public water system that uses a surface water source or a ground water source under the direct influence of surface water and provides filtration treatment must report monthly to the State the information specified in this paragraph (b) beginning June 29, 1993, or when filtration is installed, whichever is later.

(1) Turbidity measurements as required by § 141.74(c)(1) must be reported within 10 days after the end of each month the system serves water to the public. Information that must be reported includes:

(i) The total number of filtered water turbidity measurements taken during the month.

(ii) The number and percentage of filtered water turbidity measurements taken during the month which are less than or equal to the turbidity limits specified in § 141.73 for the filtration technology being used.

(iii) The date and value of any turbidity measurements taken during the month which exceed 5 NTU.

(2) Disinfection information specified in § 141.74(c) must be reported to the State within 10 days after the end of each month the system serves water to the public. Information that must be reported includes:

(i) For each day, the lowest measurement of residual disinfectant concentration in mg/l in water entering the distribution system.

(ii) The date and duration of each period when the residual disinfectant concentration in water entering the distribution system fell below 0.2 mg/l and when the State was notified of the occurrence.

(iii) The following information on the samples taken in the distribution system in conjunction with total coliform monitoring pursuant to § 141.72:

(A) Number of instances where the residual disinfectant concentration is measured;

(B) Number of instances where the residual disinfectant concentration is not measured but heterotrophic bacteria plate count (HPC) is measured;

(C) Number of instances where the residual disinfectant concentration is measured but not detected and no HPC is measured;

(D) Number of instances where no residual disinfectant concentration is detected and where HPC is >500/ml;

(E) Number of instances where the residual disinfectant concentration is not measured and HPC is >500/ml;

(F) For the current and previous month the system serves water to the public, the value of "V" in the following formula:

$$V = \frac{c+d+e}{a+b} \times 100$$

where

a = the value in paragraph (b)(2)(iii)(A) of this section,

b = the value in paragraph (b)(2)(iii)(B) of this section,

c = the value in paragraph (b)(2)(iii)(C) of this section,

d = the value in paragraph (b)(2)(iii)(D) of this section, and

e = the value in paragraph (b)(2)(iii)(E) of this section.

(G) If the State determines, based on site-specific considerations, that a system has no means for having a sample transported and analyzed for HPC by a certified laboratory within the requisite time and temperature conditions specified by § 141.74(a)(3) and that the system is providing adequate disinfection in the distribution system, the requirements of paragraph (b)(2)(iii)(A)–(F) of this section do not apply.

(iv) A system need not report the data listed in paragraph (b)(2)(i) of this section if all data listed in paragraphs (b)(2)(i)–(iii) of this section remain on file at the system and the State determines that the system has submitted all the information required by paragraphs (b)(2)(i)–(iii) of this section for at least 12 months.

(3)(i) Each system, upon discovering that a waterborne disease outbreak potentially attributable to that water system has occurred, must report that occurrence to the State as soon as possible, but no later than by the end of the next business day.

(ii) If at any time the turbidity exceeds 5 NTU, the system must inform the State as soon as possible, but no later than the end of the next business day.

(iii) If at any time the residual falls below 0.2 mg/l in the water entering the distribution system, the system must notify the State as soon as possible, but no later than by the end of the next business day. The system also must notify the State by the end of the next business day whether or not the residual was restored to at least 0.2 mg/l within 4 hours.

PART 142—NATIONAL PRIMARY DRINKING WATER REGULATIONS IMPLEMENTATION

1. The authority citation for Part 142 is revised to read as follows:

Authority: 42 U.S.C. 300f, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–4, and 300j–9.

2. Section 142.14 is amended by revising paragraph (a) introductory text, (a)(1)(iii), (a)(3) introductory text, (a)(4) and redesignating it as paragraph (a)(6), and by adding new paragraphs (a)(4) and by adding and reserving paragraph (a)(5) to read as follows:

§ 142.14 Records kept by States.

(a) Each State which has primary enforcement responsibility shall maintain records of tests, measurements, analyses, decisions, and determinations performed on each public water system to determine compliance with applicable provisions of State primary drinking water regulations.

(1) * * *

(iii) The analytical results, set forth in a form which makes possible comparison with the limits specified in §§ 141.63, 141.71, and 141.72 of this chapter.

* * * * *

(3) Records of turbidity measurements shall be kept for not less than one year. The information retained must be set forth in a form which makes possible comparison with the limits specified in §§ 141.71 and 141.73 of this chapter. Until June 29, 1993, for any public water system which is providing filtration treatment and until December 30, 1991, for any public water system not providing filtration treatment and not required by the State to provide filtration treatment, records kept must be set forth in a form which makes possible comparison with the limits contained in § 141.13.

(4)(i) Records of disinfectant residual measurements and other parameters necessary to document disinfection effectiveness in accordance with §§ 141.72 and 141.74 of this chapter and the reporting requirements of § 141.75 of this chapter shall be kept for not less than one year.

(ii) Records of decisions made on a system-by-system and case-by-case basis under provisions of Part 141, Subpart H, shall be made in writing and kept at the State.

(A) Records of decisions made under the following provisions shall be kept for 40 years (or until one year after the decision is reversed or revised) and a copy of the decision must be provided to the system:

(*1*) Section 141.73(a)(1)—Any decision to allow a public water system using conventional filtration treatment or direct filtration to substitute a turbidity limit greater than 0.5 NTU;

(*2*) Section 141.73(b)(1)—Any decision to allow a public water system using

slow sand filtration to substitute a turbidity limit greater than 1 NTU;

(3) Section 141.74(b)(2)—Any decision to allow an unfiltered public water system to use continuous turbidity monitoring;

(4) Section 141.74(b)(6)(i)—Any decision to allow an unfiltered public water system to sample residual disinfectant concentration at alternate locations if it also has ground water source(s);

(5) Section 141.74(c)(1)—Any decision to allow a public water system using filtration treatment to use continuous turbidity monitoring; or a public water system using slow sand filtration or filtration treatment other than conventional treatment, direct filtration or diatomaceous earth filtration to reduce turbidity sampling to once per day; or for systems serving 500 people or fewer to reduce turbidity sampling to once per day;

(6) Section 141.74(c)(3)(i)—Any decision to allow a filtered public water system to sample disinfectant residual concentration at alternate locations if it also has ground water source(s);

(7) Section 141.75(a)(2)(ix)—Any decision to allow reduced reporting by an unfiltered public water system; and

(8) Section 141.75(b)(2)(iv)—Any decision to allow reduced reporting by a filtered public water system.

(B) Records of decisions made under the following provisions shall be kept for one year after the decision is made:

(1) Section 141.71(b)(1)(i)—Any decision that a violation of monthly CT compliance requirements was caused by circumstances that were unusual and unpredictable.

(2) Section 141.71(b)(1)(iv)—Any decision that a violation of the disinfection effectiveness criteria was not caused by a deficiency in treatment of the source water;

(3) Section 141.71(b)(5)—Any decision that a violation of the total coliform MCL was not caused by a deficiency in treatment of the source water;

(4) Section 141.74(b)(1)—Any decision that total coliform monitoring otherwise required because the turbidity of the source water exceeds 1 NTU is not feasible, except that if such decision allows a system to avoid monitoring without receiving State approval in each instance, records of the decision shall be kept until one year after the decision is rescinded or revised.

(C) Records of decisions made under the following provisions shall be kept for the specified period or 40 years, whichever is less.

(1) Section 141.71(a)(2)(i)—Any decision that an event in which the source water turbidity which exceeded 5 NTU for an unfiltered public water system was unusual and unpredictable shall be kept for 10 years.

(2) Section 141.71(b)(1)(iii)—Any decision by the State that failure to meet the disinfectant residual concentration requirements of § 141.72(a)(3)(i) was caused by circumstances that were unusual and unpredictable, shall be kept unless filtration is installed. A copy of the decision must be provided to the system.

(3) Section 141.71(b)(2)—Any decision that a public water system's watershed control program meets the requirements of this section shall be kept until the next decision is available and filed.

(4) Section 141.70(c)—Any decision that an individual is a qualified operator for a public water system using a surface water source or a ground water source under the direct influence of surface water shall be maintained until the qualification is withdrawn. The State may keep this information in the form of a list which is updated periodically. If such qualified operators are classified by category, the decision shall include that classification.

(5) Section 141.71(b)(3)—Any decision that a party other than the State is approved by the State to conduct on-site inspections shall be maintained until withdrawn. The State may keep this information in the form of a list which is updated periodically.

(6) Section 141.71(b)(4)—Any decision that an unfiltered public water system has been identified as the source of a waterborne disease outbreak, and, if applicable, that it has been modified sufficiently to prevent another such occurrence shall be kept until filtration treatment is installed. A copy of the decision must be provided to the system.

(7) Section 141.72—Any decision that certain interim disinfection requirements are necessary for an unfiltered public water system for which the State has determined that filtration is necessary, and a list of those requirements, shall be kept until filtration treatment is installed. A copy of the requirements must be provided to the system.

(8) Section 141.72(a)(2)(ii)—Any decision that automatic shut-off of delivery of water to the distribution system of an unfiltered public water system would cause an unreasonable risk to health or interfere with fire protection shall be kept until rescinded.

(9) Section 141.72(a)(4)(ii)—Any decision by the State, based on site-specific considerations, that an unfiltered system has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions specified by § 141.74(a)(3) and that the system is providing adequate disinfection in the distribution system, so that the disinfection requirements contained in § 141.72(a)(4)(i) do not apply, and the basis for the decision, shall be kept until the decision is reversed or revised. A copy of the decision must be provided to the system.

(10) Section 141.72(b)(3)(ii)—Any decision by the State, based on site-specific conditions, that a filtered system has no means for having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions specified by § 141.74(a)(3) and that the system is providing adequate disinfection in the distribution system, so that the disinfection requirements contained in § 141.72(b)(3)(i) do not apply, and the basis for the decision, shall be kept until the decision is reversed or revised. A copy of the decision must be provided to the system.

(11) Section 141.73(d)—Any decision that a public water system, having demonstrated to the State that an alternative filtration technology, in combination with disinfection treatment, consistently achieves 99.9 percent removal and/or inactivation of *Giardia lamblia* cysts and 99.99 percent removal and/or inactivation of viruses, may use such alternative filtration technology, shall be kept until the decision is reversed or revised. A copy of the decision must be provided to the system.

(12) Section 141.74(b), Table 3.1—Any decision that a system using either preformed chloramines or chloramines formed by the addition of ammonia prior to the addition of chlorine has demonstrated that 99.99 percent removal and/or inactivation of viruses has been achieved at particular CT values, and a list of those values, shall be kept until the decision is reversed or revised. A copy of the list of required values must be provided to the system.

(13) Section 141.74(b)(3)(v)—Any decision that a system using a disinfectant other than chlorine may use $CT_{99.9}$ values other than those in Tables 2.1 or 3.1 and/or other operational parameters to determine if the minimum total inactivation rates required by § 141.72(a)(1) are being met, and what those values or parameters are, shall be kept until the decision is reversed or revised. A copy of the list of required values or parameters must be provided to the system.

(14) Section 142.16(b)(2)(i)(B)—Any decision that a system using a ground water source is under the direct influence of surface water.

(iii) Records of any determination that a public water system supplied by a surface water source or a ground water source under the direct influence of surface water is not required to provide filtration treatment shall be kept for 40 years or until withdrawn, whichever is earlier. A copy of the determination must be provided to the system.

(5) [Reserved]

(6) Records of analyses for contaminants other than microbiological contaminants (including total coliform, fecal coliform, and heterotrophic plate count), residual disinfectant concentration, other parameters necessary to determine disinfection effectiveness (including temperature and pH measurements), and turbidity, must be retained for not less than 40 years and shall include at least the following information:

(i) Date and place of sampling.

(ii) Date and results of analyses.

* * * * *

3. Section 142.15 is amended by adding paragraphs (b)(3) and (4) and paragraph (e) to read as follows:

§ 142.15 Reports by States.

* * * * *

(b) * * *

(3) A list identifying the name, PWS identification number and date of the determination for each public water system supplied by a surface water source or a ground water source under the direct influence of surface water, which the State has determined is not required to provide filtration treatment.

(4) A list identifying the name and PWS identification number of each public water system supplied by a surface water source or ground water source under the direct influence of surface water, which the State has determined, based on an evaluation of site-specific considerations, has no means of having a sample transported and analyzed for HPC by a certified laboratory under the requisite time and temperature conditions specified in § 141.74(a)(3) and is providing adequate disinfection in the distribution system, regardless of whether the system is in compliance with the criteria of § 141.72(a)(4)(i) or (b)(3)(i) of this chapter, as allowed by § 141.72(a)(4)(ii) and (b)(3)(ii). The list must include the effective date of each determination.

* * * * *

(e) Notification within 60 days of the end of the calendar quarter of any determination that a public water system using a surface water source or a ground water source under the direct influence of surface water is not required to provide filtration treatment. The notification must include a statement describing the system's compliance with each requirement of the State's regulations that implement § 141.71 and a summary of comments, if any, received from the public on the determination. A single notification may be used to report two or more such determinations.

4. Section 142.16 is amended by adding paragraph (b) to read as follows:

§ 142.16 Special primacy requirements.

* * * * *

(b) *Requirements for States to adopt 40 CFR Part 141, Subpart H Filtration and Disinfection.* In addition to the general primacy requirements enumerated elsewhere in this part, including the requirement that State provisions are no less stringent than the federal requirements, an application for approval of a State program revision that adopts 40 CFR Part 141, Subpart H Filtration and Disinfection, must contain the information specified in this paragraph (b), except that States which require without exception all public water systems using a surface water source or a ground water source under the direct influence of surface water to provide filtration need not demonstrate that the State program has provisions that apply to systems which do not provide filtration treatment. However, such States must provide the text of the State statutes or regulations which specifies that all public water systems using a surface water source or a ground water source under the direct influence of surface water must provide filtration.

(1) *Enforceable requirements.* In addition to adopting criteria no less stringent than those specified in Part 141, Subpart H of this chapter, the State's application must include enforceable design and operating criteria for each filtration treatment technology allowed or a procedure for establishing design and operating conditions on a system-by-system basis (e.g., a permit system).

(2) *State practices or procedures.* (i) A State application for program revision approval must include a description of how the State will accomplish the following:

(A) Section 141.70(c) (qualification of operators)—Qualify operators of systems using a surface water source or a ground water source under the direct influence of surface water.

(B) Determine which systems using a ground water source are under the direct influence of surface water by June 29, 1994 for community water systems and by June 29, 1999 for non-community water systems.

(C) Section 141.72(b)(1) (achieving required *Giardia lamblia* and virus removal in filtered systems)—Determine that the combined treatment process incorporating disinfection treatment and filtration treatment will achieve the required removal and/or inactivation of *Giardia lamblia* and viruses.

(D) Section 141.74(a) (State approval of parties to conduct analyses)—approve parties to conduct pH, temperature, turbidity, and residual disinfectant concentration measurements.

(E) Determine appropriate filtration treatment technology for source waters of various qualities.

(ii) For a State which does not require all public water systems using a surface water source or ground water source under the direct influence of surface water to provide filtration treatment, a State application for program revision approval must include a description of how the State will accomplish the following:

(A) Section 141.71(b)(2) (watershed control program)—Judge the adequacy of watershed control programs.

(B) Section 141.71(b)(3) (approval of on-site inspectors)—Approve on-site inspectors other than State personnel and evaluate the results of on-site inspections.

(iii) For a State which adopts any of the following discretionary elements of Part 141 of this chapter, the application must describe how the State will:

(A) Section 141.72 (interim disinfection requirements)—Determine interim disinfection requirements for unfiltered systems which the State has determined must filter which will be in effect until filtration is installed.

(B) Section 141.72(a)(4)(ii) and (b)(3)(ii) (determination of adequate disinfection in system without disinfectant residual)—Determine that a system is unable to measure HPC but is still providing adequate disinfection in the distribution system, as allowed by § 141.72(a)(4)(ii) for systems which do not provide filtration treatment and § 141.72(b)(3)(ii) for systems which do provide filtration treatment.

(C) Section 141.73(a)(1) and (b)(1) (alternative turbidity limit)—Determine whether an alternative turbidity limit is appropriate and what the level should be as allowed by § 141.73(a)(1) for a system using conventional filtration treatment or direct filtration and by § 141.73(b)(1) for a system using slow sand filtration.

(D) Section 141.73(d) (alternative filtration technologies)—Determine that a public water system has demonstrated that an alternate filtration technology, in

combination with disinfection treatment, achieves adequate removal and/or disinfection of *Giardia lamblia* and viruses.

(E) Section 141.74(a)(5) (alternate analytical method for chlorine)—Approve DPD colorimetric test kits for free and combined chlorine measurement or approve calibration of automated methods by the Indigo Method for ozone determination.

(F) Section 141.74 (b)(2) and (c)(1) (approval of continuous turbidity monitoring)—Approve continuous turbidity monitoring, as allowed by § 141.74(b)(2) for a public water system which does not provide filtration treatment and § 141.74(c)(1) for a system which does provide filtration treatment.

(G) Section 141.74 (b)(6)(i) and (c)(3)(i) (approval of alternate disinfectant residual concentration sampling plans)—Approve alternate disinfectant residual concentration sampling plans for systems which have a combined ground water and surface water or ground water and ground water under the direct influence of a surface water distribution system, as allowed by § 141.74(b)(6)(i) for a public water system which does not provide filtration treatment and § 141.74(c)(3)(i) for a public water system which does provide filtration treatment.

(H) Section 141.74(c)(1) (reduction of turbidity monitoring)—Decide whether to allow reduction of turbidity monitoring for systems using slow sand filtration, an approved alternate filtration technology or serving 500 people or fewer.

(I) Section 141.75 (a)(2)(ix) and (b)(2)(iv) (reduced reporting)—Determine whether reduced reporting is appropriate, as allowed by § 141.75(a)(2)(ix) for a public water system which does not provide filtration treatment and § 141.75(b)(2)(iv) for a public water system which does provide filtration treatment.

(iv) For a State which does not require all public water systems using a surface water source or ground water source under the direct influence of surface water to provide filtration treatment and which uses any of the following discretionary provisions, the application must describe how the State will:

(A) Section 141.71(a)(2)(i) (source water turbidity requirements)—Determine that an exceedance of turbidity limits in source water was caused by circumstances that were unusual and unpredictable.

(B) Section 141.71(b)(1)(i) (monthly CT compliance requirements)—Determine whether failure to meet the requirements for monthly CT compliance in § 141.72(a)(1) was caused by circumstances that were unusual and unpredictable.

(C) Section 141.71(b)(1)(iii) (residual disinfectant concentration requirements)—Determine whether failure to meet the requirements for residual disinfectant concentration entering the distribution system in § 141.72(a)(3)(i) was caused by circumstances that were unusual and unpredictable.

(D) Section 141.71(b)(1)(iv) (distribution system disinfectant residual concentration requirements)—Determine whether failure to meet the requirements for distribution system residual disinfectant concentration in § 141.72(a)(4) was related to a deficiency in treatment.

(E) Section 141.71(b)(4) (system modification to prevent waterborne disease outbreak)—Determine that a system, after having been identified as the source of a waterborne disease outbreak, has been modified sufficiently to prevent another such occurrence.

(F) Section 141.71(b)(5) (total coliform MCL)—Determine whether a total coliform MCL violation was caused by a deficiency in treatment.

(G) Section 141.72(a)(1) (disinfection requirements)—Determine that different ozone, chloramine, or chlorine dioxide $CT_{99.9}$ values or conditions are adequate to achieve required disinfection.

(H) Section 141.72(a)(2)(ii) (shut-off of water to distribution system)—Determine whether a shut-off of water to the distribution system when the disinfectant residual concentration entering the distribution system is less than 0.2 mg/1 will cause an unreasonable risk to health or interfere with fire protection.

(I) Section 141.74(b)(1) (coliform monitoring)—Determine that coliform monitoring which otherwise might be required is not feasible for a system.

(J) Section 141.74(b), Table 3.1 (disinfection with chloramines)—Determine the conditions to be met to insure 99.99 percent removal and/or inactivation of viruses in systems which use either preformed chloramines or chloramines for which ammonia is added to the water before chlorine, as allowed by Table 3.1.

5. New § 142.64 is added to read as follows:

§ 142.64 Variances and exemptions from the requirements of Part 141, Subpart H—Filtration and Disinfection.

(a) No variances from the requirements in Part 141, Subpart H are permitted.

(b) No exemptions from the requirements in § 141.72(a)(3) and (b)(2) to provide disinfection are permitted.

6. Subpart I is added to read as follows:

Subpart I—Administrator's Review of State Decisions that Implement Criteria Under Which Filtration Is Required

Sec.
142.80 Review procedures.
142.81 Notice to the State.

Subpart I—Administrator's Review of State Decisions that Implement Criteria Under Which Filtration Is Required

§ 142.80 Review procedures.

(a) The Administrator may initiate a comprehensive review of the decisions made by States with primary enforcement responsibility to determine, in accordance with § 141.71 of this chapter, if public water systems using surface water sources must provide filtration treatment. The Administrator shall complete this review within one year of its initiation and shall schedule subsequent reviews as (s)he deems necessary.

(b) EPA shall publish notice of a proposed review in the **Federal Register**. Such notice must:

(1) Provide information regarding the location of data and other information pertaining to the review to be conducted and other information including new scientific matter bearing on the application of the criteria for avoiding filtration; and

(2) Advise the public of the opportunity to submit comments.

(c) Upon completion of any such review, the Administrator shall notify each State affected by the results of the review and shall make the results available to the public.

§ 142.81 Notice to the State.

(a) If the Administrator finds through periodic review or other available information that a State (1) has abused its discretion in applying the criteria for avoiding filtration under § 141.71 of this chapter in determining that a system does not have to provide filtration treatment, or (2) has failed to prescribe compliance schedules for those systems which must provide filtration in accordance with section 1412(b)(7)(C)(ii) of the Act, (s)he shall notify the State of these findings. Such notice shall:

(1) Identify each public water system for which the Administrator finds the State has abused its discretion;

(2) Specify the reasons for the finding;

(3) As appropriate, propose that the criteria of § 141.71 of this chapter be applied properly to determine the need for a public water system to provide filtration treatment or propose a revised

schedule for compliance by the public water system with the filtration treatment requirements;

(b) The Administrator shall also notify the State that a public hearing is to be held on the provisions of the notice required by paragraph (a) of this section. Such notice shall specify the time and location of the hearing. If, upon notification of a finding by the Administrator that the State has abused its discretion under § 141.71 of this chapter, the State takes corrective action satisfactory to the Administrator, the Administrator may rescind the notice to the State of a public hearing.

(c) The Administrator shall publish notice of the public hearing in the **Federal Register** and in a newspaper of general circulation in the involved State, including a summary of the findings made pursuant to paragraph (a) of this section, a statement of the time and location for the hearing, and the address and telephone number of an office at which interested persons may obtain further information concerning the hearing.

(d) Hearings convened pursuant to paragraphs (b) and (c) of this section shall be conducted before a hearing officer to be designated by the Administrator. The hearing shall be conducted by the hearing officer in an informal, orderly, and expeditious manner. The hearing officer shall have the authority to call witnesses, receive oral and written testimony, and take such other action as may be necessary to ensure the fair and efficient conduct of the hearing. Following the conclusion of the hearing, the hearing officer may make a recommendation to the Administrator based on the testimony presented at the hearing and shall forward any such recommendation and the record of the hearing to the Administrator.

(e) Within 180 days after the date notice is given pursuant to paragraph (b) of this section, the Administrator shall:

(1) Rescind the notice to the State of a public hearing if the State takes corrective action satisfactory to the Administrator; or

(2) Rescind the finding for which the notice was given and promptly notify the State of such rescission; or

(3) Uphold the finding for which the notice was given. In this event, the Administrator shall revoke the State's decision that filtration was not required or revoke the compliance schedule approved by the State, and promulgate, as appropriate, with any appropriate modifications, a revised filtration decision or compliance schedule and promptly notify the State of such action.

(f) Revocation of a State's filtration decision or compliance schedule and/or promulgation of a revised filtration decision or compliance schedule shall take effect 90 days after the State is notified under paragraph (e)(3) of this section.

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federal register

Thursday,
June 29, 1989

Part III

Environmental Protection Agency

40 CFR Parts 141 and 142

Drinking Water; National Primary Drinking Water Regulations; Total Coliforms (Including Fecal Coliforms and E. Coli); Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 141 and 142

[WH-FRL-3540]

Drinking Water; National Primary Drinking Water Regulations; Total Coliforms (Including Fecal Coliforms and E. Coli)

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This rule, promulgated under the Safe Drinking Water Act (42 U.S.C. 300f *et seq.*), amends the currrent national primary drinking water regulation (NPDWR), including the maximum contaminant level, monitoring requirements, and analytical requirements, for total coliform bacteria ("total coliforms"), including fecal coliforms and *Escherichia coli* (*E. coli*). This rule applies to all public water systems. In this notice, EPA is also publishing a maximum contaminant level goal of zero for total coliforms, including fecal coliforms and *E. coli*.

EFFECTIVE DATE: This rule is effective December 31, 1990. The incorporation by reference of certain publications listed in the rule was approved by the Director of the Federal Register as of December 31, 1990.

ADDRESSES: Public comments on the proposal, the comment/response document, applicable **Federal Register** notice, other major supporting documents, and a copy of the index to the public docket for this rulemaking are available for review at EPA's Drinking Water Docket; 401 M Street, SW.; Washington, DC 20460. For access to docket materials call (202) 382–3027 between 9 a.m. and 3:30 p.m. In addition, criteria documents for total coliforms and heterotrophic bacteria are available from the National Technical Information Center, 5285 Port Royal Road, Springfield, VA 22161. The toll-free number is (800) 336–4700; the local number is (703) 487–4650. Major supporting documents cited in the reference section of this notice are available for inspection at the Drinking Water Supply Branches in EPA's Regional Offices, listed below.

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FOR FURTHER INFORMATION CONTACT: Paul S. Berger, Ph.D., Microbiologist, Office of Drinking Water (WH–550D), Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460, telephone (202) 382–3039. Information also may be obtained from the EPA Safe Drinking Water Hotline. Callers within the United States (except Washington, DC and Alaska), Puerto Rico, and the Virgin Islands may reach the Safe Drinking Water Hotline at (800) 426–4791; callers in the Washington, DC area and Alaska may reach the Hotline at (202) 382–5533. The Safe Drinking Water Hotline is open Monday through Friday, excluding Federal holidays, from 8:30 a.m. to 4:00 p.m. Eastern Time.

SUPPLEMENTARY INFORMATION:

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Abbreviations Used in This Notice

BAT: Best Available Technology
CWS: Community Water System
EIA: Economic Impact Analysis
HPC: Heterotrophic Plate Count
MCL: Maximum Contaminant Level
MCLG: Maximum Contaminant Level Goal
MF: Membrane Filter
MMO–MUG Test: Minimal Medium ONPG–MUG Test (previously referred to as the Colilert System)
MTF: Multiple Tube Fermentation
NCWS: Non-community Water System
NIPDWR: National Interim Primary Drinking Water Regulation
NPDWR: National Primary Drinking Water Regulation
PWS: Pulic Water System
RMCL: Recommended Maximum Contaminant Level
SDWA or "The Act": Safe Drinking Water Act, as amended in 1986

I. Statutory Authority

The Safe Drinking Water Act ("SDWA" or "the Act"), as amended in

1986 (Pub. L. No. 99-339, 100 Stat. 642), requires EPA to publish "maximum contaminant level goals" (MCLGs) for contaminants which, in the judgment of the Administrator, "may have any adverse effect on the health of persons and which are known or anticipated to occur in public water systems." Section 1412(b)(3)(A). MCLGs are to be set at a level at which "no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety." Section 1412(b)(4).

At the same time EPA publishes an MCLG, which is a non-enforceable health goal, it also must promulgate a national primary drinking water regulation (NPDWR) which includes either (1) a maximum contaminant level (MCL), or (2) a required treatment technique. Section 1401(1), 1412(a)(3), and 1412(b)(7)(A). A treatment technique may be set only if it is not "economically or technologically feasible" to ascertain the level of a contaminant. Sections 1401 (1) and 1412(b)(7)(A). An MCL must be set as close to the MCLG as feasible. Section 1412(b)(4). Under the Act, "feasible" means "feasible with the use of the best technology, treatment techniques and other means which the Administrator finds, after examination for efficacy under field conditions and not solely under laboratory conditions, are available (taking cost into consideration)." Section 1412(b)(5). The legislative history of SDWA indicates that EPA is to base MCLs on treatment technology affordable by large public water systems with relatively clean source water supplies. 132 *Cong. Rec.* S6287 (daily ed., May 21, 1986). Each NPDWR which establishes an MCL must list the best available technology, treatment techniques, and other means which are feasible for meeting the MCL (BAT). Section 1412(b)(6). NPDWRs including monitoring and analytical requirements, specifically, "criteria and procedures to assure a supply of drinking water which dependably complies with such maximum contaminant levels . . ." Section 1401(1)(D). Section 1445 also authorizes EPA to promulgate monitoring requirements.

Section 1414(c) requires each owner or operator of a public water system to give notice to persons served by it of (1) any failure to comply with a maximum contaminant level, treatment technique, or testing procedure required by a NPDWR; (2) any failure to comply with any monitoring required pursuant to section 1445 of the Act; (3) the existence of a variance of exemption; or (4) any failure to comply with the requirements of any schedule prescribed pursuant to a variance of exemption.

Under the 1986 amendments to the SDWA, EPA was to promulgate NPDWRs for 83 contaminants, in three phases, by June 19, 1989. A group of related bacteria known as total coliforms is one of the 83 contaminants which EPA must regulate. Total coliforms include fecal coliforms and *E. coli*.

II. Summary of Final Rule

EFFECTIVE DATE: December 31, 1990. Current rule remains in force until December 31, 1990.

Maximum Contaminant Level Goal: Zero.

Maximum Contaminant Level

- Compliance is based on presence/absence of total coliforms in sample, rather than on an estimate of coliform density.
- MCL for systems analyzing at least 40 samples/month: no more than 5.0 percent of the monthly samples may be total coliform-positive.
- MCL for systems analyzing fewer than 40 samples/month: no more than 1 sample/month may be total coliform-positive.
- A public water system must demonstrate compliance with the MCL for total coliforms each month it is required to monitor.
- MCL violations must be reported to the State no later than the end of the next business day after the system learns of the violation.

Monitoring Requirements for Total Coliforms

- Each public water system must sample according to a written sample siting plan. Plans are subject to State review and revision. The State must establish a process which ensures the adequacy of the sample siting plan for each system.
- Monthly monitoring requirements are based on population served (see Table 1).
- A system must collect a set of repeat samples for each total coliform-positive routine sample (see Table 2) and have it analyzed for total coliforms. At least one repeat sample must be from the same tap as the original sample; other repeat samples must be collected from within five service connections of the original sample. At least one must be upstream and another downstream. The system must collect all repeat samples within 24 hours of being notified of the original result, except where the State waives this requirement on a case-by-case basis. If a total coliform-positive sample is at the end of the distribution system, or one away from the end of the distribution system, the State may waive the requirement to collect at least one repeat sample upstream or downstream of the original sampling site.
- If total coliforms are detected in any repeat sample, the system must collect another set of repeat samples, as before, unless the MCL has been violated and the system has notified the State (in which case the State may reduce or eliminate the requirement to take the remaining repeat samples).
- If a system has only one service connection, the State has the discretion to allow the system to either collect the required set of repeat samples at the same tap over a four-day period or to collect a larger volume repeat samples(s) (e.g., a single 400-ml sample).
- If a system which collects fewer than five routine samples/month detects total coliforms in any routine or repeat sample (and the sample is not invalidated by the State), it must collect a set of five routine samples the next month the system provides water to the public, except that the State may waive this requirement if (1) it performs a site visit to evaluate the contamination problem, or (2) it has determined why the sample was total coliform-positive and (a) this finding is documented in writing, along with what action the system has taken or will take to correct this problem before the end of the next month the system serves water to the public, (b) this document is signed by the supervisor of the State official who makes the finding, (c) the documentation is made available to EPA and the public, and (d) in certain cases (described in the rule), the system collects at least one additional sample.
- Unfiltered surface water systems and systems using unfiltered ground water under the direct influence of surface water must analyze one coliform sample each day the turbidity of the source water exceeds one NTU. (This sample counts toward the system's minimum monitoring requirements.)
- Tables 1 and 2 summarize the routine and repeat sample monitoring requirements for total coliforms.

TABLE 1.—TOTAL COLIFORM SAMPLING REQUIREMENTS, ACCORDING TO POPULATION SERVED

Population served	Minimum number of routine samples per month[1]
25 to 1,000[2]	[3] 1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4

TABLE 1.—TOTAL COLIFORM SAMPLING REQUIREMENTS, ACCORDING TO POPULATION SERVED—Continued

Population served	Minimum number of routine samples per month[1]
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,001 to 1,230,000	300
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

[1] In lieu of the frequency specified in this table, a non-community water system using only ground water (except ground water under the direct influence of surface water) and serving 1,000 persons or fewer may monitor at a lesser frequency specified by the State (in writing) until a sanitary survey is conducted and the State reviews the results. Thereafter, such systems must monitor in each calendar quarter during which the system provides water to the public, unless the State determines (in writing) that some other frequency is more appropriate. Beginning June 29, 1994 such systems must monitor at least once/year.

A non-community water system using surface water, or ground water under the direct influence of surface water, regardless of the number of persons served, must monitor at the same frequency as a like-sized community water system, i.e., the frequency specified in the table. A non-community water system using ground water (which is not under the direct influence of surface water) and serving more than 1,000 persons during any month must monitor at the same frequency as a like-sized community water system, i.e., the frequency specified in the table, except that the State may reduce the monitoring frequency (in writing) for any month the system serves 1,000 persons or fewer. However, in no case may the State reduce the sampling frequency to less than once/year.

[2] Includes public water systems which have at least 15 service connections, but serve fewer than 25 persons.

[3] For a community water system serving 25–1,000 persons, the State may reduce this sampling frequency (in writing), if it has no history of coliform contamination in its current configuration and a sanitary survey conducted in the past five years indicates that the system is supplied solely by a protected groundwater source and is free of sanitary defects. However, in no case may the State reduce the sampling frequency to less than once/quarter.

TABLE 2.—MONITORING REQUIREMENTS FOLLOWING A TOTAL COLIFORM-POSITIVE ROUTINE SAMPLE

No. routine samples/month	No. repeat samples[1]	No. routine samples next month[2]
1/mo or fewer	4	5/mo.
2/mo	3	5/mo.
3/mo	3	5/mo.
4/mo	3	5/mo.
5/mo or more	3	Table 1[3].

[1] Number of repeat samples in the same month for each total coliform-positive routine sample.

[2] Except where State has invalidated the original routine sample, or where State substitutes an on-site evaluation of the problem, or where the State waives the requirement on a case-by-case basis. See 40 CFR 141.21a(b)(5) for more detail.

[3] Systems need not take any additional samples beyond those it is required to take according to Table 1.

Invalidation of Total Coliform-Positive Samples

• Each total coliform-positive sample counts in compliance calculations, unless it has been invalidated by the State. Invalidated samples do not count toward the minimum monitoring frequency.

• A State may invalidate a sample only if: (1) The analytical laboratory acknowledges that improper sample analysis caused the positive result; (2) the system determines that the contamination is a domestic or other non-distribution system plumbing problem on the basis that one or more repeat samples taken at the same tap as the original total coliform-positive sample is total coliform-positive, but all repeat samples at nearby sampling locations are total coliform-negative; or (3) the State has substantial grounds to believe that a total coliform-positive result is due to some circumstance or condition which does not reflect water quality in the distribution system, if (a) the basis for this determination is documented in writing, (b) this document is signed and approved by the supervisor of the State official who makes this determination, and (c) the documentation is made available to EPA and the public.

Variances and Exemptions: None allowed.

Sanitary Surveys:

• Periodic sanitary surveys are required for all systems collecting fewer than 5 samples/month, according to the schedule in Table 3:

TABLE 3.—SANITARY SURVEY FREQUENCY FOR PUBLIC WATER SYSTEMS COLLECTING FEWER THAN FIVE SAMPLES/MONTH [1]

System type	Initial survey completed by	Frequency of subsequent surveys
Community water system.	June 29, 1994	Every 5 years.
Non-community water system.	June 29, 1999	Every 5 years. [2]

[1] Annual on-site inspection of the system's watershed control program and reliability of disinfection practice is also required by 40 CFR 141.71(b) for systems using unfiltered surface water or ground water under the direct influence of surface water. The annual on-site inspection, however, is not equivalent to the sanitary survey. Thus, compliance with 40 CFR 141.71(b) alone does not constitute compliance with the sanitary survey requirements of this coliform rule (141.21a(d), but a sanitary survey during a year can substitute for the annual on-site inspection for that year.

[2] For a non-community water system which uses only protected and disinfected ground water, the sanitary survey may be repeated every ten years, instead of every five years.

Fecal Coliforms/E. coli; Heterotrophic Bacteria (HPC)

• If any routine or repeat sample is total coliform-positive, the system must analyze that total coliform-positive culture to determine if fecal coliforms are present, except that the system may test for *E. coli* in lieu of fecal coliforms. If fecal coliforms or *E. coli* are detected, the system must notify the State before the end of the same business day, or, if detected after the State office is closed, by the end of the next business day.

• If any repeat sample is fecal coliform-or *E. coli*-Positive, or if a fecal coliform-or *E. coli*-positive original sample is followed by a total coliform-positive repeat sample, and the original total coliform-positive sample or the repeat sample is not invalidated, the system is in violation of the MCL for total coliforms. This is an acute violation of the MCL for total coliforms.

• The State has the discretion to allow a water system, on a case-by-case basis, to forgo fecal coliform or *E. coli* testing on total coliform-positive samples if the system treats every total coliform-positive sample as if it contained fecal coliforms, i.e., the system complies with all requirements which apply when a sample is fecal coliform-positive.

• State invalidation of a total coliform-positive sample invalidates subsequent fecal coliform or *E. coli*-positive results on the same sample.

• Heterotrophic bacteria can interfere with total coliform analysis. Therefore, if the total coliform sample produces: (1) A turbid culture in the absence of gas production using the Multiple Tube Fermentation (MTF) Technique; (2) a turbid culture in the absence of an acid reaction using the Presence-Absence (P–A) Coliform Test; or (3) confluent growth or a colony number that is "too numerous to count" using the Membrance Filter (MF) Technique, the sample is invalid (unless total coliforms are detected, in which case, the sample is valid) and the system must, within 24 hours of being notified of the result, collect another sample from the same location as the original sample and have it analyzed for total coliforms. In such cases, EPA recommends using media less prone to interference from heterotrophic bacteria for analyzing the replacement sample. The Sate may waive the 24-hour time limit on a case-by-case basis.

Analytical Methodology

• Total coliform analyses are to be conducted using the 10-tube MTF Technique, the MF Technique, the Presence-Absence (P–A) Coliform Test, or the Minimal Media ONPG–MUG (MMO–MUG) Test (Autoanalysis Colilert System). A system may also use the 5-tube MTF Technique (using 20-ml sample portions) of a single culture bottle containing the MTF medium, as long as a 100-ml water sample is used in the analysis.

• A 100-ml standard sample volume must be used in analyzing for total coliforms, regardless of the analytical method used.

• Fecal coliform analysis must be conducted using the method set out in the rule.

• EPA will promulgate analytical methods of *E. coli* before the effective date of this rule.

III. Background

A. Regulatory Background

As required by the SDWA of 1974, on December 24, 1975, EPA published National Interim Primary Drinking Water Regulations (NIPDWRs). The NIPDWRs (renamed "national primary drinking water regulations"(NPDWRs) by the 1986 amendments to the Act) include requirements for total coliforms. See 40 CFR 141.14 and 141.21. EPA based these requirements, including the MCL and the monitoring frequency, on the U.S. Public Health Service drinking water regulations of 1962. The NPDWR for coliforms, which is still in effect, applies to both community water systems (systems which serve year-round residents) and non-community water systems (all other systems). Currently there are approximately 60,000 community water systems and 143,000 non-community water systems.

Despite existing drinking water regulations, waterborne disease outbreaks continue to occur. For example, between 1971 and 1983 there were 427 reported outbreaks with over 100,000 cases of waterborne disease. However, EPA believes the vast majority of waterborne disease outbreaks and cases are not reported. Few States have an active outbreak surveillance program, and disease outbreaks are often not recognized in a community or, if recognized, are not traced to the drinking water source. One EPA-funded study in Colorado found that only about one-quarter of the waterborne disease outbreaks were being recognized and reported (Hopkins et al., 1985).

The under-reporting may be even more serious, according to the results of several other studies. For instance, Hauchild and Bryan (1980) report that the ratio of all outbreaks to reported outbreaks for waterborne and foodborne disease may be 25:1. Another study (Archer and Kvenberg, 1985) suggests under-reporting of an order of magnitude even greater than Hauchild and Bryan.

EPA believes that a major factor in the failure to recognize waterborne disease outbreaks is that the vast majority of people experiencing gastroenteritis, some of which may be waterborne in origin, do not seek medical attention, and physicians generally cannot attribute gastroenteritis to any specific source. The Agency also understands that, in some States, a lack of communication between agencies responsible for public health and water supply creates an obstacle to reliable waterborne disease outbreak recognition and reporting.

Based on this information, EPA believes that the number of cases of waterborne disease is much higher (as many as ten to several hundred-fold higher) than is actually recognized and recorded. The Agency believes that the number of actual outbreaks and cases of disease is unacceptably higher and therefore additional measures are needed for further control. Some of these measures are incorporated into the revised coliform rule described in this notice. Other measures are incorporated into the surface water treatment requirements, also promulgated in today's **Federal Register**. EPA believes that this revised total coliform rule, including the revised MCL and requirements for monitoring, sanitary surveys for systems collecting fewer than five samples/month, State review of sample siting plans, and fecal coliform or *E. coli* testing, together with the surface water treatment requirements, and forthcoming groundwater disinfection requirements (also required by the 1986 SDWA amendments) will decrease the risk of waterborne illness, compared to the current rule.

On November 3, 1987, EPA proposed to amend the national primary drinking water regulation for total coliforms (52 FR 42224). On May 6, 1988, EPA solicited specific data, offered additional regulatory options for comment, and clarified and corrected statements made in the November 3, 1987, proposal (53 FR 16348). The public comment period closed on July 5, 1988. Three public hearings were held, two in Washington, DC, on November 23, 1987 and June 27, 1988, and one in Denver, Colorado on December 2–3, 1987. On September 28, 1988, EPA made available to the public draft outline which summarized the provisions which the Agency was considering including in the final rule for total coliforms (53 FR 37801).

B. Public Comments on the Proposal

EPA requested comments on all aspects of both the November 3, 1987, proposal and May 6, 1988, notice of availability. The description of the final rule provisions in the following sections includes summaries of the major public comments and the Agency's response to the issues raised. A detailed recitation of the comments and the Agency's responses are presented in the "Comment/Response Document for the Proposed Coliform Rule," which is available in the public docket.

IV. Explanation of Final Provisions

A. Maximum Contaminant Level Goal (MCLG)

As explained in the November 3, 1987, notice, total coliform levels have been used for decades as the primary measure of the microbial quality of drinking water. Coliforms are usually present in water contaminated with human and animal feces and are often associated with outbreaks of disease. Although total coliforms are usually not pathogenic themselves, their presence in drinking water indicates that fecal pathogens may also be present. EPA believes that treatment which provides total coliform-free water will reduce fecal pathogens to minimal levels.

On November 13, 1985 (50 FR 46902), EPA proposed a recommended maximum containment level (RMCL), renamed maximum contaminant level goal (MCLG) by the 1986 SDWA amendments, for total coliforms of zero. Since then, the 1986 amendments

streamlined the rulemaking process. Under the amended Act, EPA must propose both the MCLG and the NPDWR for a contaminant simultaneously, and it then must publish the MCLG and promulgate the NPDWR simultaneously. Section 1412(a)(3). To bring the rulemaking for total coliforms in line with the amended process, in the November 3, 1987 notice, EPA reproposed the RMCL as an MCLG at the same level, i.e., zero, on the same basis set out in the November 1985 notice and in the Criteria Document for Total Coliforms (USEPA, 1984).

The majority of comments addressing the proposed MCLG supported the proposed value of zero. No commenter suggested another value. Some commenters questioned the rationale for using total coliforms as the primary tool to assess the microbiological quality of drinking water; a few of these commenters stated that it was inappropriate to set an MCLG for coliforms since coliforms are not generally pathogenic.

After reviewing the comments in response to both the November 1985 and November 1987 proposals, EPA has decided to promulgate an MCLG of zero for total coliforms, as proposed. Because fecal coliforms and *E. coli* are a subset of the total coliform group, the MCLG for total coliforms includes these organisms. The Agency is not aware of any data in the scientific literature supporting a particular value for coliform density, below which there are no known or anticipated adverse health effects, with an adequate margin of safety. In fact, waterborne disease outbreaks and specific pathogen levels have been associated with coliform densities from less than one/100 ml to very high levels.

It is important to note that SDWA specifically requires EPA to regulate total coliforms, and that coliform analysis, along with sanitary surveys, have been the foundation of programs to assure a sanitary water supply for many decades. By proposing and publishing an MCLG of zero, EPA is stating that, conceptually, coliforms should not be present in drinking water, because they may indicate the presence of pathogenic organisms in the water.

Regulation of total coliforms is not the only tool EPA is using to assess and assure the microbiological quality of water. For example, the Agency is also using specified surface water treatment requirements (published elsewhere in today's **Federal Register**), and the forthcoming groundwater disinfection requirements for this purpose.

B. Maximum Contaminant Level

1. Presence-Absence Concept

The November 3, 1987, notice proposed that coliform MCLs be based on their presence or absence in a water sample rather than on an estimation of coliform density, as is the case with the current coliform rule. The Agency received a number of comments on this issue. Many commenters supported the presence-absence concept over a density determination. Almost all of those commenters who opposed the presence-absence concept prefer to retain the current coliform rule because they believe it has been effective (e.g., they believe there have been no or few waterborne disease outbreaks in their State or community). However, as stated above, EPA believes that the number of outbreaks and cases of waterborne disease is much higher than is recognized and recorded, and therefore more effective measures are needed for further control.

As explained in the November 3, 1987, notice, EPA believes the presence-absence concept is simpler and mathematically more precise than the current density standard for total coliforms, and therefore has decided to use presence-absence as the basis for the coliform MCL in this revised rule. The advantages of the presence-absence concept include the following: (1) It is easier to determine the presence or absence of coliforms than to determine their density, (2) the presence-absence determination is less influenced by sample transit time than a density determination, and (3) use of the presence-absence concept eliminates calculation difficulties implicit in the statistical methodology of coliform density calcualtions.

2. Monthly MCL

The November 3, 1987, notice proposed a monthly MCL for all community and non-community public water systems. The monthly MCL was designed to prevent adverse health effects by providing high quality water on a consistent basis. Under the proposal, for public water systems that analyzed fewer than 40 samples/month for total coliforms, more than one total coliform-positive sample/month would violate the monthly MCL. For systems that analyzed 40 or more samples/month for total coliforms, the occurrence of total coliforms in more than five percent of the samples would violate the monthly MCL.

The majority of commenters supported the proposed monthly MCL, while a few preferred retention of the current MCLs, which are based on coliform density. For the reasons explained in the November 3 notice, EPA believes the proposed monthly MCL is more scientifically defensible than the current coliform MCLs. As explained in that notice, given that total coliforms are ubiquitous in water, EPA believes that an infrequent single coliform-positive sample does not necessarily represent a health risk. For this reason, the Agency has decided to promulgate the monthly MCL as proposed. EPA has concluded that the final MCL is as close to the final MCLG of zero as is feasible.

EPA has clarified rounding-off procedures for the MCL by specifying that no more than 5.0 percent, rather than 5 percent, of the samples analyzed during a month may be total coliform-positive for systems collecting at least 40 samples/month to be in compliance. Thus, a system which collects 75 samples/month would violate the MCL if four samples were coliform-positive, i.e., $4/75 = 5.3$ percent, because it is greater than 5.0 percent.

EPA has also more clearly defined the compliance period for this rule by specifying that a public water system must demonstrate compliance with the MCL for total coliforms each month it is required to monitor. Thus, a system which collects fewer than 40 samples/month will be in compliance with the MCL if fewer than two samples during a month are total coliform-positive. On the other hand, if one sample is total coliform-positive during each of two or more consecutive months, the system remains in compliance with the MCL.

3. Long-term MCL

In the November 3, 1987, notice, EPA proposed a long-term MCL in addition to the monthly MCL. For systems collecting fewer than 60 samples/year, no more than five percent of the most recent 60 samples could be total coliform-positive. For systems collecting at least 60 samples/year, no more than five percent of the total number of samples collected during the most recent 12 months could be total coliform-positive. The rationale for the proposed long-term MCL was presented in the November 3, 1987, notice. The May 6, 1988, notice requested public comment on various alternatives to the long-term MCL, including limiting the time-frame for determining compliance with the long-term MCL to one year for all systems and deleting the long-term MCL entirely but specifying that the States require systems to take one or more specific

actions (e.g., perform a sanitary survey, issue a boil water notice, disinfect continuously), on a case-by-case basis, whenever the number of total coliform-positive samples from a system exceeded five percent of the total number of samples during a specified time period.

The majority of commenters addressing the proposed long-term MCL opposed it; primarily, they were concerned that long-term compliance tracking of small systems by the State would be difficult, and that a small system might find itself in violation of the long-term MCL long after a transient contamination problem had been corrected. The Agency believes that control of intermittent contamination (i.e., across several compliance periods) is important for ensuring safe drinking water, and that national regulations to address this problem may be appropriate. However, it is difficult to devise a practical approach for collecting and processing the amount of data necessary to detect intermittent contamination. Thus, EPA has decided not to promulgate a long-term MCL at this time. It is important to note, however, that other measures, such as the surface water treatment requirements in Part 141, Subpart H (published elsewhere in today's **Federal Register**), will reduce intermittent contamination. Similarly, the forthcoming Congressionally-mandated regulation requiring disinfection as a treatment technique for all public water systems using ground water will also reduce intermittent contamination. Moreover, as described below, today's rule requires a system to perform additional monitoring after it detects a total coliform-positive sample, which will have the effect of identifying systems with intermittent contamination. In addition, the State has the authority to establish additional requirements to identify systems with intermittent contamination and to require corrective action.

C. Monitoring Requirements

A system which has failed to comply with a coliform monitoring requirement (including, but not limited to, a sample siting plan requirement, a sanitary survey requirement, a routine sample requirement, a repeat sample requirement, and a fecal coliform/*E. coli* test requirement) must report the monitoring violation to the State within ten days after the system discovers the violation, and notify the public in accordance with § 141.32 (the general public notification requirements).

1. Basis: Population Served vs. Other Alternatives

The November 3, 1987, notice proposed to retain population as the basis for setting monitoring frequency. There were very few public comments on this issue. Most of the commenters who discussed the basis for monitoring frequency, however, supported the concept proposed. Based on the public comments and the reasons explained in the November 3, 1987, notice, EPA has retained population as the basis for setting monitoring frequency.

2. Sampling Sites

The interim regulations state that samples are to be taken at points representative of conditions within the distribution system. The November 3, 1987, notice proposed to refine this provision by requiring systems to collect samples from at least three times the number of sites every year as the number of monthly samples required or the total number of service connections. In addition, EPA recommended, but did not propose, that systems select new sampling sites every year. The intent of these provisions was to insure that the system would eventually collect samples from all major sections of the distribution system.

EPA received numerous comments on this issue. Most commenters opposed the proposed requirement. Many commenters claimed that the increase in the number of sampling sites would force systems to use private homes, with possible problems of access, or that the requirement would preclude systems from monitoring water quality at specific representative sites over time, which would prevent collection of historical data and trend information. A number of commenters recommended that EPA allow all, or at least some, sampling sites, to be fixed.

EPA has decided to replace the proposed approach with an alternative presented in the May 6, 1988, notice. This alternative, which would require the system to use a sample siting plan acceptable to the State, was supported by many commenters. Thus, under the final rule, each system must develop and monitor according to a written sample siting plan, which is subject to State review and revision. The State must develop and implement a process which ensures the adequacy of the sample siting plan for each public water system in the State, including periodic review of each system's plan. For the vast majority of systems, EPA expects the State will conduct this periodic review as part of the periodic sanitary survey. The siting plan should ensure that the system will eventually detect contamination in any portion of the distribution system if it is present. While reviewing the siting plan, the State should also review the sample collection timing patterns for each system to determine whether the system should collect samples on a regular basis throughout the month, or whether it is acceptable to collect some or all required samples at the same time.

3. Sanitary Surveys

In the November 3, 1987, **Federal Register** notice, EPA proposed to require all systems that exercised the Agency's option for collecting fewer than five samples/month to have a periodic sanitary survey at the frequency shown in Table 1 of the proposed rule. The May 6, 1988, notice requested public comment on whether EPA should specify a date by which the initial sanitary surveys were to be performed, and, if so, what this date should be, and whether this initial time period or the time period between sanitary surveys should depend on system size or system type.

Many commenters supported the concept of a periodic sanitary survey. Although the proposed rule put the burden to complete the sanitary survey on the system rather than the State, many of these commenters assumed that many States would very likely choose to perform all or most sanitary surveys themselves, and they questioned whether resources would allow the State to perform the sanitary surveys in the time frame specified in the proposed rule. Some commenters indicated that sanitary surveys should be performed no less than every five years. Others suggested that the frequency of sanitary surveys be left to State discretion. Some commenters thought that, given resource limitations, EPA or the States should set priorities among different categories of systems for completing sanitary surveys.

EPA believes that sanitary surveys and action to correct any defects identified in the course of the surveys are indispensable for assuring the long-term quality and safety of drinking water in systems which collect fewer than five samples/month. Monitoring and sanitary surveys complement each other to achieve this result. Therefore, to ensure that sanitary surveys are performed regularly, in this final rule, EPA is specifying the maximum allowable time for the system to complete both the initial sanitary survey and subsequent surveys. EPA expects that many States will perform most or all of the sanitary surveys themselves, and recognizes that, because of resource constraints, they cannot perform the

surveys all at once; thus, it is appropriate to set priorities. Moreover, because the final rule generally retains the monitoring frequency of the interim rule, rather than adopting the frequency in the proposed rule, EPA anticipates that many more systems will sample fewer than five times/month than was contemplated under the proposed rule. Thus, the Agency believes it appropriate to increase the time between sanitary surveys, compared to what was proposed, and stagger the deadlines because of State resource constraints. The sanitary survey requirements of the final rule appear in Table 3.

As Table 3 indicates, the initial sanitary surveys must be completed within five years of promulgation of this rule for community water systems, and within ten years of promulgation for non-community water systems. Table 3 also shows the schedule for subsequent surveys, which is either every five or ten years, depending on the type of system.

The sanitary survey frequencies in Table 3 take into account the fact that there is lower potential health risk associated with ground water systems which disinfect than with other systems. This schedule also takes into account that there are two to three times as many non-community water systems as community water systems and, as a result, more time will be necessary to complete sanitary surveys for the non-community systems. Although sanitary surveys are already being performed in many States (EPA data indicate that in FY 1987, States collectively performed about 35,000 on-site evaluations), EPA recognizes that a number of States will need some period of time to establish a mechanism for ensuring that sanitary surveys are conducted for the thousands of affected systems in the State. Given these considerations, EPA believes the required frequencies for sanitary surveys are reasonable.

Under this rule, the system is responsible for insuring that the sanitary survey is accomplished. Only the State or an agent approved by the State may conduct a sanitary survey. States are required to review the results of each sanitary survey to determine whether the existing monitoring frequency is still appropriate, and if not, what the new frequency should be, and whether the system needs to undertake any specific measures to improve water quality. EPA intends to provide guidance on the design and implementation of sanitary surveys and other site-specific evaluations.

4. Invalidation of Total Coliform-Positive Samples

The November 3, 1987 notice proposed that all coliform-positive samples be used in determining MCL compliance, unless the laboratory establishes that improper sample analysis caused the positive result. Several commenters suggested that the State be allowed to invalidate total coliform-positive samples in certain other situations as well.

EPA is aware that a number of States and systems currently invalidate a total coliform-positive sample on the basis of subsequent "check" samples which are total coliform-negative. In other words, when subsequent repeat samples at the same and/or nearby taps/service connections are total coliform-negative, it is assumed that the original total coliform-positive sample resulted from a domestic or other non-distribution system plumbing problem or improper sample collection and handling. Consequently, they invalidate the original total coliform-positive sample. EPA believes there is no valid justification for using coliform-negative check samples alone to invalidate an initial coliform-positive sample.

As indicated in the November 3, 1987, notice, Pipes and Christian (1982) and Christian and Pipes (1983) have shown that the distribution of coliforms in the distribution system is far from being uniform. Hence, repeat samples alone are not adequate to determine the validity of a total coliform-positive sample. Even if a repeat sample is taken from the same sampling tap as the total coliform-positive sample, the results of the analysis of the repeat sample will not necessarily be representative of conditions when the original sample was taken. Therefore, under this final rule, States may not invalidate a total coliform-positive sample simply because a subsequent sample taken at the same tap and/or nearby taps/service connections are total coliform-negative. However, EPA believes that if any repeat sample is total coliform-positive at the same tap as the original total coliform-positive sample, but all repeat samples at nearby service connections are total coliform-negative, this is a strong indication of a domestic or other non-distribution system plumbing problem. Therefore, in this case, the final rule allows the State to invalidate the original total coliform-positive sample. When the State determines that a coliform-positive result is a domestic or other non-distribution system plumbing problem rather than a distribution system problem, EPA recommends that the State instruct the system to inform all consumers at the affected location of the problem and to advise them to boil their drinking water until the problem is corrected.

This rule also provides the State discretion to invalidate a total coliform-positive sample when it determines that a total coliform-positive result is due to a circumstance or condition which does not reflect water quality in the distribution system. States should use their discretion to invalidate a sample on this basis sparingly. They should hesitate to assume that an error by the sample collector is responsible for a total coliform-positive sample, and thus invalidate the sample, since Pipes and Christian (1982) have shown that contamination by a sample collector is unlikely to be the cause of a total coliform-positive result, i.e., it is unlikely that a person who collects samples can unintentionally render a sample total coliform-positive. Whenever a State official invalidates a sample for this reason, the basis for this determination must be documented in writing, signed by the supervisor of the State official who makes this determination, and the documentation must be made available to EPA and the public. The written documentation must include the specific cause of the total coliform-positive sample, and what action the system has taken, or will take, to correct this problem. The State cannot invalidate a total coliform-positive sample under this provision unless all repeat samples are total coliform-negative. States cannot invalidate a total coliform-positive sample *solely* on the grounds that all repeat samples are total coliform-negative.

The final rule also allows the State to invalidate a total coliform-positive sample if the laboratory establishes that improper sample analysis caused the positive result.

The State may not invalidate a total coliform-positive sample for any other reason than those described above. A total coliform-positive sample invalidated for any of the above reasons does not count towards meeting the minimum monitoring requirements.

5. Monitoring Frequency

a. *Monitoring frequency for small community water systems and all non-community water systems*—(1) *General.* The November 3, 1987, notice proposed to require all public water systems serving 3,300 persons or fewer to collect and analyze a minimum of five total coliform samples/month. As explained in that notice, EPA's primary rationale for this higher level of monitoring, compared to the requirements of the

current total coliform rule, is based on the study which demonstrated that coliforms are distributed very unevenly in distribution systems (Pipes and Christian, 1982; Christian and Pipes, 1983). To reduce the economic burden of additional monitoring on small systems, while still assuring reasonable protection of public health, EPA proposed to allow certain systems to monitor less frequently than five samples/month, if the State, or an agent acceptable to the State, performed a periodic sanitary survey and the results of that survey were acceptable to the State.

EPA received numerous comments on this issue. The vast majority opposed the proposed monitoring frequency, primarily because they believed the requirement would be too expensive, too inconvenient, and/or unnecessary because their systems had never had a waterborne disease outbreak or any other contamination problem. The Agency continues to believe, however, given the scientific data, that the monitoring requirements of the interim regulations, alone, are not adequate to fully assess the microbiological quality of drinking water. In response to the extensive comments, therefore, EPA solicited comments in the May 6, 1988, notice on several additional options for ensuring adequate monitoring, without a large increase in costs.

In response to the public comments on the two notices, the Agency has decided, for small systems, to place less emphasis on collecting many routine samples every month when there is no apparent problem (based on the results of the sanitary survey, historical monitoring data, and other considerations) and greater emphasis on evaluating the severity and extent of any contamination problem when it does occur and the success of any corrective action (as indicated by coliform monitoring results). To this end, EPA has generally retained the monitoring frequency specified in the interim rule (40 CFR 141.21) for systems serving 4100 persons or fewer (see Table 1), except that increased monitoring is required, at least temporarily, when contamination is found. Thus, under the final rule, when contamination is found, i.e., there is a total coliform-positive sample in the community or non-community water system normally collecting fewer than five samples/month, that system must collect three or four repeat samples, depending on the system's size (see Section IV.C.5.c, below) and, if the original sample is not invalidated, at least five routine samples the next month the water system is in operation. If these repeat and additional routine samples are total coliform-negative, the system may revert to the regular frequency of less than five samples/month. (The State, or an agent of the State, may perform an on-site evaluation in lieu of the system taking five routine samples the next month, as explained in greater detail below.) By retaining the current monitoring frequency for small systems, and requiring additional samples only when a system detects contamination, systems and States can concentrate their limited resources on identifying and correcting problems, rather than simply requiring that many more samples are collected across the board.

An integral part of this approach is the periodic sanitary survey requirement. The Agency believes that a system collecting fewer than five samples/month does not have an adequate grasp on the quality of its drinking water unless this limited sampling is supplemented by a periodic sanitary survey, and the results are reviewed by the State. These sanitary surveys, along with additional information such as the system's history of coliform monitoring results, should provide the State with sufficient information to judge whether a system is adequately constructed and operated or has a potential contamination problem. For systems collecting fewer than five samples/month, the total coliform samples will serve as a periodic check of the findings of the most recent sanitary survey. States would be expected to increase the monitoring frequency and/or require various preventive measures for a particular system if coliforms are detected or if the most recent sanitary survey reveals deficiencies. EPA believes this approach will minimize the financial burden to small systems which do not have an apparent contamination problem, while safeguarding public health, by ensuring these systems are subject to periodic sanitary surveys and increasing the monitoring requirements for systems with demonstrated problems.

Regarding the appropriate timing for collecting water samples, in the November 3, 1987, notice, EPA proposed to require systems to collect water samples at regular time intervals throughout the month, except that systems which used ground water exclusively and which served 3,300 persons or fewer could collect up to five samples from different parts of the distribution system on a single day. Very few commenters addressed this issue. EPA has decided to promulgate this provision as proposed for the reasons given in the November 3 notice, except that, to be consistent with the population categories used in this final rule, the rule provides that systems using ground water and serving 4,900 persons or fewer may collect all required samples from different parts of the distribution system on a single day.

(2) *Non-community water systems.* The interim regulations at § 141.21(c) provide the State discretion to allow a non-community public water system to monitor less than quarterly, based on the results of a sanitary survey. The final rule retains this provision only for non-community water systems which use ground water and which serve 1,000 persons or fewer. The Agency, believes, however, that all systems must perform at least some monitoring to insure the continuing validity of the most recent sanitary survey results and the actual absence of coliforms. Thus, the final rule requires non-community systems using ground water and serving 1,000 persons or fewer to collect at least one total coliform sample per year. The Agency believes this requirement is reasonable, and represents the bare minimum that is adequate for protection of public health. EPA also believes that this provision will not impose a financial burden on non-community systems or on States which collect and analyze samples for non-community systems. For States already requiring at least quarterly monitoring for such systems, the Agency encourages them to continue this policy. Some States, however, have not required their non-community systems to monitor at all under the interim regulations, while others require monitoring less frequently than annually, and thus will probably need some lead time to develop resources to implement the new provision requiring, at a minimum, annual monitoring. For this reason EPA is phasing in the new monitoring frequency requirements. A non-community water system using ground water (which is not under the direct influence of surface water) and serving 1,000 persons or fewer must begin monitoring no later than five years from June 29, 1989, and at least annually thereafter. The Agency believes this phase-in period is ample for States and systems to implement this requirement.

EPA believes these small groundwater systems, which tend to have good quality source water and be simpler in configuration, are less likely to develop contamination problems. EPA is not allowing surface water systems to monitor only annually, however, because surface water often varies in quality and is much more likely to contain coliforms; thus reduced

monitoring is unwarranted. Accordingly, non-community water systems using surface water must monitor at the same frequency as a like-sized community water system, i.e., at the frequency specified in Table 1. For the same reason, non-community water systems using ground water under the direct influence of surface water must also monitor at the same frequency as a like-sized community water system. The final rule allows such a groundwater system six months after the State determines that the system is under the direct influence of surface water to begin monitoring at this frequency.

EPA is also requiring non-community systems using ground water serving more than 1,000 persons during any months to monitor at the same frequency as a like-sized community public water system since a greater number of people are at risk if there is contamination of the system, and since these systems are likely to be larger and more complex, resembling community water systems in size and configuration. Under this rule, however, the State may reduce the monitoring frequency, as appropriate, for such a system for any month the system serves 1,000 persons or fewer.

TABLE 4.—MONITORING FREQUENCY FOR NON-COMMUNITY WATER SYSTEMS [1]

Water source	Population served	Minimum monitoring frequency	Effective date of requirement
Surface	any	Same as CWS [2]	Beginning December 31, 1990.
Ground	1>1,000	Same as CWS [2 3]	Beginning December 31, 1990.
Ground	>1,000	State discretion	December 31, 1990 until June 29, 1994.
Ground	>1,000	State discretion [4]	After June 29, 1994.
Ground water under direct influence of surface water.	Any	Same as CWS [2]	Within one year of State of State classification.

[1] Includes both transient and non-transient non-community water systems.
[2] System must monitor at same frequency as a like-sized community water system.
[3] State may reduce the monitoring frequency for any month the system serves 1,000 persons or fewer.
[4] State may not permit a system to monitor less than once per year.

b. *Monitoring frequency for large community water systems.* The November 3, 1987, notice proposed to retain the current monitoring frequency for systems which serve greater than 3,300 persons, except that EPA proposed to reduce the number of population size categories for communities above 10,000 from 84 to 43 to simplify and streamline the monitoring frequency requirements.

As a consequence of consolidation, some systems would have been required to take a few more samples than they are currently taking. Although there were very few public comments on this issue, a few commenters stated that there was no need for these additional samples. EPA agrees. Therefore, in the final rule, EPA has modified the categories so no system is required to increase its routine sampling frequency above that in the interim coliform rule. With this modification, shown in Table 1, the monitoring scheme in this rule is even simpler; the total number of population categories has been reduced from 84 to 34.

c. *Repeat samples/additional routine samples.* The November 3, 1987, notice proposed that public water systems collect five repeat samples for each total coliform-positive routine or repeat sample if the positive routine or repeat sample did not contain fecal coliforms. The May 6, 1988, notice described several alternatives to the requirement for five repeat samples, including four repeat samples, two repeat samples, and four repeat samples for systems collecting fewer than five samples/month and two repeat samples for systems collecting at least five samples/month.

EPA received many comments on the required number of repeat samples. Most commenters who addressed this issue opposed the requirement for five repeat samples because of the cost or because they thought that five repeat samples were simply unnecessary. Many of these commenters thought that two repeat samples, as specified in the current rule, are adequate.

As stated in the November 3, 1987, proposal, given the non-uniform distribution of total coliforms in the distribution system, EPA does not believe that two repeat samples are sufficient to assess the extent or degree of contamination. Furthermore, as described above, the fact that a total coliform-positive sample is followed by two negative samples at the same or nearby sampling point does not necessarily mean there is no contamination in the system and, thus, that the original positive sample is invalid. Yet, EPA also recognizes that five repeat samples for systems collecting more than five samples/month probably is unnecessary, given that such systems are likely to detect and confirm the presence of any contamination in the course of the more frequent routine monitoring required by the rule. For this reason, EPA has decided to require these larger systems to collect only three repeat samples, one at the same tap as the original coliform-positive sample, one at a tap within five service connections upstream, and one at a tap within five service connections downstream of the original sampling site. EPA believes that, for these systems, these extra samples, in conjunction with routine monitoring, will allow the system and the State to determine the source and extent of any contamination.

In addition, EPA has decided to require systems collecting two, three, or four routine samples/month to collect three repeat samples, and systems collecting one sample/month or fewer to collect four repeat samples, for a total of five or more samples, whenever a total coliform-positive sample is found. Also, as indicated previously, whenever a total coliform-positive sample is detected and the State does not invalidate it, any system collecting fewer than five routine samples/month ("small system") must collect at least five routine samples the next month it serves water to the public, even if the MCL is not violated. To meet this requirement, a small system may count any routine sample it normally collects the next month it serves water to the public toward this set of five routine samples, i.e., if a small system normally collects one sample/month, it need only collect four additional routine samples the next month it serves water to the public; if a system normally collects five or more samples/month, it need not collect any additional samples the next month it serves water to the public. Under these requirements, a small system with a total coliform-positive sample will have the results from at least five samples during the month

when the total coliform-positive sample was detected, and five more the next month is serves water to the public, for a total of ten samples over the two-month period. This repeat sample requirement should not be a burden to most systems, since repeat samples count toward the monthly monitoring requirement. (Routine samples differ from repeat samples in that systems may collect routine samples at any tap in the distribution system, consistent with the sampling siting plan, while repeat samples must be collected at specific locations.)

The primary reason for requiring a contaminated small system to collect at least ten samples during a two-month period is based on the statistical analysis described in the November 3, 1987, notice which indicates that, for example, if 60 or more samples are collected and 95 percent or more are total coliform-negative, there is a 95 percent confidence that the fraction of water with coliforms present is less than 10 percent. By collecting at least five samples (routine plus repeat samples) during the month when a total coliform-positive sample is found, and five additional routine samples the next month the system serves water to the public, these small systems will more quickly collect an increasingly valid number of samples upon which to assess both the effectiveness of any corrective action taken and the current microbiological quality of its water, even in the absence of a recent sanitary survey. The Agency believes this would also provide the system a larger, and thus more valid, data set than most systems would have taken under the proposed requirement (which would have required five samples/month but allowed reductions based on sanitary survey results). EPA concludes that it is important to temporarily require increased monitoring for small systems where the water quality is suspect (especially since sanitary surveys will be performed only every five years or less), and that these requirements are consistent with comments suggesting that increased monitoring is not necessary in systems that are not experiencing problems.

In addition, these provisions have many of the same benefits of the proposed long-term MCL. EPA is concerned that, in small systems, intermittent contamination could go undetected if a system monitors infrequently, and regularly has one total coliform-positive sample, since this would not result in an MCL violation. However, a contaminated small system which collects a set of repeat samples during the same month it finds a total coliform-positive sample and at least five routine samples the next month it serves water to the public has a higher probability of detecting more than one total coliform-positive sample during a month, and thus incurring an MCL violation. As a result, this monitoring scheme is more likely to result in the discovery and correction of intermittent contamination problems.

The final rule allows the State to waive the requirement for a small system to collect five routine samples the next month it serves water to the public if the State, or an agent approved by the State, performs a site visit before the end of the month during which the system would otherwise be required to collect the five routine samples. The site visit need not be a complete or formal sanitary survey; the purpose is to investigate first-hand the reason for the total coliform-positive result, and decide whether any additional monitoring and corrective action is needed. The State cannot approve an employee of the system to perform this site visit, even if the employee is an agent approved by the State to perform sanitary surveys.

The rule also allows the State to waive the requirement that a small system take five routine samples the next month it serves water to the public after it has a total coliform-positive sample if the State has determined why the sample was total coliform-positive, and establishes that the system has corrected the problem or will correct the problem before the end of the next month the system serves water to the public. In this case, the State must document this decision to waive the monitoring requirement in writing. This document must be signed by the supervisor of the State official who recommends such a decision, and made available to EPA and the public. The written documentation must state the specific cause of the total coliform-positive sample, and what action the system has taken or will take to correct this problem before the end of the next month the system serves water to the public. The State cannot waive the requirement for a small system to collect five routine samples the next month after it has a total coliform-positive sample solely on the grounds that all repeat samples were total coliform-negative. In addition, the State cannot waive the requirement for a system to collect repeat samples the same month the system has a total coliform-positive sample.

For systems collecting fewer than five routine samples/month, if the State decides to waive the requirement for that system to collect five routine samples the next month the system serves water to the public under the provision described in the previous paragraph, the system must still collect at least one routine sample before the end of the next month the system serves water to the public if the system collected the required set of repeat samples before the problem was corrected. This routine sample, which counts in determining compliance with the MCL, will assist the system in determining whether the corrective action has been successful. If such a system collects the required repeat samples after correcting the problem, and all repeat samples are total coliform-negative, then the system need not collect a routine sample the next month it serves water to the public. In this case, EPA believes the repeat sample results are sufficient to indicate the success of any corrective action. If any repeat sample is total coliform-positive, the system is out of compliance with the MCL for total coliforms.

Table 2 summarizes the follow-up (both repeat and routine) sampling requirements for a system which detects total coliforms in a sample.

The November 3, 1987, notice proposed that data from all routine samples and repeat samples be included in the calculations to determine MCL compliance. A number of commenters approved this approach, but the majority opposed it. Reasons given for opposing this approach included the following: (1) Repeat samples should not be used to determine compliance, but only to confirm the results of an original coliform-positive sample; (2) the use of results from repeat samples to determine compliance would reduce the level of monitoring in the rest of the system, since all of the samples collected at or near the problem tap would fulfill (or nearly fulfill) the monthly monitoring requirements; and (3) contamination in a single location of the distribution system might result in an MCL violation if one or more repeat samples were total coliform-positive, even though there might not be a system-wide problem.

EPA believes the first comment is invalid because, as described above and in the November 3, 1987, notice, total coliforms are not distributed uniformly in the distribution system, and thus, repeat samples cannot be used to confirm a total coliform-positive routine sample. As for the other two reasons, EPA believes it makes sense to focus sampling at or near the site of the original total coliform-positive sample, given the documented non-uniform

distribution of coliforms, and to consider all samples that are not invalidated in determining whether a system is in compliance with the MCL. Hence, for the reasons discussed above and in the November 3, 1987, notice, the Agency has incorporated the proposed method for calculating compliance, i.e., inclusion of all samples, into the final rule. For the purposes of calculating compliance, a system must count all repeat sample results in the same month as the routine total coliform-positive sample which prompted those repeat samples. States have the authority to increase the number of required samples if they determine that it is necessary to assure that the water is safe.

The November 3, 1987, notice also proposed that systems collect repeat samples from the same sampling point as the original sample, except that some could be collected at the next service connection above and/or below the original sampling point. The intent was to allow systems to determine the source and extent of contamination, i.e., whether the contamination was a distribution system problem or not. A few commenters suggested that systems be allowed to collect repeat samples at any nearby site rather than just the adjacent sites; they were concerned that sampling adjacent sites only might be difficult (e.g., if residents are not home or they refuse entry). EPA recognizes that systems may sometimes have difficulty sampling at adjacent service connections. To account for this potential problem, the final rule allows systems to collect repeat samples up to five service connections away, in either direction, from the contaminated tap. EPA believes this broader repeat sampling range will still allow the system to determine the source and extent of contamination, while allowing it flexibilty to find sufficient sampling points. The final rule requires the system to collect at least one repeat sample from the same tap as the original total coliform-positive sample, at least one repeat sample upstream, *and* at least one repeat sample downstream. This provision will provide information to the system as to whether the contamination is a domestic or other non-distribution system plumbing problem.

Some commenters opposed the proposed requirement that systems collect all repeat samples within 24 hours of being notified of a coliform-positive result. EPA continues to believe that the 24-hour limit for collecting repeat samples is necessary to protect public health. Repeat samples are necessary to determine the severity and extent of contamination. Because of the nature of the analytical methods for coliforms, the positive finding may not be recognized for up to 96 hours after the sample is taken. Thus, time already is lost, so rapid collection of repeat samples is essential. The Agency does recognize, however, that some systems may have certain logistical problems in obtaining repeat samples promptly that are outside their control, e.g., a laboratory may not be available every day to ship empty sample bottles or receive water samples. To provide some allowance for such situations, while still safeguarding public health, the final rule allows the State to waive the 24-hour limit on a case-by-case basis. The State must grant any such waiver before the 24-hour period has passed; it cannot excuse late sampling after the fact. In this case, the State must specify the time by which the system must collect these repeat samples. In such cases, the Agency encourages the State to require repeat sampling as soon as possible.

A State cannot invalidate a total coliform-positive sample on the basis of repeat sample results in systems consisting of a single service connection, since they cannot collect upstream and downstream samples and demonstrate the problem was not in the distribution system. Thus, the primary reason for requiring such a system to collect repeat samples is to determine the effectiveness of any corrective actions. Since a system with a single service connection cannot collect repeat samples at different locations as other systems can, the final rule allows the State to authorize such systems to collect the required set of repeat samples over four days, rather than within 24 hours, after being notified of a total coliform-positive result. The final rule also provides the State discretion to allow such systems to collect a larger volume repeat sample(s) (e.g., a single 400-ml repeat sample or two 200-ml repeat samples) in one or more sample containers of any size, as long as the total volume collected is at least 400 ml (300 ml for systems which collect more than one routine sample/month). In addition, under the final rule, if a total coliform-positive sample is at the end of the distribution system, or one away from the end of the distribution system, the State may waive the requirement to collect at least one repeat sample upstream or downstream of the original sampling site.

As noted above, the final rule requires systems with more than one service connection to collect the repeat samples within 24 hours of obtaining a total coliform-positive result from an original sample. EPA is not allowing such systems to collect repeat samples over a period of days as a routine matter because these systems usually serve more people than a system with one service connection, and thus more people would be at risk if contamination were to be present in the distribution system; these larger systems need to evaluate and eliminate any contamination quickly before it causes waterborne illness in a large population. For the same reason EPA encourages States to require larger and more complex systems with single service connections to sample quickly whenever they detect a total coliform-positive sample to ascertain the nature of a contamination problem and the effectiveness of any corrective action.

Some systems may collect one or more routine samples from within five adjacent service connections of a previously collected routine sample. If the previously collected routine sample(s) is later found to be total coliform-positive, then the system may count the subsequent routine sample as a repeat sample. (However, in such instances, a system may not count this sample(s) twice in compliance calculations, i.e., as both a routine sample and a repeat sample.) This provision will slightly reduce the cost burden to the system, since it can decrease the number of repeat samples a system needs to collect after it learns of a total coliform-positive result.

Some commenters opposed the proposal to require systems to collect and analyze another set of repeat samples if any repeat sample were total coliform-positive. The Agency, however, believes that, whenever a repeat sample is total coliform-positive, sampling should continue in order to clarify the extent of the contamination, and to assure that the problem is corrected; total coliform-positive repeat samples are of no less concern than total coliform-positive routine samples. Based on this conclusion, EPA has adopted the proposed provision in the final rule. Thus, whenever a system has one or more total coliform-positive repeat samples (and neither the original total coliform-positive sample nor the total coliform-positive repeat sample(s) is invalidated), the system must collect another set of repeat samples (either three or four, as specified in the rule). The system must collect this additional set of repeat samples within 24 hours of being notified of the total coliform-positive result(s), as before. This requirement should not be a burden to most systems, since repeat samples count toward the monthly monitoring requirement. Furthermore, smaller

systems are not required to collect any additional sets of repeat samples once they notify the State that they are in violation of the MCL for total coliforms. Thus, for a system which collects fewer than 40 samples/month, a total coliform-positive repeat sample (which is not invalidated) constitutes an MCL violation, so no additional repeat samples are required that month (unless the State requires otherwise), once the State is notified of the violation.

d. *Additional monitoring for unfiltered surface water systems.* The November 3, 1987, total coliform notice proposed to require each system using unfiltered surface water to collect one coliform sample near the first service connection within 24 hours after determining that its source water turbidity exceeds 1 NTU. Under the proposal, this coliform sample would count toward the total number required. EPA received very few comments on this issue. Thus, the Agency has incorporated this requirement into the final rule, for the reasons given in the November 3, 1987, notice. This requirement also applies to unfiltered groundwater systems under the direct influence of surface water. To improve clarity, EPA is specifying that systems collect this coliform sample within 24 hours of the first time during a day that the turbidity exceeds 1 NTU. Systems need only collect a single coliform sample near the first service connection once/day, even if the turbidity exceeds 1 NTU more than once/day.

The Agency recognizes that some systems which collect a sample within 24 hours after exceeding a turbidity level of 1 NTU may not be able to have the samples analyzed within 30 hours of collection for logistical reasons outside their control (e.g., the laboratory is closed during a weekend). To accommodate such situations, the State may waive the requirement, on a case-by-case basis, for a system to collect the coliform sample when the turbidity exceeds 1 NTU. The rationale for allowing States to provide this waiver is that high turbidity events are often short-lived; if the system were to collect the coliform sample more than 24 hours after such an event in order to ensure analysis within 30 hours of collection, it is unlikely that the sample would provide useful information about the disinfection conditions during that event. Thus, EPA believes it more appropriate to allow the State to waive the requirement on a case-by-case basis, rather than to extend the 24-hour limit.

EPA also has defined the term "near the first service connection" to mean one of the 20 percent of all service connections in the entire system that are nearest the water supply treatment facility, as measured by the water transport time within the distribution system. This requirement is discussed more fully in the final rule promulgating the surface water treatment requirements, published elsewhere in today's **Federal Register.**

e. *Chlorine substitution policy.* The interim coliform rule (40 CFR 141.21(h)) allows systems to substitute the use of chlorine residual monitoring results for up to 75 percent of the coliform samples required to be taken. In the November 3, 1987, notice, EPA did not propose to include this "chlorine substitution policy" in the revised coliform regulations for the reasons given in that notice. For the same reasons, this final rule does not include a chlorine substitution policy. However, as noted in the proposal, EPA will consider incorporating this concept in the upcoming groundwater disinfection rule which EPA must promulgate under section 1412(b)(8) of SDWA.

6. Fecal Coliform and E. coli Requirements

As explained in the November 3, 1987, notice, the presence of fecal coliforms in drinking water is strong evidence of recent sewage contamination. The presence of fecal coliforms indicates that an urgent public health problem probably exists, since human pathogens often co-exist with fecal coliforms. Therefore, EPA proposed to require that public water systems analyze each total coliform-positive sample (whether an original or repeat sample) to determine if it contains fecal coliforms. Under the proposal, if fecal coliforms were detected, the system would be in violation of the monthly MCL for total coliforms and would be required to notify the State within 48 hours of the violation. The violation would be considered "acute," requiring immediate public notification (i.e., within 72 hours) via electronic media, as well as written follow-up notification, in the case of a community water system (a non-community water system may choose an alternative method of immediate notification).

In the May 6, 1988, notice, EPA presented an alternative option which would require the system to report a fecal coliform-positive result to the State immediately instead of within 48 hours, and collect repeat samples. Then, if the system detected fecal coliforms in any repeat sample taken at the same location or an immediately adjacent service connection, the system would be in violation of the monthly MCL for total coliforms.

Many commenters opposed the classification of a single fecal coliform-positive sample as an acute violation, thus requiring immediate public notification. They stated that some fecal coliform-positive samples are due to "false-positives" (i.e., bacteria other than *E. coli*) and that some fecal coliform-positive samples might reflect a domestic or other non-distribution system plumbing problem, rather than a problem in the distribution system. Commenters also stated that it is common for systems which collect many samples to detect a fecal coliform-positive sample occasionally without any known adverse health effect, and that notifying the public in every such case might eventually cause indifference to public notices. In fact, several large, well-operated community water supplies have submitted data to EPA showing that they occasionally detect a fecal coliform-positive sample in the distribution system, among the hundreds or thousands of samples collected annually.

Under these circumstances, EPA agrees that it would be unnecessarily burdensome to require systems to provide immediate public notification each time a fecal coliform-positive result occurs, especially since EPA is also requiring systems to notify the State of any fecal coliform-positive result, so the State can require any measures necessary in appropriate circumstances. Nevertheless, the Agency still believes that any total coliform-positive sample which is not invalidated and which contains fecal coliforms very likely represents a serious health risk to the community. Therefore, under the final rule, a system must analyze each total coliform-positive sample to determine if it contains fecal coliforms. A system is in violation of the MCL for total coliforms whenever (1) any repeat sample is fecal coliform-positive, or (2) a fecal coliform-positive original sample is followed by a total coliform-positive repeat sample. This violation is "acute," as defined in 40 CFR 141.32(a)(1)(iii) (the public notification requirements) and as such, requires public notification by electronic media within 72 hours and subsequent written notification in the case of a community water system, as specified in 40 CFR 141.32 (a non-community system may choose an alternative method of immediate notification but the time limit is still 72 hours). EPA believes that this approach strikes a balance among the desirability of confirming analyses before acting on the results, the serious nature of fecal coliform-positive contamination, and the decreasing effectiveness of frequent,

urgent notifications of occasional localized distribution system problems.

The final rule provides the State with discretion to allow a public water system, on a case-by-case basis, to assume that a total coliform-positive sample is fecal coliform-positive without requiring it to be actually tested for fecal coliforms. This provision might reduce the cost of analysis. The Agency, however, does not believe that States should implement this waiver provision broadly, since States that did so would be unable to distinguish, and thus focus their limited resources on, systems which pose a major acute risk to the public. A State should limit implementation of this provision to special circumstances, e.g., to water systems which are known to be vulnerable to fecal contamination. If a system assumes that a total coliform-positive sample is also fecal coliform-positive, the system must comply with all requirements in the rule concerning fecal coliforms. If any repeat sample is total coliform-positive, then the system is in violation of the MCL for total coliforms and must notify the public of an acute risk to health.

On a related issue, in the November 3, 1987, and May 6, 1988, notices, EPA requested public comment on whether it would be appropriate to allow an analysis for the presence of *E. coli* in lieu of fecal coliforms whenever the system has a total coliform-positive sample. The vast majority of commenters who addressed this issue favored *E. coli* testing as an alternative to fecal coliform testing.

One reason commenters support *E. coli* testing in lieu of fecal coliform testing is that the fecal coliform test may produce a fecal coliform-positive result for *E. coli*, some thermotolerant strains of *Klebsiella*, and several thermotolerant strains in other genera. Many commenters pointed out that only *E. coli* is a contaminant of concern, not the other thermotolerant strains. In addition, as explained in the November 3, 1987, notice, several bathing beach studies have found that densities of *E. coli* were more closely related to gastroenteritis than were densities of fecal coliforms. Yet fecal coliform testing is very simple and inexpensive, and systems and laboratories are familiar with this test and thus may prefer to use it. In addition, any false-positive error is on the side of safety. For these reasons, the final rule allows the system to test for either *E. coli* or fecal coliforms whenever the system finds a total coliform-positive sample.

In the November 3, 1988, notice, EPA proposed to require a system to notify the State of a fecal coliform-positive sample within 48 hours. Some commenters indicated that this might be difficult to do on weekends, when State offices are closed. The Agency agrees. Therefore, under the final rule, systems must notify the State of a fecal coliform- or *E. coli*-positive sample by the end of the same business day that the system learns of it, or no later than the end of the next business day if the coliform-positive result becomes known after the close of State business for the day. However, EPA strongly encourages States to establish (or use existing) round-the-clock emergency response programs to obtain immediate reports of, and respond to, fecal coliform- and *E. coli*-positive results.

7. Heterotrophic Bacteria Interference

In the November 3, 1987, notice, EPA proposed that if a laboratory observed evidence of interference with the total coliform analysis caused by high levels of heterotrophic bacteria, as defined in that notice, the public water system would be required to: (1) Declare the sample total coliform-positive and collect the required number of repeat samples, or (2) invalidate the sample, collect another sample from the same location, and have the sample analyzed within eight hours (or 30 hours, if the sample was refrigerated) for both the presence or absence of total coliforms and the density of heterotrophic bacteria. Under the second option, if the sample contained greater than 500 colonies/ml, as measured by the heterotrophic plate count analytical method, then the sample would be counted as a total coliform-positive sample, even if total coliforms were not detected.

EPA received numerous comments on this proposed requirement. A number of commenters indicated that many systems would have difficulty meeting the eight-hour limit between sample collection and analysis. Several suggested that EPA should simply require a system to collect another coliform sample when the laboratory indicates there may have been interference with the first coliform analysis, and not require the system to enumerate heterotrophic bacteria, nor count a high level of heterotrophic bacteria as a total coliform-positive sample.

Based on the public comments, EPA has concluded that a sizable number of small systems would find it very difficult to meet the eight-hour limit between sample collection and analysis, and that refrigeration of these samples would be very costly and impractical for these systems. The Agency believes that, as a result, a large number of systems would end up declaring the sample as total coliform-positive when there was not necessarily a heterotrophic bacteria problem or total coliforms in the sample. This was not EPA's intent. The Agency's primary intent was to prevent a system from using total coliform-negative results in compliance calculations when those results were derived from a culture showing evidence of interference from high levels of heterotrophic bacteria, and thus were potentially unreliable. In response, the final rule does not require that public water systems test for levels of heterotrophic bacteria when there are indications of interference with total coliform measurements, nor do samples with high levels of heterotrophic bacteria count as total coliform-positive samples.

Instead, under the final rule, the system must invalidate any sample which has visual evidence of interference (*unless* total coliforms are detected), collect another sample from the same location as the original sample within 24 hours of being notified of the interference problem, and have it analyzed for total coliforms. In testing these replacement samples, the system should minimize sample transit time and transit temperature, and the laboratory should consider using an analytical method which is less vulnerable to interference by high levels of heterotrophic bacteria (e.g., the Minimal Medium ONPG-MUG test, described below). The results of the second sample must be included in compliance calculations, unless the laboratory reports that interference has again occurred, in which case the sample is invalid. The system must continue to re-sample within 24 hours and have the samples re-analyzed, as described above, until it obtains a valid result.

EPA believes that this requirement will help ensure that coliforms in a contaminated system will eventually be detected, and thereby protect the population served, without imposing a severe burden on small systems.

D. Analytical Methodology

1. Analytical Methods for Total Coliforms

In the November 3, 1987, notice, EPA proposed that analysis for total coliforms be conducted using either the Membrane Filter (MF) Technique, the 10-tube Multiple Tube Fermentation (MTF) Technique, or the Presence-Absence (P–A) Coliform Test. EPA also proposed that a standard volume of 100 ml be analyzed, regardless of the methodology employed. Only the

presence or absence of coliforms in a sample would be reported. In the May 6, 1988 notice, EPA also proposed a fourth analytical method for monitoring the presence or absence of total coliforms, the Colilert System, referred to in this rule by the more generic name, the Minimal Medium ONPG–MUG or MMO–MUG, test.

EPA received a number of comments on the proposed analytical methodologies. Most commenters supported the proposed methodologies and agreed that the use of a standard volume was appropriate. Some commenters, however, were opposed to the elimination of the 5-tube MTF Technique, using a sample 50 ml (a currently EPA-approved method). For the reasons stated in the November 3, 1987, notice, EPA is promulgating the 10-tube test, rather than the 5-tube test. However, under this final rule, it is permissible to run the 10-tube MTF Technique using only five tubes if the laboratory uses larger tubes which collectively analyze a 100-ml water sample. Likewise, the laboratory may use a single bottle containing the MTF medium if it is of sufficient volume to determine the presence or absence of coliforms in a 100-ml water sample.

If a system with a single service connection provides a laboratory with a large volume repeat sample(s), i.e., 200 ml or greater, the laboratory must analyze separate 100-ml portions, as required by the analytical methods. EPA is not allowing analysis of larger sample volumes because of the likelihood of interference with the analytical methodology by high densities of heterotrophic bacteria and turbidity.

Based on ample validity data, described in the record for this rule, which support the use of the proposed methodologies, EPA is promulgating all four of the proposed methods for use in monitoring the presence or absence of coliforms in a 100-ml sample of water.

2. Analytical Methods for Fecal Coliforms and E. coli

In the November 3, 1987, notice, EPA proposed to require the use of EC medium for determining the presence of fecal coliforms in a total coliform-positive culture. The ingredients and preparation of this medium are described in Standard Methods (APHA, 1985). The Agency also proposed a procedure for transferring growth from a total coliform-positive culture to EC medium. There were no significant public comments on this issue; EPA has decided to promulgate these provisions as proposed.

As explained above, EPA has decided to allow systems to test for *E. coli* in lieu of fecal coliforms. The Agency will propose analytical methods for *E. coli* in a subsequent **Federal Register** notice, and promulgate those methods before the effective date of this rule.

E. Laboratory Certification

Currently, analysis of drinking water samples to determine compliance with the MCLs for coliforms must be analyzed by a laboratory approved by the EPA or a State, as specified by 40 CFR 142.10(b)(4) and 141.28. In the November 3, 1987, notice, EPA solicited comment on, but did not propose, field inoculation and analysis as an alternate approach to requiring the use of certified laboratories for total coliform analysis. Under this approach, a system operator could either send the water sample to a certified laboratory or conduct the analysis on-site by adding a 100-ml water sample to a bottle containing commercially pre-sterilized medium, incubating the sample, and analyzing and recording the results.

Almost all commenters who addressed this issue opposed the field inoculation and analysis option for sample analysis. Commenters were concerned about the significantly greater potential for unreliable results and abuse compared to analysis performed in a certified laboratory, and lack of operator training in analytical methodology. EPA shares these concerns. For this reason, this final rule requires that systems use laboratories which are certified by EPA or a State to analyze compliance samples for total coliforms, fecal coliforms, and *E. coli*. This requirement, however, does not preclude systems from inoculating samples in the field and submitting these inoculated samples to a certified laboratory for incubation and analysis, whenever the analytical methods approved by EPA is 40 CFR 141.21a(f)(2) of the rule permit it.

The Agency is in the process of developing regulations under 40 CFR Parts 141 and 142 to improve State laboratory certification programs and prescribe other quality assurance measures for compliance samples and data management; the issue of self-analysis of compliance samples for total coliforms and other microbial and chemical contaminants will be evaluated as part of this process.

This rule has no specific laboratory certification criteria. EPA will allow any laboratory already certified by the Agency to perform total coliform analysis under the current rule to perform analysis for total coliforms, fecal coliforms, and *E. coli* under this rule until the Agency has established laboratory certification criteria for use with this rule, and has certified it to analyze for total coliforms and fecal coliforms and/or *E. coli* under those criteria. The Agency recommends that States use the same approach for State-certified laboratories. EPA believes this approach is reasonable, since the analytical methods being promulgated for the detection of total coliforms and fecal coliforms are similar to current methods. Furthermore, EPA expects that methods which will be promulgated for *E. coli* will be similar to current methods. Consequently, laboratories currently certified for the enumeration of total coliforms should be capable of making all analytical measurements required in this rule.

V. Variances and Exemptions

In the November 3, 1988, notice, EPA proposed that neither variances nor exemptions to the coliform rule be permitted.

Few commenters addressed this issue. Some agreed that variances and exemptions should not be allowed. Others stated that States should be allowed to issue variances or exemptions to small systems when: (1) The system has had a long record of compliance before development of the problem; (2) the system is in a sparsely populated area; and (3) the system is in an area where the geological formation is known to produce safe water.

As EPA explained in the November 3, 1978, notice, coliforms are the primary indicator of the microbiological quality of water. To the extent a variance or exemption would permit the continued presence of coliforms, the potential for pathogens to be present also would remain. EPA believes that water which exceeds the MCL for total coliforms generally poses an unreasonable risk to health. Therefore, EPA believes States would be unable to make the required determination that no unreasonable risk to health (URTH) would result from a variance or exemption, since a variance or exemption would permit the continued presence of total coliforms in drinking water above the MCL. In addition, in judging whether variances or exemptions are appropriate, it is important to recognize that the final coliform rule already provides some latitude by allowing coliforms to be present in a few, i.e., five percent, of the samples taken for larger systems and one sample per month for systems collecting fewer than 40 samples per month. Accordingly, EPA has concluded that variances and exemptions should not be allowed. However, the Agency is aware of systems where persistent coliforms are present due to distribution

system problems, but apparently are not associated with fecal or pathogenic contamination or with waterborne disease. EPA intends to study these cases to determine whether generic URTH criteria can be developed that could be used as the basis for permitting variances and exemptions under limited circumstances in the future.

Section 141.4 is being revised to reflect the Agency's conclusion that no variances or exemptions to the MCL for total coliforms are allowed. This revision to § 141.4 also prohibits variances from the treatment technique requirements of the surface water treatment requirements in Part 141, Subpart H, promulgated elsewhere in today's Federal Register. The rationale for not allowing variances from the treatment technique requirements is set out in that notice.

VI. Best Available Technologies (BATs) for Total Coliforms

In the November 3, 1987, notice EPA proposed the following BATs for total coliforms: protection of wells from contamination by coliforms by appropriate placement and construction; maintenance of a disinfectant residual of at least 0.2 mg/l throughout the distribution system; proper maintenance of the distribution system including appropriate pipe replacement and repair procedures, main flushing programs, proper operation andmaintenance of storage tanks and reservoirs, and continual maintenance of positive water pressure in all parts of the distribution system; and filtration and/or disinfection of surface water, as defined in 40 CFR Part 141, Subpart H (promulgated elsewhere in today's Federal Register), or disinfection of ground water using strong oxidants such as chlorine, chlorine dioxide, or ozone.

Since there is a very long history of success of these methods for significantly reducing coliform levels (especially when used together, where appropriate), no more effective technologies were identified by commenters, and they are "available" (taking cost into consideration). EPA is promulgating the proposed BATs in the final coliform rule, without changes. However, the Agency, while continuing to recommend that systems maintain a disinfectant residual, is not specifying a particular concentration value for that residual, since optimum values vary according to the disinfectant used, as well as other factors. Appropriate disinfectant residual concentrations for surface water systems are described in the surface water treatment requirements (published elsewhere in today's Federal Register) and also will be examined in the development of the forthcoming groundwater disinfection rule.

An additional means for achieving compliance with the MCL for total coliforms includes the development and implementation of an EPA-approved State Wellhead Protection Program under section 1428 of the Act. This program, which has been included as BAT in the final rule, is described in section IX below.

The technologies listed above for removal of microbial contamination are discussed extensively in *Technologies and Costs for the Treatment of Microbial Contaminants in Potable Water Supplies* (USEPA, 1988). Filtration, disinfection, and maintenance of the distribution system also will be discussed in EPA's forthcoming *Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources*. The methods listed above represent the technology, treatment technique, and other means which EPA finds to be feasible for purposes of meeting the MCL for total coliforms, in accordance with section 1412(b)(6) of SDWA, but this regulation does not require the use of the above methods; if treatment is necessary, systems are free to meet the requirements of this regulation using the methods of their choice (provided they are acceptable to the State.)

VII. Reporting, Recordkeeping, and Public Notification

A. Reporting and Recordkeeping

In the November 3, 1987, notice, EPA proposed to require that a public water system report a violation of the total coliform MCL or coliform monitoring requirement (e.g., a failure to monitor) to the State within 48 hours. EPA also proposed to require a system that detected fecal coliforms in any sample (which was considered an MCL violation under the proposal) to report this violation to the State within 48 hours of its discovery. The Agency also proposed that systems report violations of the long-term coliform MCL to the State.

EPA received very few comments on this proposed reporting requirement. Some commenters indicated that the 48-hour time limit would sometimes be difficult to meet on weekends, when State employees are not at work. EPA agrees, and instead is requiring that systems notify the State of any MCL violation not later than the end of the next business day after the system has been notified of the analytical result which results in the violation. EPA is also requiring that a system notify the State of any monitoring violation, including a failure to complete a sanitary survey within the specified time frame, within ten days after the system learns of the violation. To implement this reporting requirement, EPA is revising § 141.31(b), which currently requires systems to report a violation of a national primary drinking water regulation to the State within 48 hours.

The Agency is not promulgating the proposed reporting requirements for a violation of the long-term MCL, since the proposed long-term MCL is not included in this final rule.

Systems must continue to comply with 40 CFR 141.33, which specifies recordkeeping requirements.

B. Public Notification Language: Total Coliforms

The revised public notification regulations at 40 CFR 141.32 require that notices of an MCL violation describe any adverse health effects. The description must include, at a minimum, language specified by EPA for that contaminant. In the November 3, 1987, notice, EPA proposed language for public notices for a violation of either the monthly or long-term MCL for total coliforms.

Several commenters opposed the proposed language. Some stated that it is too extreme and could cause undue alarm and undermine customer confidence in the water supply. Others claimed that the proposed wording implies that the presence of any total coliforms found in the drinking water will automatically produce disease, and were concerned that all diarrhea, nausea, headaches, etc. will be attributed to drinking water. Some commenters suggested specific changes in the wording of the public notice (primarily the deletion of references to specific diseases and disease symptoms).

EPA appreciates the concern that many individuals might blame the water system whenever they experience the disease symptoms listed in the public notice. Nevertheless, the Act requires public notices to identify what adverse health effects may result when a system exceeds the MCL, and EPA believes customers should be fully informed of possible consequences of a violation. Thus, the mandatory language promulgated today retains the list of potential symptoms. To address the concerns expressed by commenters, however, the Agency has added a statement in the public notice language that notes that factors other than drinking water may also cause the

symptoms noted. The Agency believes such a statement is warranted in the public notice for total coliforms even though it was not included in the public notice language promulgated for volatile organic chemicals and fluoride. The difference is that the chronic effects these other contaminants can cause, such as cancer, occur much less frequently than the acute effects associated with coliform contamination such as headaches and diarrhea; most people experience these symptoms at least several times per year. Thus, a public notice for total coliforms without the qualifying language may lead many individuals to blame the water system as the cause of their illness when this may not be appropriate. With the addition of this explanation, EPA does not believe that the mandatory language is too extreme.

In response to the public comments, EPA has revised the public notice to read as follows:

The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that the presence of total coliforms is a possible health concern. Total coliforms are common in the environment and are generally not harmful themselves. The presence of these bacteria in drinking water, however, generally is a result of a problem with water treatment or the pipes which distribute the water, and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These sysptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. EPA has set an enforceable drinking water standard for total coliforms to reduce the risk of these adverse health effects. Under this standard, no more than 5.0 percent of the samples collected during a month can contain these bacteria, except that systems collecting fewer than 40 samples/month that have one total coliform-positive sample per month are not violating the standard. Drinking water which meets this standard is usually not associated with a health risk from disease-causing bacteria and should be considered safe.

C. Public Notification Language: Fecal Coliforms/E. coli

In the November 3, 1987, and May 6, 1988, notices, EPA explained that it believes that the presence of fecal coliforms or *E. coli* in treated water is cause for grave concern and probably poses an acute risk to human health because when fecal coliforms or *E. coli* are detected, if is likely that human pathogens are present. For this reason, EPA believes that more urgent public notice language is needed when fecal coliforms or *E. coli* are detected, compared to when total coliforms are detected. Thus, in the November 3, 1987, notice, EPA proposed separate mandatory health effects language for public notices when fecal coliforms are detected.

The majority of individuals who commented on the proposed language for the two public notices did not distinguish between them. In these cases, EPA assumed that the commenters were referring to both notices. Regarding the comments expressing concern that all diarrhea, nausea, headaches, etc., will be attributed to drinking water, the Agency's position for the fecal coiform/*E. coli* notice is the same as for the total coliform notice, for the same reasons described above. In addition, some commenters thought erroneously that EPA had proposed to require systems to issue a boil water notice as part of the public notice whenever they were notified that a sample contained fecal coliforms; the Agency has clarified this point of confusion by omitting any reference to boiling the water in the mandatory language. Based on its evaluation of the comments, EPA has revised the mandatory health effects language for fecal coliforms/*E. coli* to read as follows:

The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that the presence of fecal coliforms or *E. coli* is a serious health concern. Fecal coliforms and *E. coli* are generally not harmful themselves, but their presence in drinking water is serious because they usually are associated with sewage or animal wastes. The presence of these bacteria in drinking water is generally a result of a problem with water treatment or the pipes which distribute the water, and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. EPA has set an enforceable drinking water standard for fecal coliforms and *E. coli* to reduce the risk of these adverse health effects. Under this standard all drinking water samples must be free of these bacteria. Drinking water which meets this standard is associated with little or none of this risk and should be considered safe. State and local health authorities recommend that consumers take the following precautions: [To be inserted by the public water systems, according to instrucitons from State or local authorities].

EPA is requiring the water system to include information at the end of the mandatory public notice on what precautions the public should take. The Agency believes that it is important to provide all of the system's consumers with specific information on the problem and suggestions for dealing with it; consumers should not have to take additional steps to obtain this information elsewhere.

VIII. Costs and Benefits of Complying With the NPDWR for Total Coliforms

A. Costs

The estimated cost of this rule consists of costs for routine and repeat monitoring and periodic sanitary surveys. Many commenters though that remedial action costs should be included as well. For accounting purposes, EPA is allocating the cost of remedial actions to the surface water treatment requirements, published elsewhere in today's **Federal Register**, or the forthcoming groundwater disinfection rule, rather than the total coliform rule, because the interrelationships between them make it impossible to clearly distinguish which costs should be attributed to each rule. Occasionally, as a result of meeting the provisions of the total coliform rule, a system may discover a contamination problem not addressed by the surface water treatment requirements and groundwater disinfection rule (e.g., cross-connections, biofilm problems in the presence of disinfectants). EPA believes that the cost of remedial action in these cause is negligible. Moreover, in these cases, while State or local requirements may dictate remedial action, this regulation does not. For these reasons, EPA has not attributed these remedial costs to this final rule.

Assuming that a commercial laboratory is used for all required analyses, EPA has estimated the increment of additional monitoring for all systems to cost from $20.5 to $31.5 million/year. This estimate is based on an average collection cost of $4/sample for large systems, and $10.50/sample for small systems. For small systems, depending on whether they are located in rural areas or near large metropolitan areas, collection costs are estimated to range from $4/sample to $17/sample. For the purposes of economic analysis, sample analysis costs for total coliforms are estimated at $12/sample. Fecal coliform or *E. coli* testing of total coliform-positive cultures is estimated to cost an additional $12/sample. This cost information is found in the Economic Impact Analysis (EIA) for this rule (USEPA, 1989).

Sanitary surveys for systems collecting fewer than five samples/

month must be performed at five-year intervals (except for systems using protected and disinfected ground water for which the interval is ten years). EPA estimates the total cost of these surveys, annualized over 20 years and assuming a three percent interest rate, at $28 million per year. In sum, the incremental cost of this rule over the interim rule is estimated to range from $64 to $76 million per year, including an incremental cost of $16 million which will be incurred by the States for implementing this revised rule. Systems already are also incurring costs to comply with the MCLs for total coliforms under the interim rule, which are estimated to be $67 million per year. When added to the incremental costs associated with today's rule, the total cost for systems to comply with the revised coliform requirements is estimated to range from $131 to $142 million per year (Table 5). These estimates are more fully discussed in the EIA (USEPA, 1989).

TABLE 5—NATIONAL COSTS OF THE TOTAL COLIFORM RULE

(In millions of dollars/year)

	Total		Incremental increase over interim requirements	
	Lower bound	Upper bound	Lower bound	Upper bound
Routine monitoring	67	67	1.5	1.5
Sanitary surveys	28	28	28	28
Repeat monitoring	20	31	19	30
State program costs	[1] 16	[1] 16	16	16
Total	131	142	64	76

[1] Baseline information is unknown. Therefore, only the incremental increase is listed.

B. Benefits

The benefit of the coliform rule is the identification of public water systems that are contaminated or vulnerable to contamination. The rule identifies such systems by requiring routine monitoring by all systems, requiring periodic sanitary surveys for small systems, requiring additional monitoring for systems which detect contamination, clarifying when a State may invalidate a total coliform-positive sample, requiring fecal coliform or *E. coli* testing on all total coliform-positive cultures, and requiring systems to develop (subject to State review and revision) the sample siting plan for each system. EPA believes that these elements of this revised total coliform rule will identify a significant number of water systems which will need to take action to improve the microbial quality of their water and others where preventive action will avoid future problems.

The remedial measures necessary to comply with the total coliform rule will also fulfill some or all of the surface water treatment requirements or the forthcoming groundwater disinfection requirements. As with costs, for accounting purposes, EPA is attributing all health benefits resulting from compliance with this rule to the surface water treatment requirements and the disinfection rule for groundwater systems, rather than the total coliform rule, because the interrelationships among them make it impossible to clearly distinguish which benefits are attributable to each rule.

IX. State Implementation of Total Coliform Requirements

A. General Primacy Requirements

Section 1413 of the SDWA establishes requirements a State must meet in order to receive primary enforcement responsibility (primacy) for public water systems. These include: (1) Adopting drinking water regulations no less stringent than the NPDWRs in effect under sections 1412(a) and 1412(b); (2) adopting and implementing adequate procedures for enforcement; (3) keeping records and making such reports with respect to its activities as EPA may require by regulation; (4) issuing variances and exemptions (if allowed at all by the State) under conditions no less stringent than allowed by sections 1415 and 1416; and (5) adopting and being able to implement an adequate plan for the provision of safe drinking water emergency situations.

40 CFR Part 142 sets out the specific program implementation requirements for States to obtain primacy for the public water system supervision (PWSS) program as authorized under section 1413 of the SDWA. EPA first promulgated these regulations on January 20, 1976. Since 1976, however, much has happened in the PWSS program, and portions of the implementation regulations at 40 CFR Part 142 have become outdated. In response, on August 2, 1988, the Agency proposed revisions to 40 CFR Part 142, Subpart B which take into account the program's evolution since 1976, as well as the new legislative mandates (53 FR 29194). The revised implementation regulations will be promulgated shortly. These implementation regulations will specify procedures, timing, and other general section 1413 requirements a State must meet to retain primary enforcement responsibility, including the requirement that primary States adopt drinking water regulations that are no less stringent than new or revised national primary drinking water regulations promulgated under SDWA section 1412. Since these general requirements will apply to States adopting this revised coliform rule, today's amendment of 40 CFR Part 142 only addresses primacy criteria that are unique to the total coliform rule.

For objective criteria in the NPDWRs, including the revised coliform rule, i.e., requirements that do not involve an exercise of discretion, States, as a condition of obtaining or maintaining (as appropriate) primacy, must promulgate regulations that incorporate requirements that are no less stringent than the national regulations. For the discretionary criteria, i.e., those which the State has discretion to choose how they will be implemented, the State, as part of its program revision, generally need only describe the practices or procedures it will use to implement those portions of its program. Both types of criteria are described below.

B. Special Primacy Requirements

As described above, an application for approval of a State program revision must describe the practices or procedures that the State will use to implement provisions of the total coliform regulations that provide State flexibility with respect to how the objectives of the regulation are to be achieved, e.g., sample invalidation procedures. These optional discretionary elements are listed in § 142.16(c)(12). With the exception of the requirements of 40 CFR 142.16(c)(1) (the sample siting plan approval procedure, which is a mandatory element of a program revision), however, a State need only submit the practices or procedures associated with implementing the elements it intends to use. Thus, for a particular element listed, if the State does not plan to exercise the discretion provided in the total coliform rule, the program revision need not address this element.

Where the State is only required to describe the practices or procedures it will use in exercising the discretion provided in the total coliform regulation, EPA review of that portion of the State program revision will generally be limited. It will consider whether the State practices or procedures are clear and unambiguous, and whether they can be reasonably expected to accomplish the objectives of the regulations.

C. State Recordkeeping and Reporting Requirements

Today's notice amends 40 CFR Part 142 to add requirements for States with primary enforcement responsibility to retain records and report information to EPA to ensure adequate oversight of the States' activities to implement the revised total coliform regulations. No previously required reporting requirements are deleted. States must:

(1) Retain records of determinations made on a system-by-system or case-by-case basis where the State has exercised its discretionary authority under the provisions of § 142.16(c). The list of records of determinations which must be kept is contained in § 142.14(a)(5). Some of these decisions are only required to be put in writing and placed in the affected system's file (e.g., waiving the 24-hour limit for collecting total coliform repeat samples under certain specified conditions). Other decisions require that the system be notified in writing (e.g., reduced routine total coliform monitoring for a public water system) in addition to a record of determination being placed in the system's file. The requirement to have a record of decision in writing is necessary to determine compliance. Without this record, a file review might show a system to be out of compliance when in fact the State had used its discretionary authority to modify the requirements that the system had to meet.

(2) Submit a report by January 1 of each year which consists of a list of public water systems which the State has determined are allowed to monitor less frequently than once per month for community water systems or less frequently than once per quarter for non-community water systems in accordance with § 141.21a(a). The list must include effective dates for systems which did not have such a determination in place for the entire preceding federal fiscal year.

D. State Wellhead Protection Program

Section 1428 of the SDWA contains requirements for the development and implementation of State Wellhead Protection (WHP) Programs to protect wells and wellfields which are used, or may be used, to provide source water to public water systems. Under section 1428, each State must adopt and submit to EPA for approval a WHP Program that, at a minimum:

(1) Specifies the duties of State agencies, local governments, and public water systems in the development and implementation of the WHP Program;

(2) For each wellhead, determines the wellhead protection area (WHPA), as defined in section 1428(e) of SDWA, based on all reasonably available hydrogeologic information on ground-water flow, recharge, and discharge and other information the State deems necessary to adequately determine the WHPA;

(3) Identifies within each WHPA all potential human sources of contaminants which may have any adverse health effect;

(4) Describes provisions for technical assistance, financial assistance, implementation of control measures, and education, training, and demonstration projects to protect the water supply within WHPAs from such contaminants;

(5) Includes contingency plans for the location and provision of alternate drinking water supplies for each public water system in the event of well or wellfield contamination by such contaminants;

(6) Requires that State and local governments and public water systems consider all potential sources of human contamination within the expected wellhead area of a new water well which serves a public water system; and

(7) Requires public participation in developing the WHP Program.

SDWA required all States to submit a WHP program to EPA by June 19, 1989, for EPA review and approval. EPA has prepared the following technical guidance documents to assist States in developing WHP programs: "Guidance for Applicants for State Wellhead Protection Program Assistance Funds under the Safe Drinking Water Act" (Office of Ground-Water Protection, 1987) and "Guidelines for Delineation of Wellhead Protection Areas" (Office of Ground-Water Protection, 1987). States may wish to use the WHP Program to help assess the vulnerability of a ground-water system to microbial and chemical contamination; such information would be useful to the State in determining the frequency with which a system must sample and conduct sanitary surveys under this revised coliform rule.

X. Other Statutory and Executive Order Requirements

A. Executive Order 12291

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the Regulatory Impact Analysis (RIA) requirement. This action does not constitute a "major" regulatory action because it will have a financial impact on the regulated community of under $100 million per year. Therefore, EPA prepared an Economic Impact Analysis (USEPA, 1989) (rather than an RIA) during regulation development and submitted it to the Office of Management and Budget for review. Results of the analysis are presented above in section VIII.

B. Regulatory Flexibility Act

The Regulatory Flexibility Act requires EPA to explicitly consider the effect of proposed regulations on small entities. If there is a significant effect on a substantial number of small systems, means should be sought to minimize the effects.

The Small Business Administration defines a "small water utility" as one which serves fewer than 50,000 people. All systems in this size category will be subject to this final total coliform rule, but EPA expects the average incremental cost increase for such systems due to the new requirements of this rule, compared to the total cost of producing water, to be quite small, about 0.6–0.7 percent. Consequently, the rule is not expected to have a significant economic effect on a substantial number of small systems within the meaning of the Regulatory Flexibility Act. Although EPA anticipates that some small entities may have some financial difficulty in achieving compliance with the rule, the Agency has adopted a number of measures, many in response to public comments, to mitigate this burden. As a result, this final rule is less burdensome on small systems than the proposed rule would have been. These measures include retaining the current monitoring frequency for small systems (the proposal would have increased it) and reducing the frequency of sanitary surveys (compared to the proposal). EPA believes that further measures to reduce cost could significantly jeopardize public health.

C. Paperwork Reduction Act

The information collection requirements contained in this rule have been submitted to the Office of Management and Budget (OMB) under the provisions of the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.* The information collection requirements are not effective until OMB approves them and a technical amendment to that effect is published in the Federal Register.

The public reporting burden on public water systems for this collection of information, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and

completing and reviewing the collection of information, is estimated to average 0.4 hour more per response than the interim total coliform rule. The annual public reporting burden on each State program for this collection of information is estimated to average 10,077 hours per response more than the current total coliform rule.

Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, marked "Attention: Desk Officer for EPA."

D. Science Advisory Board and National Drinking Water Advisory Council

In accordance with section 1412(d) of the Safe Drinking Water Act, the Agency consulted with the Secretary and the National Drinking Water Advisory Council before proposing and promulgating these regulations, and considered their comments. In addition, in accordance with section 1412(e) of the Safe Drinking Water Act, EPA requested comments from the Science Advisory Board before proposing this MCLG and NPDWR, and took its comments into consideration in developing the proposed and final rule.

List of Subjects in 40 CFR Parts 141 and 142

Microorganisms, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements, Water supply, Administrative practice and procedure.

Dated: June 19, 1989.

William K. Reilly,

Administrator.

XI. References

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For the reasons set forth in the preamble, Title 40, Chapter I of the Code of Federal Regulations is amended as follows:

PART 141—NATIONAL PRIMARY DRINKING WATER REGULATIONS

1. The authority for Part 141 continues to read as follows:

Authority: 42 U.S.C. 300f, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–4, and 300j–9.

§ 141.2 [Corrected]

2. FR Doc. 88–21695 published September 26, 1988, beginning at page 37396 is corrected at page 37410, second column, for Part 141 by removing the paragraph designations (d) and (h) in § 141.2, and changing the amendatory instruction to read as follows: "2. In § 141.2 the definitions for 'Person" and 'State' are revised to read as follows:".

2a. In § 141.2, the following new definitions are added and arranged alphabetically to read as follows:

§ 141.2 Definitions.

* * * * *

"Confluent growth" means a continuous bacterial growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete.

* * * * *

"Domestic or other non-distribution system plumbing problem" means a coliform contamination problem in a public water system with more than one service connection that is limited to the specific service connection from which the coliform-positive sample was taken.

* * * * *

"Near the first service connection" means at one of the 20 percent of all service connections in the entire system that are nearest the water supply treatment facility, as measured by water transport time within the distribution system.

* * * * *

"System with a single service connection" means a system which supplies drinking water to consumers via a single service line.

"Too numerous to count" means that the total number of bacterial colonies exceeds 200 on a 47-mm diameter membrane filter used for coliform detection.

* * * * *

3. Section 141.4 is revised to read as follows:

§ 141.4 Variances and exemptions

Variances or exemptions from certain provisions of these regulations may be granted pursuant to sections 1415 and 1416 of the Act by the entity with primary enforcement responsibility, except that variances or exemptions from the MCL for total coliforms and variances from any of the treatment technique requirements of Subpart H of this part may not be granted.

§ 141.14 [Removed]

4. Section 141.14 is removed.

5. Section 141.21 is revised to read as follows:

§ 141.21 Coliform sampling.

(a) *Routine monitoring.* (1) Public water systems must collect total coliform samples at sites which are representative of water throughout the distribution system according to a written sample siting plan. These plans are subject to State review and revision.

(2) The monitoring frequency for total coliforms for community water systems is based of the population served by the system, as follows:

TOTAL COLIFORM MONITORING FREQUENCY FOR COMMUNITY WATER SYSTEMS

Population served	Minimum number of samples per month
25 to 1,000 [1]	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,001 to 1,230,000	300
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

[1] Includes public water systems which have at least 15 service connections, but serve fewer than 25 persons.

If a community water system serving 25 to 1,000 persons has no history of total coliform contamination in its current configuration and a sanitary survey conducted in the past five years shows that the system is supplied solely by a protected groundwater source and is free of sanitary defects, the State may reduce the monitoring frequency specified above, except that in no case may the State reduce the monitoring frequency to less than one sample per quarter. The State must approve the reduced monitoring frequency in writing.

(3) The monitoring frequency for total coliforms for non-community water systems is as follows:

(i) A non-community water system using only ground water (except ground water under the direct influence of surface water, as defined in § 141.2) and serving 1,000 persons or fewer must monitor each calendar quarter that the system provides water to the public, except that the State may reduce this monitoring frequency, in writing, if a sanitary survey shows that the system is free of sanitary defects. Beginning June 29, 1994 the State cannot reduce the monitoring frequency for a non-community water system using only ground water (except ground water under the direct influence of surface water, as defined in § 141.2) and serving 1,000 persons or fewer to less than once/year.

(ii) A non-community water system using only ground water (except ground water under the direct influence of surface water, as defined in § 141.2) and serving more than 1,000 persons during any month must monitor at the same frequency as a like-sized community water system, as specified in paragraph (a)(2) of this section, except the State may reduce this monitoring frequency, in writing, for any month the system serves 1,000 persons or fewer. The State cannot reduce the monitoring frequency to less than once/year. For systems using ground water under the direct influence of surface water, paragraph (a)(3)(iv) of this section applies.

(iii) A non-community water system using surface water, in total or in part, must monitor at the same frequency as a like-sized community water system, as specified in paragraph (a)(2) of this section, regardless of the number of persons it serves.

(iv) A non-community water system using ground water under the direct influence of surface water, as defined in 141.2, must monitor at the same frequency as a like-sized community water system, as specified in paragraph (a)(2) of this section. The system must begin monitoring at this frequency beginning six months after the State determines that the ground water is under the direct influence of surface water.

(4) The public water system must collect samples at regular time intervals throughout the month, except that a system which uses ground water (except ground water under the direct influence of surface water, as defined in § 141.2), and serves 4,900 persons or fewer, may collect all required samples on a single day if they are taken from different sites.

(5) A public water system that uses surface water or ground water under the direct influence of surface water, as defined in § 141.2, and does not practice filtration in compliance with Subpart H must collect at least one sample near the first service connection each day the turbidity level of the source water, measured as specified in § 141.74(b)(2), exceeds 1 NTU. This sample must be analyzed for the presence of total coliforms. When one or more turbidity measurements in any day exceed 1 NTU, the system must collect this coliform sample within 24 hours of the first exceedance, unless the State determines that the system, for logistical reasons outside the system's control, cannot have the sample analyzed within 30 hours of collection. Sample results from this coliform monitoring must be included in determining compliance with the MCL for total coliforms in § 141.63.

(6) Special purpose samples, such as those taken to determine whether disinfection practices are sufficient following pipe placement, replacement, or repair, shall not be used to determine compliance with the MCL for total coliforms in § 141.63. Repeat samples taken pursuant to paragraph (b) of this section are not considered special purpose samples, and must be used to determine compliance with the MCL for total coliforms in § 141.63.

(b) *Repeat monitoring.* (1) If a routine sample is total coliform-positive, the public water system must collect a set of repeat samples within 24 hours of being notified of the positive result. A system which collects more than one routine sample/month must collect no fewer than three repeat samples for each total coliform-positive sample found. A system which collects one routine sample/month or fewer must collect no fewer than four repeat samples for each total coliform-positive sample found. The State may extend the 24-hour limit on a case-by-case basis if the system has a logistical problem in collecting the repeat samples within 24 hours that is beyond its control. In the case of an extension, the State must specify how much time the system has to collect the repeat samples.

(2) The system must collect at least one repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample at a tap within five service connections upstream and at least one repeat sample at a tap within five service connections downstream of the original sampling site. If a total coliform-positive sample is at the end of the distribution system, or one away from the end of the distribution system, the State may waive the requirement to collect at least one repeat sample upstream or downstream of the original sampling site.

(3) The system must collect all repeat samples on the same day, except that the State may allow a system with a single service connection to collect the required set of repeat samples over a four-day period or to collect a larger volume repeat sample(s) in one or more sample containers of any size, as long as the total volume collected is at least 400 ml (300 ml for systems which collect more than one routine sample/month).

(4) If one or more repeat samples in the set is total coliform-positive, the public water system must collect an additional set of repeat samples in the manner specified in paragraphs (b)(1)–(3) of this section. The additional samples must be collected within 24 hours of being notified of the positive result, unless the State extends the limit as provided in paragraph (b)(1) of this section. The system must repeat this process until either total coliforms are not detected in one complete set of repeat samples or the system determines that the MCL for total coliforms in § 141.63 has been exceeded and notifies the State.

(5) If a system collecting fewer than five routine samples/month has one or more total coliform-positive samples and the State does not invalidate the sample(s) under paragraph (c) of this section, it must collect at least five routine samples during the next month the system provides water to the public, except that the State may waive this requirement if the conditions of paragraph (b)(5) (i) or (ii) of this section are met. The State cannot waive the requirement for a system to collect repeat samples in paragraphs (b)(1)–(4) of this section.

(i) The State may waive the requirement to collect five routine samples the next month the system provides water to the public if the State, or an agent approved by the State, performs a site visit before the end of the next month the system provides water to the public. Although a sanitary survey need not be performed, the site visit must be sufficiently detailed to allow the State to determine whether additional monitoring and/or any corrective action is needed. The State cannot approve an employee of the system to perform this site visit, even if the employee is an agent approved by the State to perform sanitary surveys.

(ii) The State may waive the requirement to collect five routine samples the next month the system provides water to the public if the State has determined why the sample was total coliform-positive and establishes that the system has corrected the problem or will correct the problem before the end of the next month the system serves water to the public. In this case, the State must document this decision to waive the following month's additional monitoring requirement in writing, have it approved and signed by the supervisor of the State official who recommends such a decision, and make this document available to the EPA and public. The written documentation must describe the specific cause of the total coliform-positive sample and what action the system has taken and/or will take to correct this problem. The State cannot waive the requirement to collect five routine samples the next month the system provides water to the public solely on the grounds that all repeat samples are total coliform-negative. Under this paragraph, a system must still take at least one routine sample before the end of the next month it serves water to the public and use it to determine compliance with the MCL for total coliforms in § 141.63, unless the State has determined that the system has corrected the contamination problem before the system took the set of repeat samples required in paragraphs (b)(1)–(4) of this section, and all repeat samples were total coliform-negative.

(6) After a system collects a routine sample and before it learns the results of the analysis of that sample, if it collects another routine sample(s) from within five adjacent service connections of the initial sample, and the initial sample, after analysis, is found to contain total coliforms, then the system may count the subsequent sample(s) as a repeat sample instead of as a routine sample.

(7) Results of all routine and repeat samples not invalidated by the State must be included in determining compliance with the MCL for total coliforms in § 141.63.

(c) *Invalidation of total coliform samples.* A total coliform-positive sample invalidated under this paragraph (c) does not count towards meeting the minimum monitoring requirements of this section. (1) The State may invalidate a total coliform-positive sample only if the conditions of paragraph (c)(1)(i), (ii), or (iii) of this section are met.

(i) The laboratory establishes that improper sample analysis caused the total coliform-positive result.

(ii) The State, on the basis of the results of repeat samples collected as required by paragraphs (b) (1) through (4) of this section, determines that the total coliform-positive sample resulted from a domestic or other non-distribution system plumbing problem. The State cannot invalidate a sample on the basis of repeat sample results unless all repeat sample(s) collected at the same tap as the original total coliform-positive sample are also total coliform-positive, and all repeat samples collected within five service connections of the original tap are total coliform-negative (e.g., a State cannot invalidate a total coliform-positive sample on the basis of repeat samples if all the repeat samples are total coliform-negative, or if the public water system has only one service connection).

(iii) The State has substantial grounds to believe that a total coliform-positive result is due to a circumstance or condition which does not reflect water quality in the distribution system. In this case, the system must still collect all repeat samples required under paragraphs (b) (1) through (4) of this section, and use them to determine compliance with the MCL for total coliforms in § 141.63. To invalidate a total coliform-positive sample under this paragraph, the decision with the rationale for the decision must be documented in writing, and approved and signed by the supervisor of the State official who recommended the decision. The State must make this document available to EPA and the public. The written documentation must state the specific cause of the total coliform-positive sample, and what action the system has taken, or will take, to correct this problem. The State may not invalidate a total coliform-positive sample solely on the grounds that all repeat samples are total coliform-negative.

(2) A laboratory must invalidate a total coliform sample (unless total coliforms are detected) if the sample produces a turbid culture in the absence of gas production using an analytical method where gas formation is examined (e.g., the Multiple-Tube Fermentation Technique), produces a turbid culture in the absence of an acid reaction in the Presence-Absence (P–A) Coliform Test, or exhibits confluent growth or produces colonies too numerous to count with an analytical method using a membrane filter (e.g., Membrane Filter Technique). If a laboratory invalidates a sample because of such interference, the system must collect another sample from the same location as the original sample within 24 hours of being notified of the interference problem, and have it analyzed for the presence of total coliforms. The system must continue to re-sample within 24 hours and have the samples analyzed until it obtains a valid result. The State may waive the 24-hour time limit on a case-by-case basis.

(d) *Sanitary surveys.* (1)(i) Public water systems which do not collect five or more routine samples/month must undergo an initial sanitary survey by June 29, 1994 for community public water systems and June 29, 1999 for non-community water systems. Thereafter, systems must undergo another sanitary survey every five years, except that non-community water systems using only protected and disinfected ground water,

as defined by the State, must undergo subsequent sanitary surveys at least every ten years after the initial sanitary survey. The State must review the results of each sanitary survey to determine whether the existing monitoring frequency is adequate and what additional measures, if any, the system needs to undertake to improve drinking water quality.

(ii) In conducting a sanitary survey of a system using ground water in a State having an EPA-approved wellhead protection program under section 1428 of the Safe Drinking Water Act, information on sources of contamination within the delineated wellhead protection area that was collected in the course of developing and implementing the program should be considered instead of collecting new information, if the information was collected since the last time the system was subject to a sanitary survey.

(2) Sanitary surveys must be performed by the State or an agent approved by the State. The system is responsible for ensuring the survey takes place.

(e) *Fecal coliforms/Escherichia coli (E. coli) testing.* (1) If any routine or repeat sample is total coliform-positive, the system must analyze that total coliform-positive culture medium to determine if fecal coliforms are present, except that the system may test for *E. coli* in lieu of fecal coliforms. If fecal coliforms or *E. coli* are present, the system must notify the State by the end of the day when the system is notified of the test result, unless the system is notified of the result after the State office is closed, in which case the system must notify the State before the end of the next business day.

(2) The State has the discretion to allow a public water system, on a case-by-case basis, to forgo fecal coliform or *E. coli* testing on a total coliform-positive sample if that system assumes that the total coliform-positive sample is fecal coliform-positive of *E. coli*-positive. Accordingly, the system must notify the State as specified in paragraph (e)(1) of this section and the provisions of § 141.63(b) apply.

(f) *Analytical methodology.* (1) The standard sample volume required for total coliform analysis, regardless of analytical method used, is 100 ml.

(2) Public water systems need only determine the presence or absence of total coliforms; a determination of total coliform density is not required.

(3) Public water systems must conduct total coliform analyses in accordance with one of the following analytical methods:

(i) Multiple-Tube Fermentation (MTF) Technique, as set forth in *Standard Methods for the Examination of Water and Wastewater*, 1985, American Public Health Association *et al.*, 16th edition, Method 908, 908A, and 908B—pp. 870–878, except that 10 fermentation tubes must be used; or *Microbiological Methods for Monitoring the Environment, Water and Wastes*, U.S. EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268 (EPA–600/8–78–017, December 1978, available from ORD Publications, CERI, U.S. EPA, Cincinnati, Ohio 45268), Part III, Section B.4.1–4.6.4, pp. 114–118 (Most Probable Number Method), except that 10 fermentation tubes must be used; or

(ii) Membrance Filter (MF) Technique, as set forth in *Standard Methods for the Examination of Water and Wastewater*, 1985, American Public Health Association *et al.*, 16th edition, Method 909, 909A and 909B—pp. 886–896; or *Microbiological Methods for Monitoring the Environment, Water and Wastes*, U.S. EPA, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268 (EPA–600/8–78–017, December 1978, available from ORD Publications, CERI, U.S. EPA, Cincinnati, Ohio 45268), Part III, Section B.2.1–2.6, pp. 108–112; or

(iii) Presence-Absence (P–A) Coliform Test, as set forth in *Standard Methods for the Examination of Water and Wastewater*, 1985, American Public Health Association *et al.*, 16th edition, Method 908E—pp. 882–886; or

(iv) Minimal Medium ONPG–MUG (MMO–MUG) Test, as set forth in the article "National Field Evaluation of a Defined Substrate Method for the Simultaneous Detection of Total Coliforms and *Escherichia coli* from Drinking Water: Comparison with Presence-Absence Techniques" (Edberg et al.), Applied and Environmental Microbiology, Volume 55, pp. 1003–1008, April 1989. (Note: The MMO–MUG Test is sometimes referred to as the Autoanalysis Colilert System.)

(4) In lieu of the 10-tube MTF Technique specified in paragraph (f)(3)(i) of this section, a public water system may use the MTF Technique using either five tubes (20-ml sample portions) or a single culture bottle containing the culture medium for the MTF Technique, i.e., lauryl tryptose broth (formulated as described in *Standard Methods for the Examination of Water and Wastewater*, 1985, American Public Health Association *et al.*, 16th Edition, Method 908A—pp. 872), as long as a 100-ml water sample is used in the analysis.

(5) Public water systems must conduct fecal coliform analysis in accordance with the following procedure. When the MTF Technique or Presence-Absence (P–A) Coliform Test is used to test for total coliforms, shake the lactose-positive presumptive tube or P–A bottle vigorously and transfer the growth with a sterile 3-mm loop or sterile applicator stick into brilliant green lactose bile broth and EC medium to determine the presence of total and fecal coliforms, respectively. For EPA-approved analytical methods which use a membrance filter, remove the membrane containing the total coliform colonies from the substrate with a sterile forceps and carefully curl and insert the membrane into a tube of EC medium. (The laboratory may first remove a small portion of selected colonies for verification.) Gently shake the inoculated EC tubes to insure adequate mixing and incubate in a waterbath at 44.5 ±0.2 °C for 24 ± 2 hours. Gas production of any amount in the inner fermentation tube of the EC medium indicates a positive fecal coliform test. The preparation of EC medium is described in *Standard Methods for the Examination of Water and Wastewater*, American Public Health Association, 16th Edition, Method 908C—pp. 879, paragraph 1a. Public water systems need only determine the presence or absence of fecal coliforms; a determination of fecal coliform density is not required.

(6) These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of the analytical methods cited in *Standard Methods for the Examination of Water and Wastewater* may be obtained from the American Public Health Association *et al.*; 1015 Fifteenth Street, NW.; Washington, DC 20005. Copies of the methods set forth in *Microbiological Methods for Monitoring the Environment, Water and Wastes* may be obtained from ORD Publications, U.S. EPA, 26 W. Martin Luther King Drive, Cincinnati, Ohio 45268. Copies of the MMO–MUG Test as set forth in the article "National Field Evaluation of a Defined Substrate Method for the Simultaneous Enumeration of Total Coliforms and *Escherichia coli* from Drinking Water: Comparison with the Standard Multiple Tube Fermentation Method" (Edberg *et al.*) may be obtained from the American Water Works Association Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235. Copies may be inspected at EPA's Drinking Water Docket; 401 M Street, SW.; Washington,

DC 20460, or at the Office of the Federal Register; 1100 L Street, NW.; Room 8401; Washington, DC 20408.

(g) *Response to violation.* (1) A public water system which has exceeded the MCL for total coliforms in § 141.63 must report the violation to the State no later than the end of the next business day after it learns of the violation, and notify the public in accordance with § 141.32.

(2) A public water system which has failed to comply with a coliform monitoring requirement, including the sanitary survey requirement, must report the monitoring violation to the State within ten days after the system discovers the violation, and notify the public in accordance with § 141.32.

6. Section 141.31 is amended by revising paragraph (b) to read as follows:

§ 141.31 Reporting requirements.

* * * * *

(b) Except where a different reporting period is specified in this part, the supplier of water must report to the State within 48 hours the failure to comply with any national primary drinking water regulation (including failure to comply with monitoring requirements) set forth in this part.

* * * * *

7. Section 141.32 is amended to add paragraphs (a)(1)(iii)(C), (e)(11) and (12) to read as follows:

§ 141.32 General public notification requirements.

(a) * * *

(1) * * *

(iii) * * *

(C) Violation of the MCL for total coliforms, when fecal coliforms or *E. coli* are present in the water distribution system, as specified in § 141.63(b).

* * * * *

(e) * * *

(11) *Total coliforms* (To be used when there is a violation of § 141.63(a), and not a violation of § 141.63(b)) The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that the presence of total coliforms is a possible health concern. Total coliforms are common in the environment and are generally not harmful themselves. The presence of these bacteria in drinking water, however, generally is a result of a problem with water treatment or the pipes which distribute the water, and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and any associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. EPA has set an enforceable drinking water standard for total coliforms to reduce the risk of these adverse health effects. Under this standard, no more than 5.0 percent of the samples collected during a month can contain these bacteria, except that systems collecting fewer than 40 samples/month that have one total coliform-positive sample per month are not violating the standard. Drinking water which meets this standard is usually not associated with a health risk from disease-causing bacteria and should be considered safe.

(12) *Fecal Coliforms/E. coli* (To be used when there is a violation of § 141.63(b) or both § 141.63(a) and (b)) The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that the presence of fecal coliforms or *E. coli* is a serious health concern. Fecal coliforms and *E. coli* are generally not harmful themselves, but their presence in drinking water is serious because they usually are associated with sewage or animal wastes. The presence of these bacteria in drinking water is generally a result of a problem with water treatment or the pipes which distribute the water, and indicates that the water may be contaminated with organisms that can cause disease. Disease symptoms may include diarrhea, cramps, nausea, and possibly jaundice, and associated headaches and fatigue. These symptoms, however, are not just associated with disease-causing organisms in drinking water, but also may be caused by a number of factors other than your drinking water. EPA has set an enforceable drinking water standard for fecal coliforms and *E. coli* to reduce the risk of these adverse health effects. Under this standard all drinking water samples must be free of these bacteria. Drinking water which meets this standard is associated with little or none of this risk and should be considered safe. State and local health authorities recommend that consumers take the following precautions: [To be inserted by the public water system, according to instructions from State or local authorities].

8. Section 141.52 is amended by adding a new entry "(4)" to the table to read as follows:

§ 141.52 Maximum contaminant level goals for microbiological contaminants

* * * * *

Contaminant	MCLG
* * * * *	
(4) Total coliforms (including fecal coliforms and *Escherichia coli*).	Zero.

9. A new 141.63 is added to Subpart G to read as follows:

§ 141.63 Maximum contaminant levels (MCLs) for microbiological contaminants.

(a) The MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density.

(1) For a system which collects at least 40 samples per month, if no more than 5.0 percent of the samples collected during a month are total coliform-positive, the system is in compliance with the MCL for total coliforms.

(2) For a system which collects fewer than 40 samples/month, if no more than one sample collected during a month is total coliform-positive, the system is in compliance with the MCL for total coliforms.

(b) Any fecal coliform-positive repeat sample or *E. coli*-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or *E. coli*-positive routine sample constitutes a violation of the MCL for total coliforms. For purposes of the public notification requirements in § 141.32, this is a violation that may pose an acute risk to health.

(c) A public water system must determine compliance with the MCL for total coliforms in paragraphs (a) and (b) of this section for each month in which it is required to monitor for total coliforms.

(d) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant level for total coliforms in paragraphs (a) and (b) of this section:

(1) Protection of wells from contamination by coliforms by appropriate placement and construction;

(2) Maintenance of a disinfectant residual throughout the distribution system;

(3) Proper maintenance of the distribution system including appropriate pipe replacement and repair procedures, main flushing programs, proper operation and maintenance of storage tanks and reservoirs, and continual maintenance of positive water pressure in all parts of the distribution system;

(4) Filtration and/or disinfection of surface water, as described in Subpart H, or disinfection of ground water using

strong oxidants such as chlorine, chlorine dioxide, or ozone; or

(5) The development and implementation of an EPA-approved State Wellhead Protection Program under section 1428 of the SDWA.

PART 142—NATIONAL PRIMARY DRINKING WATER REGULATIONS IMPLEMENTATION

1. The authority citation for Part 142 continues to read as follows:

Authority: 42 U.S.C. 300f, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–4, and 300j–9.

2. Section 142.14 is amended by revising paragraph (a)(2) and adding a new paragraph (a)(5) to read as follows:

§ 142.14 Records kept by States.

(a) * * *

(2) Records of microbiological analyses of repeat or special samples shall be retained for not less than one year in the form of actual laboratory reports or in an appropriate summary form.

* * * * *

(5) Records of each of the following decisions made pursuant to the total coliform provisions of Part 141 shall be made in writing and retained by the State.

(i) Records of the following decisions must be retained for 5 years.

(A) Section 141.21(b)(1)—Any decision to waive the 24-hour time limit for collecting repeat samples after a total coliform-positive routine sample if the public water system has a logistical problem in collecting the repeat sample that is beyond the system's control, and what alternative time limit the system must meet.

(B) Section 141.21(b)(5)—Any decision to allow a system to waive the requirement for five routine samples the month following a total coliform-positive sample. If the waiver decision is made as provided in § 141.21(b)(5), the record of the decision must contain all the items listed in that paragraph.

(C) Section 141.21(c)—Any decision to invalidate a total coliform-positive sample. If the decision to invalidate a total coliform-positive sample as provided in § 141.21(c)(1)(iii) is made, the record of the decision must contain all the items listed in that paragraph.

(ii) Records of each of the following decisions must be retained in such a manner so that each system's current status may be determined.

(A) Section 141.21(a)(2)—Any decision to reduce the total coliform monitoring frequency for a community water system serving 1000 persons or fewer, that has no history of total coliform contamination in its current configuration and had a sanitary survey conducted within the past five years showing that the system is supplied solely by a protected groundwater source and is free of sanitary defects, to less than once per month, as provided in § 141.21(a)(2); and what the reduced monitoring frequency is. A copy of the reduced monitoring frequency must be provided to the system.

(B) Section 141.21(a)(3)(i)—Any decision to reduce the total coliform monitoring frequency for a non-community water system using only ground water and serving 1,000 persons or fewer to less than once per quarter, as provided in § 141.21(a)(3)(i), and what the reduced monitoring frequency is. A copy of the reduced monitoring frequency must be provided to the system.

(C) Section 141.21(a)(3)(ii)—Any decision to reduce the total coliform monitoring frequency for a non-community water system using only ground water and serving more than 1,000 persons during any month the system serves 1,000 persons or fewer, as provided in § 141.21(a)(3)(ii). A copy of the reduced monitoring frequency must be provided to the system.

(D) Section 141.21(a)(5)—Any decision to waive the 24-hour limit for taking a total coliform sample for a public water system which uses surface water, or ground water under the direct influence of surface water, and which does not practice filtration in accordance with Part 141, Subpart H, and which measures a source water turbidity level exceeding 1 NTU near the first service connection as provided in § 141.21(a)(5).

(E) Section 141.21(d)(1)—Any decision that a non-community water system is using only protected and disinfected ground water and therefore may reduce the frequency of its sanitary survey to less than once every five years, as provided in § 141.21(d), and what that frequency is. A copy of the reduced frequency must be provided to the system.

(F) Section 141.21(d)(2)—A list of agents other than the State, if any, approved by the State to conduct sanitary surveys.

(G) Section 141.21(e)(2)—Any decision to allow a public water system to forgo fecal coliform of *E. coli* testing on a total coliform-positive sample if that system assumes that the total coliform-positive sample is fecal coliform-positive or *E. coli*-positive, as provided in § 141.21(e)(2).

* * * * *

3. Section 142.15 is amended by adding a new paragraph (b)(5) to read as follows:

§ 142.15 Reports by States.

* * * * *

(b) * * *

(5) A list of public water systems which the State is allowing to monitor less frequently than once per month for community water systems or less frequently than once per quarter for non-community water systems as provided in § 141.21a, including the effective date of the reduced monitoring requirement for each system.

4. Section 142.16 is amended by adding a new paragraph (c) to read as follows:

§ 142.16 Special primacy requirements.

* * * * *

(c) *Total coliform requirements.* In addition to meeting the general primacy requirements of this part, an application for approval of a State program revision that adopts the requirements of the national primary drinking water regulation for total coliforms must contain the following information.

(1) The application must describe the State's plan for determining whether sample siting plans are acceptable (including periodic reviews), as required by § 141.21(a)(1).

(2) The national primary drinking water regulation for total coliforms in Part 141 gives States the option to impose lesser requirements in certain circumstances, which are listed below. If a State chooses to exercise any of these options, its application for approval of a program revision must include the information listed below (the State need only provide the information listed for those options it has chosen to use).

(i) Section 141.21(a)(2) (Reduced monitoring requirements for community water systems serving 1,000 or fewer persons)—a description of how the State will determine whether it is appropriate to reduce the total coliform monitoring frequency for such systems using the criteria in § 141.21(a)(2) and how it will determine the revised frequency.

(ii) Section 141.21(a)(3)(i) (Reduced monitoring requirements for non-community water systems using ground water and serving 1000 persons or fewer) A description of how the State will determine whether it is appropriate to reduce the total coliform monitoring frequency for such systems using the criteria in § 141.21(a)3)(i) and how it will determine the revised frequency.

(iii) Section 141.21(a)(3)(ii) (Reduced monitoring for non-community water systems using ground water and serving more than 1000 persons) A description of how the State will determine whether it is appropriate to reduce the total coliform monitoring frequency for non-

community water systems using only ground water and serving more than 1000 persons during any month the system serves 1000 persons or fewer and how it will determine the revised frequency.

(iv) Section 141.21(a)(5) (Waiver of time limit for sampling after a turbidity sampling result exceeds 1 NTU) A description of how the State will determine whether it is appropriate to waive the 24-hour time limit.

(v) Section 141.21(b)(1) (Waiver of time limit for repeat samples) A description of how the State will determine whether it is appropriate to waive the 24-hour time limit and how it will determine what the revised time limit will be.

(vi) Section 141.21(b)(3) (Alternative repeat monitoring requirements for systems with a single service connection) A description of how the State will determine whether it is appropriate to allow a system with a single service connection to use an alternative repeat monitoring scheme, as provided in § 141.21(b)(3), and what the alternative requirements will be.

(vii) Section 141.21(b)(5) (Waiver of requirement to take five routine samples the month after a system has a total coliform-positive sample) A description of how the State will determine whether it is appropriate to waive the requirement for certain systems to collect five routine samples during the next month it serves water to the public, using the criteria in § 141.21(b)(5).

(viii) Section 141.21(c) (Invalidation of total coliform-positive samples) A description of how the State will determine whether it is appropriate to invalidate a total coliform-positive sample, using the criteria in § 141.21(c).

(ix) Section 141.21(d) (Sanitary surveys) A description of the State's criteria and procedures for approving agents other than State personnel to conduct sanitary surveys.

(x) Section 141.21(e)(2) (Waiver of fecal coliform or *E. coli* testing on a total coliform-positive sample) A description of how the State will determine whether it is appropriate to waive fecal coliform or *E. coli* testing on a total coliform-positive sample.

5. A new § 142.63 is added to read as follows:

§ 142.63 Variances and exemptions from the maximum contaminant level for total coliforms.

No variances or exemptions from the maximum contaminant level in § 141.63 of this chapter are permitted.

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Part IV

Department of Education

Office of Special Education and Rehabilitative Services

National Institute on Disability and Rehabilitation Research; Invitation for Applications for New Awards Under Certain Programs for Fiscal Year 1990; Notice

DEPARTMENT OF EDUCATION

Office of Special Education and Rehabilitative Services

[CFDA Nos. 84.133A, 84.133B, 84.133C, 84.133D, 84.133E, 84.133F, 84.133G, 84.133N, and 84.133P]

National Institute on Disability and Rehabilitation Research; Notice Inviting Applications for New Awards Under Certain Programs for Fiscal Year 1990

Note to Applicants

This notice is a complete application package. The notice contains information, application forms, and instructions needed to apply for a grant under these competitions. The priorities for those programs in which the National Institute on Disability and Rehabilitation Research (NIDRR) sets the priorities were published in the Federal Register on April 25, 1989 at 54 FR 17896. NIDRR intends to publish a separate application package for the State Grants for Technology-Related Assistance for Individuals with Disabilities program; application information and forms for all other NIDRR programs for fiscal year 1990 are included in this notice.

The estimates of funding levels in this notice do not bind the Department of Education to make awards in any of these categories, or to any specific number of awards or funding levels, unless otherwise specified in statute.

Applicable Regulations

The Education Department General Administrative Regulations (EDGAR), 34 CFR Parts 74, 75, 77, 80, 81, and 85; and the following program regulations:

Research and Demonstration Program (CFDA No. 84.133A) 34 CFR Parts 350 and 351.

Rehabilitation Research and Training Centers (CFDA No. 84.133B) 34 CFR Parts 350 and 352.

Innovation Grants Program (CFDA No. 84.133C) 34 CFR Parts 350 and 358.

Knowledge Dissemination and Utilization Program (CFDA No. 84.133D) 34 CFR Parts 350 and 355.

Rehabilitation Engineering Centers Program (CFDA No. 84.133E) 34 CFR Parts 350 and 353.

Rehabilitation Research Fellowships (CFDA No. 84.133F) 34 CFR Part 356.

Field-Initiated Research (CFDA No. 84.133G) 34 CFR Parts 350 and 357.

Model Demonstrations for Spinal Cord Injury (CFDA No. 84.133N) 34 CFR Part 359.

Research Training Grants (CFDA No. 84.133P) 34 CFR Parts 350 and 360.

PROGRAM TITLE: RESEARCH AND DEMONSTRATION PROGRAM APPLICATION NOTICES FOR FISCAL YEAR 1990

CFDA No.	Program title	Funding priority	Deadline for transmittal of applications	Estimated no. of awards	Estimated size of award (per year)	Project period (months)
84.133A	Research and Demonstration	Supported employment for persons with long-term mental illness.	12-18-89	1	$175,000	36
		Studies in rehabilitation of individuals with low back pain.	12-18-89	1	175,000	36
		Community-based rural projects	12-18-89	1	175,000	36
		Effective client-counselor interaction in vocational rehabilitation.	12-18-89	1	175,000	36
		Developing vocational rehabilitation programming for low-incidence geographically dispersed disabled populations.	12-18-89	1	175,000	36
		Supported employment and maximized human potential.	12-18-89	1	175,000	36
		Stress and disability management	12-18-89	1	175,000	36

Purpose: Research and Demonstration Projects support research and demonstrations in single project areas on problems encountered by individuals with disabilities in their daily activities. These projects may conduct research on rehabilitation techniques and services, including analysis of medical, industrial, vocational, social, psychiatric, psychological, recreational, economic, and other factors to improve the rehabilitation of individuals with disabilities.

Selection Criteria: The Secretary uses the following selection criteria to evaluate applications under this program.

(a) *Potential Impact of Outcomes:* Importance of Program (Weight 3.0). The Secretary reviews each application to determine to what degree—

(1) The proposed activity relates to the announced priority;

(2) The research is likely to produce new and useful information (research activities only);

(3) The need and target population are adequately defined;

(4) The outcomes are likely to benefit the defined target population;

(5) The training needs are clearly defined (training activities only);

(6) The training methods and developed subject matter are likely to meet the defined need (training activities only); and

(7) The need for information exists (utilization activities only).

(b) *Potential Impact of Outcomes:* Dissemination/Utilization (Weight 3.0). The Secretary reviews each application to determine to what degree—

(1) The research results are likely to become available to others working in the field (research activities only);

(2) The means to disseminate and promote utilization by others are defined;

(3) The training methods and content are to be packaged for dissemination and use by others (training activities only); and

(4) The utilization approach is likely to address the defined need (utilization activities only).

(c) *Probability of Achieving Proposed Outcomes; Program/Project Design* (Weight 5.0). The Secretary reviews each application to determine to what degree—

(1) The objectives of the project(s) are clearly stated;

(2) The hypothesis is sound and based on evidence (research activities only);

(3) The project design/methodology is likely to achieve the objectives;

(4) The measurement methodology and analysis is sound;

(5) The conceptual model (if used) is sound (development/demonstration activities only);

(6) The sample populations are correct and significant (research and development/demonstration activities only);

(7) The human subjects are sufficiently protected (research and development/demonstration activities only);

(8) The device(s) or model system is to be developed in an appropriate environment;

(9) The training content is comprehensive and at an appropriate level (training activities only);

(10) The training methods are likely to be effective (training activities only);

(11) The new materials (if developed) are likely to be of high quality and uniqueness (training activities only);

(12) The target populations are linked to the project (utilization activities only); and

(13) The format of the dissemination medium is the best to achieve the desired result (utilization activities only).

(d) *Probability of Achieving Proposed Outcomes:* Key Personnel (Weight 4.0). The Secretary reviews each application to determine to what degree—

(1) The principal investigator and other key staff have adequate training and/or experience and demonstrate appropriate potential to conduct the proposed research, demonstration, training, development, or dissemination activity;

(2) The principal investigator and other key staff are familiar with pertinent literature and/or methods;

(3) All required disciplines are effectively covered;

(4) Commitments of staff time are adequate for the project; and

(5) The applicant is likely, as part of its nondiscriminatory employment practices, to encourage applications for employment from persons who are members of groups that traditionally have been underrepresented, such as—

(i) Members of racial or ethnic minority groups;

(ii) Women;

(iii) Handicapped persons; and

(iv) The elderly.

(e) *Probability of Achieving Proposed Outcomes: Evaluation Plan* (Weight 1.0). The Secretary reviews each application to determine to what degree—

(1) There is a mechanism to evaluate plans, progress and results;

(2) The evaluation methods and objectives are likely to produce data that are quantifiable; and

(3) The evaluation results, where relevant, are likely to be assessed in a service setting.

(f) *Program/Project Management: Plan of Operation* (Weight 2.0). The Secretary reviews each application to determine to what degree—

(1) There is an effective plan of operation that insures proper and efficient administration of the project(s);

(2) The applicant's planned use of its resources and personnel is likely to achieve each objective;

(3) Collaboration between institutions, if proposed, is likely to be effective; and

(4) There is a clear description of how the applicant will include eligible project participants who have been traditionally underrepresented, such as—

(i) Members of racial or ethnic minority groups;

(ii) Women;

(iii) Handicapped persons; and

(iv) The elderly.

(g) *Program/Project Management: Adequacy of Resources* (Weight 1.0). The Secretary reviews each application to determine to what degree—

(1) The facilities planned for use are adequate;

(2) The equipment and supplies planned for use are adequate; and

(3) The commitment of the applicant to provide administrative support and adequate facilities is evident.

(h) *Program/Project Management: Budget and Cost Effectiveness* (Weight 1.0). The Secretary reviews each application to determine to what degree—

(1) The budget for the project(s) is adequate to support the activities;

(2) The costs are reasonable in relation to the objectives of the project(s); and

(3) The budget for subcontracts (if required) is detailed and appropriate.

Eligible Applicants

Parties eligible to apply for grants under this program are public and private nonprofit and for-profit agencies and organizations, including institutions of higher education and Indian tribes and tribal organizations.

Program Authority: 29 U.S.C. 761a and 762.

PROGRAM TITLE: REHABILITATION RESEARCH AND TRAINING CENTERS APPLICATION NOTICES FOR FISCAL YEAR 1990

CFDA No.	Program title	Funding priority	Deadline for transmittal of applications	Estimated No. of awards (per year)	Estimated size of award	Project period (months)
84.133B	Rehabilitation research and training centers.	Rehabilitation for persons with long-term mental illness.	Dec. 8, 1989	1	$500,000	60
		Improving management effectiveness in independent living.	do	1	400,000	60
		Research in policy issues in independent living.	do	1	400,000	60
		Community integration for persons with mental retardation.	do	1	400,000	60

Purpose: Rehabilitation Research and Training Centers conduct coordinated and advanced programs of rehabilitation research, provide training—including undergraduate, graduate, and in-service training—to research and other rehabilitation personnel, and assist individuals to more effectively provide rehabilitation services.

Selection Criteria: The Secretary uses the following selection criteria to evaluate applications under this program.

(a) *Relevance and Importance of the Research Program (20 points).* The Secretary reviews each application to determine to what degree—

(1) The proposed activities are responsive to a priority established by the Secretary and address a significant need of a disabled target population and rehabilitation service providers;

(2) The overall research program of the Center includes appropriate interdisciplinary and collaborative research activities, is likely to lead to new and useful knowledge in the priority area, and is likely to become a nationally recognized source of scientific knowledge; and

(3) The applicant demonstrates that all component activities of the center are related to the overall objective of the Center, and will build upon and complement each other to enhance the likelihood of solving significant rehabilitation problems.

(b) *Quality of the research design (35 points).* The Secretary review each application to determine to what degree—

(1) The applicant proposes a comprehensive research program for the entire project board, including at least three interrelated research projects;

(2) The research design and methodology of each proposed activity are meritorious in that—

(i) The literature review is appropriate and indicates familiarity with current research in the field;

(ii) The research hypotheses are important and scientifically relevant;

(iii) The sample populations are appropriate and significant;

(iv) The data collection and measurement techniques are appropriate and likely to be effective;

(v) The data analysis methods are appropriate; and

(vi) The applicant assures that human subjects, animals, and the environment are adequately protected.

(3) The application discusses the anticipated research results and demonstrates how these results would satisfy the original hypotheses and could be used for planning future research, including generation of new hypotheses where applicable.

(c) *Quality of the Training and Dissemination program (25 points).* The Secretary reviews each application to determine the degree to which—

(1) The proposed plan for training and dissemination provides evidence that research results will be effectively disseminated and utilized based on the identification of appropriate and accessible target groups; the proposed training materials and methods are appropriate; the proposed activities are relevant to the regional and national needs of the rehabilitation field; and the training materials and dissemination packages will be developed in alternate media that are usable by people with various types of disabilities.

(2) The proposed plan for training and dissemination provides for—

(i) Advanced training in rehabilitation research;

(ii) Training rehabilitation service personnel and other appropriate individuals to improve practitioner skills based on new knowledge derived from research;

(iii) Training packages that make research results available to service providers, researchers, educators, disabled individuals, parents, and others;

(iv) Technical assistance or consultation that is responsive to the concerns of service providers and consumers; and

(v) Dissemination of research findings through publication in professional journals, textbooks, and consumer and other publications, and through other appropriate media such as audiovisual materials and telecommunications.

(d) *Qualtiy of the Organization and Management (20 points).* The Secretary reviews each application to determine the degree to which—

(1) The staffing plan for the Center provides evidence that the project director, research director, training director, principal investigators, and other personnel have appropriate training and experience in disciplines required to conduct the proposed activities; the commitment of staff time is adequate to conduct all proposed activities; and the Center, as part of its nondiscriminatory employment practices, will ensure that its personnel are selected for employment without regard to race, color, national origin, gender, age, or handicapping conditions;

(2) The budgets for the Center and for each component project are reasonable, adequate, and cost-effective for the proposed activities;

(3) The facilities, equipment, and other resources are adequate and are appropriately accessible to persons with disabilities;

(4) The plan of operators is adequate to accomplish the Center's objectives and to ensure proper and efficient management of the Center;

(5) The proposed relationships with Federal, State, and local rehabilitation service providers and consumer organizations are likely to ensure that the Center program is relevant and applicable to the needs of consumers and service providers;

(6) The past performance and accomplishments of the applicant indicate an ability to complete successfully the proposed scope of work;

(7) The application demonstrates appropriate commitment and support by the host institution and opportunities for interdisciplinary activities and collaboration with other institutions; and

(8) The plan for evaluation of the Center provides for an annual assessment of the outcomes of the research, the impact of the training and dissemination activities on the target populations, and the extent to which the overall objectives have been accomplished.

Eligible Applicants

Universities and agencies in affiliation with universities, including Indian tribes and tribal organizations, are eligible to apply for awards under this program.

Program Authority: 29 U.S.C. 762.

PROGRAM TITLE: KNOWLEDGE DISSEMINATION AND UTILIZATION PROJECTS APPLICATION NOTICES FOR FISCAL YEAR 1990

CFDA No.	Program title	Funding priority	Deadline for transmittal of applications	Estimated No. of awards (per year)	Estimated size of award	Project period (months)
84.133D	Knowledge dissemination and utilization	Demographic data analysis	Dec. 18, 1989	1	$200,000	36
		International exchange of experts in rehabilitation.	do	2	200,000	36

Purpose: The Knowledge Dissemination and Utilization Program is designed to support activities that will ensure that rehabilitation knowledge generated from projects and centers funded by the Institute and other sources is fully utilized to improve the lives of individuals with disabilities.

Selection Criteria: To evaluate applications under this program, the Secretary uses the same selection criteria as those published above under the Research and Demonstration Program, 84.133A.

Program Authority: 29 U.S.C. 761(a), 762(a), and 762(b)(5).

PROGRAM TITLE: REHABILITATION ENGINEERING CENTERS APPLICATION NOTICES FOR FISCAL YEAR 1990

CFDA No.	Program Title	Funding Priority	Deadline for Transmittal of Applications	Estimated No. of Awards	Estimated Size of Award (Per year)	Project Period (Months)
84.133E	Rehabilitation engineering centers	Blindness and low-vision sensory aids	Aug. 31, 1989	1	$600,000	60
		Applications of technology to the rehabilitation of children with orthopedic disabilities.	do	1	500,000	60

Purpose: Rehabilitation Engineering Centers (REC) conduct coordinated programs of advanced research of an engineering or technological nature, in order to develop and test new engineering solutions to problems of disability, to develop systems for the exchange of technical and engineering information and to improve the distribution of technological devices and equipment to individuals with disabilities. Each REC must be located in a clinical rehabilitation setting and is encouraged to collaborate with institutions of higher education.

Selection Criteria: The Secretary uses the following selection criteria to evaluate applications under this program.

(a) *Relevance and Importance of the Research Program* (25 points). The Secretary reviews each application to determine to what degree—

(1) The proposed activities are responsive to a priority established by the Secretary and address a significant need of a disabled target population and rehabilitation service providers;

(2) The overall research program of the Center includes appropriate interdisciplinary and collaborative research activities, is likely to lead to new and useful knowledge in the priority area and to the development of new technology or new applications of existing technology, and is likely to become a nationally recognized source of information on technology in the priority area; and

(3) The applicant demonstrates that all component activities of the Center are related to the overall objectives of the Center, and will build upon and complement each other to enhance the likelihood of finding solutions to significant rehabilitation problems.

(b) *Quality of the Research Design* (25 points). The Secretary reviews each application to determine to what degree—

(1) The applicant proposes a comprehensive program of research for the total project period, including at least three interrelated research projects;

(2) The research design and methodology of each proposed activity are meritorious in that—

(i) The literature review is appropriate and indicates familiarity with the state-of-the-art and current research in rehabilitation technology;

(ii) The research hypotheses are important and scientifically relevant;

(iii) The sample populations are appropriate and significant;

(iv) The data collection and measurement techniques are appropriate and likely to be effective;

(v) The data analysis methods are appropriate; and

(vi) The applicant assures that human subjects, animals, and the environment are adequately protected;

(3) The plan for development, clinical testing, and evaluation of new devices and technology is likely to yield significant products; and

(4) The application discusses the anticipated research results and demonstrates how those results would satisfy the original hypotheses and could be used for planning additional research, including the generation of new hypotheses where applicable.

(c) *Quality of the Dissemination and Utilization Program* (25 points). The Secretary reviews each application to determine the degree to which—

(1) The proposed plan for dissemination provides evidence that research results will be effectively disseminated and utilized based on the identification of appropriate and accessible target groups; the proposed activities are relevant to the regional and national needs of the rehabilitation field; and dissemination packages will be prepared in a form usable by individuals with all types of disabilities;

(2) The proposed plan for dissemination and utilization of the research and development provides for—

(i) Orientation programs for rehabilitation service personnel to improve the application of rehabilitation technology;

(ii) Programs which specifically demonstrate means for utilizing rehabilitation technology;

(iii) Technical assistance and consultation that are responsive to concerns of service providers and consumers; and

(iv) Dissemination of research findings through publication in professional journals, textbooks, and consumer and other publications, and through other appropriate media such as audiovisual materials and telecommunications, in an effort to make research results accessible to manufacturers, rehabilitation service providers, and researchers, educators, disabled individuals and their families, and others; and

(3) There is an appropriate plan to ensure the distribution and utilization of new devices and technology.

(d) *Quality of the Organization and Management* (25 points). The Secretary reviews each application to determine the degree to which—

(1) The staffing plan for the Center provides evidence that the principal investigator and other personnel have appropriate training and experience in disciplines required to conduct the proposed activities; the commitment of time for all staff is adequate to conduct all proposed activities; and the Center, as part of its nondiscriminatory employment practices, will ensure that its personnel are selected for employment without regard to race, color, national origin, gender, age, or handicapping condition.

(2) The budget for the Center and each of the proposed activities are reasonable, adequate, and cost-effective for the proposed activities;

(3) The facilities, equipment, and other resources are adequate and are appropriately accessible to persons with disabilities;

(4) The plan of operations is adequate to accomplish the Center's objectives and to ensure proper and efficient management of the Center;

(5) The proposed relationships with Federal, State, and local rehabilitation service providers and consumer organizations are likely to ensure that the Center program is relevant and applicable to the needs of consumers and service providers;

(6) The past performance and accomplishments of the applicant indicate an ability to complete successfully the proposed scope of work;

(7) The application demonstrates appropriate commitment and support by the host institution and opportunities for interdisciplinary activities and collaboration with other institutions; and

(8) The plans for evaluation of the Center will assess annually the outcomes of the discrete and interrelated research projects, the impact of the training and dissemination activities on the target populations, and the extent to which the overall objectives have been accomplished.

Program Authority: 29 U.S.C. 760, 762(b)(2).

NATIONAL INSTITUTE ON DISABILITY AND REHABILITATION RESEARCH INFORMATION FOR TRANSMITTAL OF APPLICATIONS UNDER CERTAIN PROGRAMS FOR FISCAL YEAR 1990

CFDA No.	Program title	Deadline for transmittal of applications	Estimated available funds	Estimated No. of awards	Estimated range of awards	Estimated average award	Project period (months)
84.133G	Field-initiated Research	Nov. 17, 1989	$2,500,000	25	$75,000-125,000	$100,000	36
84.133P	Research training grants	Oct. 30, 1989	500,000	3	125,000-185,000	165,000	36
84.133F	Research fellowships	Dec. 1, 1989	300,000	10	26,000-31,000	30,000	12
84.133N	Spinal cord injury model demonstrations	Apr. 2, 1990	5,000,000	13	350,000-400,000	384,000	36
84.133C	Innovation	May 4, 1990	900,000	19	50,000	50,000	12

Title of Program: Innovation Grants.

Purpose: This program is designed to provide financial support to projects that: (a) test new concepts and innovative ideas; (b) demonstate research results of high potential benefits; (c) purchase and evaluate prototype aids and devices; (d) develop unique rehabilitation training curricula; and (e) conduct feasibility, planning, and evaluation studies and conferences, and other activities to disseminate specific research findings.

Selection Criteria: The Secretary uses the following selection criteria to evaluate applications under this program.

(a) *Importance of the Project (50 points).* The Secretary reviews each application to determine to what degree the proposed activity will address a significant need of the target population and will meet the purpose of this part.

(b) *Project Design or Methodology (25 points).* The Secretary reviews each application to determine to what degree the underlying hypothesis of conceptual model is sound; the project design is likely to achieve the desired objectives; and the evaluation plan is appropriate.

(c) *Plan of Operation (25 points).* The Secretary reviews each application to determine the extent to which the qualifications and background of the key personnel, the management and financial plan, and the capability and resources of the applicant organization demonstrate that the applicant will be able to carry out the proposed project.

Eligible Applicants

Public and private organizations, including institutions of higher education and Indian tribes and tribal organizations are eligible to apply for awards in this program.

Program Authority: 29 U.S.C. 762(b)(13).

Program Title: Rehabilitation Research Fellowships.

Purpose: The purpose of this program is to build research capacity by providing support to highly qualified individuals to perform research on the rehabilitation of disabled persons.

Selection Criteria: The Secretary evaluates applications for fellowships according to the following criteria in 34 CFR 356.30.

(a) Quality and level of formal education, previous work experience, and recommendations of present or former supervisors or colleagues that include an indication of the applicant's ability to work creatively in scientific research; and

(b) The quality of a research proposal of no more than 12 pages containing the following information:

(1) The importance of the problem to be investigated to the purpose of the Act and the mission of NIDRR.

(2) The research hypotheses or related objectives and the methodology and design to be followed.

(3) Assurance of the availability of any necessary data resources, equipment, or institutional support, including technical consultation and support where appropriate, required to carry out the proposed activity.

Eligible Applicants

Individuals only are eligible to apply for research fellowships under this program.

Program Authority: 29 U.S.C. 761a(d).

Program Title: Field-Initiated Research.

Purpose: This program is designed to encourage eligible parties to originate valuable ideas for research and demonstration, development, or knowledge dissemination projects to improve the lives of individuals with disabilities, and to support research and demonstration, development, or knowledge dissemination projects as described in program regulations that address important activities not supported by Institute-funded research or that complement that research in a promising way.

Selection Criteria: The Secretary uses the following criteria to evaluate an application under this program.

(a) *Importance of the Problem.* (20 points) The Secretary reviews each application to determine the extent to which—

(1) The proposed project addresses a problem that is significant to persons with disabilities or to those who provide services to them; and

(2) The proposed project is likely to produce new and useful knowledge, techniques, or devices that will develop or disseminate solutions to problems confronting persons with disabilities.

(b) *Design of the Project.* (45 points)

(1) The Secretary reviews each application for a research and demonstration project to determine the extent to which—

(i) The review of the literature is appropriate and indicates familiarity with the relevant current research;

(ii) The research hypotheses are theoretically sound and based on current knowledge;

(iii) The sample populations are adequate and appropriately selected;

(iv) The data collection instruments and methods are appropriate and likely to be successful;

(v) The data analysis measures are appropriate; and

(vi) The application discusses the anticipated research results and demonstrates how those results would satisfy the original hypotheses.

(2) The Secretary reviews each application for a knowledge dissemination project to determine the extent to which—

(i) The need for the information has been demonstrated;

(ii) The target populations are appropriately specified;

(iii) The dissemination methods are appropriate to the target population;

(iv) The materials for dissemination are prepared in media accessible to the target population;

(v) There are adequate means of documenting and evaluating the effectiveness of the dissemination activity.

(3) The Secretary reviews each application for a development project to determine the extent to which—

(i) The proposed project will use the most effective and appropriate technology available in developing the new device or technique;

(ii) The proposed development is based on a sound conceptual model that demonstrates an awareness of the state-of-the-art in technology;

(iii) Devices or techniques will be developed and tested in an appropriate environment;

(iv) The applicant considers the cost-effectiveness and usefulness of the device or technique to be developed for persons with disabilities; and

(v) The applicant discusses the potential for commercial or private manufacture, marketing, and distribution of the product.

(c) *Personnel.* (20 points) The Secretary reviews each application to determine the extent to which—

(1) The key personnel have adequate training and experience in the required discipline to conduct the proposed activities;

(2) The allotment of staff time is adequate to accomplish the proposed activities; and

(3) The applicant ensures that personnel are selected for employment without regard to race, color, national origin, gender, age, or handicapping conditions.

(d) *Management and Evaluation.* (15 points) The Secretary reviews each application to determine the extent to which—

(1) The resources of the applicant are adequate, appropriate, and accessible to individuals with disabilities;

(2) The proposed budget is adequate and appropriate for the activities to be carried out;

(3) There is a plan, appropriate to the type of field-initiated project, to evaluate the effectiveness of the project in accomplishing its goals and objectives;

(4) The applicant provides a plan of operations, appropriate to the type of field-initiated project, indicating that it will achieve the project objectives in a timely and effective manner; and

(5) Appropriate collaboration with other agencies is assured.

Eligible Applicants

Public and private organizations, including institutions of higher education and Indian tribes and tribal organizations, are eligible to apply for awards under this program.

Program Authority: 29 U.S.C. 762.

Title of Program: Special Projects and Demonstrations for Spinal Cord Injuries.

Purpose: The Special Projects and Demonstrations for Spinal Cord Injuries program provides assistance to establish innovative projects for the delivery, demonstration, and evaluation of comprehensive medical, vocational, and other rehabilitation services to meet the wide range of needs of individuals with spinal cord injuries. Recipients of awards under this program must establish a multidisciplinary service system, demonstrate and evaluate both the services and the costs and benefits of those services, establish a research environment within the system, demonstrate and evaluate the application of improved methods and equipment, and participate as directed by the Secretary in national studies of the benefits of a spinal cord injury service system.

Selection Criteria: The Secretary uses the following criteria to evaluate an application under this model SCI Systems program.

(a) *Project Design (20 points).* The Secretary reviews each application to determine to what degree—

(1) There is a clear description of how the objectives of the project relate to the purpose of the program;

(2) The research is likely to produce new and useful information;

(3) The need and target population are adequately defined; and

(4) The outcomes are likely to benefit the defined target population.

(b) *Service Comprehensiveness (20 points).* The Secretary reviews each application to determine to what degree—

(1) The services to be provided within the project are comprehensive in scope and include emergency medical services, intensive and acute medical care, rehabilitation management, psychosocial and community reintegration, and follow up:

(2) A broad range of vocational and other rehabilitation services will be available to severely handicapped individuals within the project; and

(3) Services will be coordinated with those services provided by other appropriate community resources.

(c) *Plan of Operation (15 points).* The Secretary reviews each application to determine to what degree—

(1) There is an effective plan of operation that ensures proper and efficient administration of the project;

(2) The applicant's planned use of its resources and personnel is likely to achieve each objective;

(3) Collaboration between institutions, if proposed, is likely to be effective; and

(4) There is a clear description of how the applicant will include eligible project participants who have been traditionally underrepresented, such as—

(i) Members of racial or ethnic minority groups;

(ii) Women;

(iii) Handicapped persons; and

(iv) The elderly.

(d) *Quality of Key Personnel (10 points).* The Secretary reviews each application to determine to what degree—

(1) The principal investigator and other key staff have adequate training or experience, or both, in spinal cord injury care and rehabilitation and demonstrate appropriate potential to conduct the proposed research, demonstration, training, development, or dissemination activity;

(2) The principal investigator and other key staff are familiar with pertinent literature or methods, or both;

(3) All the disciplines necessary to establish the multi-disciplinary system described in § 359.11(a) are effectively represented;

(4) Commitments of staff time are adequate for the project; and

(5) The applicant is likely, as part of its nondiscriminatory employment practices to encourage applications for employment from persons who are members of groups that traditionally have been underrepresented, such as—

(i) Members of racial or ethnic minority groups;

(ii) Women;

(iii) Handicapped persons; and

(iv) The elderly.

(e) *Adequacy of Resources (10 points).* The Secretary reviews each application to determine to what degree—

(1) The facilities planned for use are adequate;

(2) The equipment and supplies planned for use are adequate; and

(3) The commitment of the applicant to provide administrative and other necessary support is evident.

(f) *Budget/Cost Effectiveness (10 points).* The Secretary reviews each application to determine to what degree—

(1) The budget for the project is adequate to support the activities;

(2) The costs are reasonable in relation to the objectives of the project; and

(3) The budget for subcontracts (if required) is detailed and appropriate.

(g) *Dissemination/Utilization (5 points).* The Secretary reviews each application to determine to what degree—

(1) There is clearly defined plan for dissemination and utilization of project findings;

(2) The research results are likely to become available to others working in the field;

(3) The means to disseminate and promote utilization by others are defined; and

(4) The utilization approach is likely to address the defined need.

(h) *Evaluation Plan (10 points).* The Secretary reviews each application to determine to what degree—

(1) There is a mechanism to evaluate plans, progress and results;

(2) The evaluation methods and objectives are likely to produce data that are quantifiable; and

(3) The evaluation results, where relevant, are likely to be assessed in a service setting.

Eligible Applicants

Under this program, awards are made to public and private nonprofit and for-profit agencies and organizations and institutions of higher education.

Program Authority: 29 U.S.C. 762(b)(3).

Program Title: Research Training Grants.

Purpose: The purpose of this program is to expand capability in the field of rehabilitation research by supporting projects that provide advanced training in rehabilitation research. These projects provide research training and experience at an advanced level to individuals with doctorates or similar advanced degrees who have clinical or other relevant experience, including experience in management or basic science research, in fields pertinent to rehabilitation, in order to qualify those individuals to conduct independent research on problems related to disability and rehabilitation.

Selection Criteria: The Secretary uses the following criteria in 34 CFR 360.31 to evaluate applications under this program.

(a) *Importance and Potential Contribution.* (20 points) The Secretary reviews each application to determine to what degree—

(1) The applicant is responsive to any priority established under § 360.32;

(2) The applicant proposes to provide training in a rehabilitation discipline or area of study in which there is a shortage of qualified researchers, or to provide training to a trainee population in which there is a need for more qualified researchers, such as clinicians in rural areas, or clinicians who are directly experienced with underserved populations; and

(3) The applicant is likely to make a significant increase in the number of trained rehabilitation researchers.

(b) *Quality of Proposed Training Program.* (40 points) The Secretary reviews each application to determine to what degree—

(1) The applicant's proposed recruitment program is likely to be effective in recruiting highly qualified trainees;

(2) The proposed didactic and classroom training programs emphasize scientific methodology are multidisciplinary, comprehensive, and appropriate to the level of the trainees, and are likely to produce qualified independent researchers;

(3) The quality and extent of the academic mentorship, guidance, and supervision to be provided to each individual trainee are of a high level and are likely to produce highly qualified researchers;

(4) The type, extent, and quality of the proposed clinical and laboratory research experience, including the opportunity to participate in research on meaningful topics at an advanced level, are likely to develop individuals with the capacity to perform independent research; and

(5) The opportunities for collegial and collaborative activities, exposure to outstanding scientists in the field, and opportunities to participate in the preparation of scholarly or scientific publications and presentations are extensive and appropriate.

(c) *Personnel and Resources Committed to the Project.* (30 points) The Secretary evaluates each application to determine to what degree—

(1) The activities of the project will be implemented by sufficient and qualified staff who are outstanding scientists in the field;

(2) The project director and other key staff are experienced in the delivery of advanced research training as well as knowledgable about the methodology and literature of pertinent subject areas;

(3) All required disciplines are effectively included; and

(4) The applicant possesses the appropriate facilities, laboratories, and access to clinical populations and organizations representing persons with disabilities to support the conduct of

advanced clinical rehabilitation research.

(d) *Management and Operating Plans.* (10 points) The Secretary evaluates each application to determine to what degree—

(1) There is an effective plan of operation that ensures proper and efficient administration of the project;

(2) There is an effective plan for collaboration with other institutions of higher education and organizations whose participation is necessary to ensure effective classroom and clinical research training;

(3) The applicant, as part of its nondiscriminatory employment practices, will ensure that its personnel are selected without regard to race, color, national origin, gender, age or handicapping condition;

(4) The applicant has provided an adequate plan for the use of facilities, resources, supplies and equipment;

(5) The budget for the project is reasonable and adequate to support the proposed activities; and

(6) The applicant provides an appropriate plan for the evaluation of all phases of the project.

Eligible Applicants

Institutions of higher education are eligible to receive awards under this program.

Program Authority: 29 U.S.C. 761(a)(k).

Instructions for Transmittal of Applications

(a) If an applicant wants to apply for a grant, the applicant shall—

(1) Mail the original and two copies of the application on or before the deadline date to:

U.S. Department of Education,
Application Control Center, Attention: (CFDA #_____), Washington, DC 20202–4725

or

(2) Hand deliver the original and two copies of the application by 4:30 p.m. (Washington, DC time) on the deadline date to:

U.S. Department of Education,
Application Control Center, Attention: (CFDA #_____), Room #3633, Regional Office Building #3, 7th and D Streets, S.W., Washington, DC

(b) An applicant must show one of the following as proof of mailing:

(1) A legibly dated U.S. Postal Service postmark.

(2) A legible mail receipt with the date of mailing stamped by the U.S. Postal Service.

(3) A dated shipping label, invoice, or receipt from a commercial carrier.

(4) Any other proof of mailing acceptable to the Secretary.

(c) If an application is mailed through the U.S. Postal Service, the Secretary does not accept either of the following as proof of mailing:

(1) A private metered postmark.

(2) A mail receipt that is not dated by the U.S. Postal Service.

Notes.—(1) The U.S. Postal Service does not uniformly provide a dated postmark. Before relying on this method, an applicant should check with its local post office.

(2) An applicant wishing to know that its application has been received by the Department must include with the application a stamped, self-addressed postcard containing the CFDA number and title of this program.

(3) The applicant must indicate on the envelope and—if not provided by the Department—in Item 10 of the Application for Federal Assistance (Standard Form 424) the CFDA number—and letter, if any—of the competition under which the application is being submitted.

Application Instructions and Forms

The appendix to this application is divided into three parts plus a statement regarding estimated public reporting burden and various assurances and certifications. These parts and additional materials are organized in the same manner that the submitted application should be organized. The parts and additional materials are as follows:

Part I: Application for Federal Assistance (Standard Form 424 (Rev. 4–88)) and instructions.

Part II: Budget Information—Non-Construction Programs (Standard Form 424A) and instructions.

Part III: Application Narrative.

Additional Materials

Estimated Public Reporting Burden.

Assurances—Non-Construction Programs (Standard Form 424B).

Certification regarding Debarment, Suspension, and Other Responsibility Matters: Primary Covered Transactions (ED Form GCS–008) and instructions.

Certification regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion: Lower Tier Covered Transactions (Ed Form GCS–009) and instructions. (Note: Ed Form GCS–009 is intended for use of grantees and should not be transmitted to the Department.)

Certfication Regarding Drug-Free Workplace Requirements: Grantees Other than Individuals (Ed 80–0004).

Certification Regarding Drug-Free Workplace Requirements: Grantees Who Are Individuals (Ed 80–0005).

An applicant may submit information on a photostatic copy of the application and budget forms, the assurances, and the certifications. However, the application form, the assurances, and the certifications must each have an *original signature.* No grant may be awarded unless a completed application form has been received.

Further Information Contact

The National Institute on Disability and Rehabilitation Research, 400 Maryland Avenue SW., Washington, DC 20202. Telephone: (202) 732–1141; deaf and hearing impaired persons may call (202) 732–1198 for TDD services.

Authority: 29 U.S.C. 760–762.

Dated: June 22, 1989.

Patricia McGill Smith,

Acting Assistant Secretary, Office of Special Education and Rehabilitative Services.

Appendix

Application Forms and Instructions

Applicants are advised to reproduce and complete the application forms in this Section. Applicants are required to submit an original and two copies of each application as provided in this Section.

Frequent Questions

1. *Can I get an extension of the due date?*

No! On rare occasions the Department of Education may extend a closing date for all applicants. If that occurs, a notice of the revised due date is published in the Federal Register. However, there are no extensions or exceptions to the due date made for individual applicants.

2. *What should be included in the application?*

The application should include a project narrative, vitae of key personnel, and a budget, as well as the Assurances forms included in this package. Vitae of staff or consultants should include the individual's title and role in the proposed project, and other information that is specifically pertinent to this proposed project. The budgets for both the first year and subsequent project years should be included.

If collaboration with another organization is involved in the proposed activity, the application should include assurances of participation by the other parties, including written agreements or assurances of cooperation. It is not useful to include general letters of support or endorsement in the application.

If the applicant proposes to use unique tests or other measurement instruments that not widely known in the field, it would be helpful to include the instrument in the application.

Many applications contain voluminous appendices that are not helpful and in many cases cannot even be mailed to the reviewers. It is generally not helpful to include such things as brochures, general capability statements of collaborating organizations, maps, copies of publications, or descriptions of other projects completed by the applicant.

3. *What format should be used for the application?*

NIDRR generally advises applicants that they may organize the application to follow the selection criteria that will be used. The specific review criteria vary according to the specific program, and are contained in this Consolidated Application Package.

4. *May I submit applications to more than one program competition NIDRR or more than one application to a program?*

Yes, you may submit applications to any program for which they are responsive to the program requirements. You may submit the same application to as many competitions as you believe appropriate. You may also submit more than one application in any given competition.

5. *What is the allowable indirect cost rate?*

The limits on indirect costs vary according to the program and the type of application.

Applications that are for training activities, including all applications in the Research Training grants program, should limit indirect charges to the lesser of the actual indirect costs or eight percent of the total direct costs of the program, as noted in the Education Department General Administrative Regulations (EDGAR). The statutory limit for indirect charges in the Rehabilitation Research and Training Centers program is 15 percent of total project costs.

All other applicants in the R&D, D&U, REC, FIR, Innovation grants, and Spinal Cord Injury programs should limit indirect charges to the organization's approved rate. If the organization does not have an approved rate, the application should include an estimated actual rate.

6. *Can profitmaking businesses apply for grants?*

Yes. However, for-profit organizations will not be able to collect a fee or profit on the grant, and in some programs will be required to share in the costs of the project.

7. *Can individuals apply for grants?*

No. Only organizations are eligible to apply for grants under NIDRR programs.

8. *Is there a cost-sharing or matching requirement?*

Cost-sharing is required in the Research and Demonstration Projects program, with certain exceptions noted in the law; and the Knowledge Dissemination and Utilization program. For the Rehabilitation Engineering Centers, the Secretary has the option to require matching. It is generally the practice of the agency to require cost-sharing under this program.

There is no set rate for cost-sharing. The cost-sharing is negotiated at the time an award is made and is not part of the evaluation of the application.

9. *Can NIDRR staff advise me whether my project is of interest to NIDRR or likely to be funded?*

No. NIDRR staff can advise you of the requirements of the program in which you propose to submit your application. However, staff cannot advise you of whether your subject area or proposed approach is likely to receive approval.

10. *How do I assure that my application will be referred to the most appropriate panel for review?*

Applicants should be sure that their applications are referred to the correct competition by clearly including the competition title and CFDA number, including alphabetical code, on the Standard Form 424, and including the title of the priority to which they are responding.

11. *How soon after submitting my application can I find out if it will be funded?*

The time from closing date to grant award date varies from program to program. Generally speaking, NIDRR endeavors to have awards made within five to six months of the closing date. Unsuccessful applicants generally will be notified within that time frame as well. For the purpose of estimating a project start date, the applicant should estimate approximately six months from the closing date, but no later than the following September 30.

12. *Can I call NIDRR to find out if my application is being funded?*

No! When NIDRR is able to release information on the status of grant applications, it will notify applicants by letter. The results of the peer review cannot be released except through this formal notification.

13. *If my application is successful, can I assume I will get the requested budget amount in subsequent years?*

No. Those budget projections are necessary and helpful for planning purposes. However, a complete budget and budget justification must be submitted for each year of the project and there will be negotiations on the budget each year.

14. *Will all approved applications be funded?*

No. It often happens that the peer review panels approve for funding more applications than NIDRR can fund within available resources. Applicants who are approved but not funded are encouraged to consider submitting similar applications in future competitions.

BILLING CODE 4000-01-M

OMB Approval No. 0348-0043

APPLICATION FOR FEDERAL ASSISTANCE

2. DATE SUBMITTED	Applicant Identifier
3. DATE RECEIVED BY STATE	State Application Identifier
4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier

1. TYPE OF SUBMISSION:

Application	*Preapplication*
☐ Construction	☐ Construction
☒ Non-Construction	☐ Non-Construction

5. APPLICANT INFORMATION

Legal Name:

Organizational Unit:

Address *(give city, county, state, and zip code)*:

Name and telephone number of the person to be contacted on matters involving this application *(give area code)*

6. EMPLOYER IDENTIFICATION NUMBER (EIN): ☐☐ – ☐☐☐☐☐☐☐

7. TYPE OF APPLICANT: *(enter appropriate letter in box)* ☐

A. State
B. County
C. Municipal
D. Township
E. Interstate
F. Intermunicipal
G. Special District
H. Independent School Dist.
I. State Controlled Institution of Higher Learning
J. Private University
K. Indian Tribe
L. Individual
M. Profit Organization
N. Other (Specify): _____

8. TYPE OF APPLICATION:

☐ New ☐ Continuation ☐ Revision

If Revision, enter appropriate letter(s) in box(es): ☐ ☐

A. Increase Award B. Decrease Award C. Increase Duration
D. Decrease Duration Other *(specify)*:

_____

9. NAME OF FEDERAL AGENCY:

Department of Education

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: ☐☐ ☐☐☐

TITLE:

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:

12. AREAS AFFECTED BY PROJECT *(cities, counties, states, etc.)*:

13. PROPOSED PROJECT: Start Date	Ending Date	14. CONGRESSIONAL DISTRICTS OF: a. Applicant	b. Project

15. ESTIMATED FUNDING:		
a. Federal	$	.00
b. Applicant	$	.00
c. State	$	.00
d. Local	$	.00
e. Other	$	.00
f. Program Income	$	.00
g. TOTAL	$	.00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?

a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:

DATE _____

b. NO. ☐ PROGRAM IS NOT COVERED BY E.O. 12372

☐ OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?

☐ Yes If "Yes," attach an explanation. ☐ No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED

a. Typed Name of Authorized Representative	b. Title	c. Telephone number
d. Signature of Authorized Representative		e. Date Signed

Previous Editions Not Usable

Standard Form 424 (REV 4-88)
Prescribed by OMB Circular A-102

Authorized for Local Reproduction

INSTRUCTIONS FOR THE SF 424

This is a standard form used by applicants as a required facesheet for preapplications and applications submitted for Federal assistance. It will be used by Federal agencies to obtain applicant certification that States which have established a review and comment procedure in response to Executive Order 12372 and have selected the program to be included in their process, have been given an opportunity to review the applicant's submission.

Item: Entry:

1. Self-explanatory.
2. Date application submitted to Federal agency (or State if applicable) & applicant's control number (if applicable).
3. State use only (if applicable).
4. If this application is to continue or revise an existing award, enter present Federal identifier number. If for a new project, leave blank.
5. Legal name of applicant, name of primary organizational unit which will undertake the assistance activity, complete address of the applicant, and name and telephone number of the person to contact on matters related to this application.
6. Enter Employer Identification Number (EIN) as assigned by the Internal Revenue Service.
7. Enter the appropriate letter in the space provided.
8. Check appropriate box and enter appropriate letter(s) in the space(s) provided:
   - "New" means a new assistance award.
   - "Continuation" means an extension for an additional funding/budget period for a project with a projected completion date.
   - "Revision" means any change in the Federal Government's financial obligation or contingent liability from an existing obligation.
9. Name of Federal agency from which assistance is being requested with this application.
10. Use the Catalog of Federal Domestic Assistance number and title of the program under which assistance is requested.
11. Enter a brief descriptive title of the project. if more than one program is involved, you should append an explanation on a separate sheet. If appropriate (e.g., construction or real property projects), attach a map showing project location. For preapplications, use a separate sheet to provide a summary description of this project.

Item: Entry:

12. List only the largest political entities affected (e.g., State, counties, cities).
13. Self-explanatory.
14. List the applicant's Congressional District and any District(s) affected by the program or project.
15. Amount requested or to be contributed during the first funding/budget period by each contributor. Value of in-kind contributions should be included on appropriate lines as applicable. If the action will result in a dollar change to an existing award, indicate *only* the amount of the change. For decreases, enclose the amounts in parentheses. If both basic and supplemental amounts are included, show breakdown on an attached sheet. For multiple program funding, use totals and show breakdown using same categories as item 15.
16. Applicants should contact the State Single Point of Contact (SPOC) for Federal Executive Order 12372 to determine whether the application is subject to the State intergovernmental review process.
17. This question applies to the applicant organization, not the person who signs as the authorized representative. Categories of debt include delinquent audit disallowances, loans and taxes.
18. To be signed by the authorized representative of the applicant. A copy of the governing body's authorization for you to sign this application as official representative must be on file in the applicant's office. (Certain Federal agencies may require that this authorization be submitted as part of the application.)

OMB Approval No. 0348-0044

BUDGET INFORMATION — Non-Construction Programs

SECTION A – BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1.		$	$	$	$	$
2.						
3.						
4.						
5. TOTALS		$	$	$	$	$

SECTION B – BUDGET CATEGORIES

6 Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1)	(2)	(3)	(4)	
a. Personnel	$	$	$	$	$
b. Fringe Benefits					
c. Travel					
d. Equipment					
e. Supplies					
f. Contractual					
g. Construction					
h. Other					
i. Total Direct Charges (sum of 6a - 6h)					
j. Indirect Charges					
k. TOTALS (sum of 6i and 6j)	$	$	$	$	$
7. Program Income	$	$	$	$	$

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Standard Form 424A (4-88)
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SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8.	$	$	$	$
9.				
10.				
11.				
12. TOTALS (sum of lines 8 and 11)	$	$	$	$

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$	$	$	$	$
14. NonFederal					
15. TOTAL (sum of lines 13 and 14)	$	$	$	$	$

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) Grant Program	FUTURE FUNDING PERIODS (Years)			
	(b) First	(c) Second	(d) Third	(e) Fourth
16.	$	$	$	$
17.				
18.				
19.				
20. TOTALS (sum of lines 16 -19)	$	$	$	$

SECTION F - OTHER BUDGET INFORMATION

(Attach additional Sheets if Necessary)

21. Direct Charges:	22. Indirect Charges:
23. Remarks	

SF 424A (4-88) Page 2
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INSTRUCTIONS FOR THE SF-424A

General Instructions

This form is designed so that application can be made for funds from one or more grant programs. In preparing the budget, adhere to any existing Federal grantor agency guidelines which prescribe how and whether budgeted amounts should be separately shown for different functions or activities within the program. For some programs, grantor agencies may require budgets to be separately shown by function or activity. For other programs, grantor agencies may require a breakdown by function or activity. Sections A,B,C, and D should include budget estimates for the whole project except when applying for assistance which requires Federal authorization in annual or other funding period increments. In the latter case, Sections A,B, C, and D should provide the budget for the first budget period (usually a year) and Section E should present the need for Federal assistance in the subsequent budget periods. All applications should contain a breakdown by the object class categories shown in Lines a-k of Section B.

Section A. Budget Summary
Lines 1-4, Columns (a) and (b)

For applications pertaining to a *single* Federal grant program (Federal Domestic Assistance Catalog number) and *not requiring* a functional or activity breakdown, enter on Line 1 under Column (a) the catalog program title and the catalog number in Column (b).

For applications pertaining to a *single* program *requiring* budget amounts by multiple functions or activities, enter the name of each activity or function on each line in Column (a), and enter the catalog number in Column (b). For applications pertaining to multiple programs where none of the programs require a breakdown by function or activity, enter the catalog program title on each line in *Column* (a) and the respective catalog number on each line in Column (b).

For applications pertaining to *multiple* programs where one or more programs *require* a breakdown by function or activity, prepare a separate sheet for each program requiring the breakdown. Additional sheets should be used when one form does not provide adequate space for all breakdown of data required. However, when more than one sheet is used, the first page should provide the summary totals by programs.

Lines 1-4, Columns (c) through (g.)

For new applications, leave Columns (c) and (d) blank. For each line entry in Columns (a) and (b), enter in Columns (e), (f), and (g) the appropriate amounts of funds needed to support the project for the first funding period (usually a year).

Lines 1-4, Columns (c) through (g.) (continued)

For continuing grant program applications, submit these forms before the end of each funding period as required by the grantor agency. Enter in Columns (c) and (d) the estimated amounts of funds which will remain unobligated at the end of the grant funding period only if the Federal grantor agency instructions provide for this. Otherwise, leave these columns blank. Enter in columns (e) and (f) the amounts of funds needed for the upcoming period. The amount(s) in Column (g) should be the sum of amounts in Columns (e) and (f).

For supplemental grants and changes to existing grants, do not use Columns (c) and (d). Enter in Column (e) the amount of the increase or decrease of Federal funds and enter in Column (f) the amount of the increase or decrease of non-Federal funds. In Column (g) enter the new total budgeted amount (Federal and non-Federal) which includes the total previous authorized budgeted amounts plus or minus, as appropriate, the amounts shown in Columns (e) and (f). The amount(s) in Column (g) should not equal the sum of amounts in Columns (e) and (f).

Line 5 — Show the totals for all columns used.

Section B Budget Categories

In the column headings (1) through (4), enter the titles of the same programs, functions, and activities shown on Lines 1-4, Column (a), Section A. When additional sheets are prepared for Section A, provide similar column headings on each sheet. For each program, function or activity, fill in the total requirements for funds (both Federal and non-Federal) by object class categories.

Lines 6a-i — Show the totals of Lines 6a to 6h in each column.

Line 6j – Show the amount of indirect cost.

Line 6k – Enter the total of amounts on Lines 6i and 6j. For all applications for new grants and continuation grants the total amount in column (5), Line 6k, should be the same as the total amount shown in Section A, Column (g), Line 5. For supplemental grants and changes to grants, the total amount of the increase or decrease as shown in Columns (1)-(4), Line 6k should be the same as the sum of the amounts in Section A, Columns (e) and (f) on Line 5.

INSTRUCTIONS FOR THE SF-424A *(continued)*

Line 7 – Enter the estimated amount of income, if any, expected to be generated from this project. Do not add or subtract this amount from the total project amount. Show under the program narrative statement the nature and source of income. The estimated amount of program income may be considered by the federal grantor agency in determining the total amount of the grant.

Section C. Non-Federal-Resources

Lines 8-11 – Enter amounts of non-Federal resources that will be used on the grant. If in-kind contributions are included, provide a brief explanation on a separate sheet.

Column (a) – Enter the program titles identical to Column (a), Section A. A breakdown by function or activity is not necessary.

Column (b) – Enter the contribution to be made by the applicant.

Column (c) – Enter the amount of the State's cash and in-kind contribution if the applicant is not a State or State agency. Applicants which are a State or State agencies should leave this column blank.

Column (d) – Enter the amount of cash and in-kind contributions to be made from all other sources.

Column (e) – Enter totals of Columns (b), (c), and (d).

Line 12 — Enter the total for each of Columns (b)-(e). The amount in Column (e) should be equal to the amount on Line 5, Column (f), Section A.

Section D. Forecasted Cash Needs

Line 13 – Enter the amount of cash needed by quarter from the grantor agency during the first year.

Line 14 – Enter the amount of cash from all other sources needed by quarter during the first year.

Line 15 – Enter the totals of amounts on Lines 13 and 14.

Section E. Budget Estimates of Federal Funds Needed for Balance of the Project

Lines 16 - 19 – Enter in Column (a) the same grant program titles shown in Column (a), Section A. A breakdown by function or activity is not necessary. For new applications and continuation grant applications, enter in the proper columns amounts of Federal funds which will be needed to complete the program or project over the succeeding funding periods (usually in years). This section need not be completed for revisions (amendments, changes, or supplements) to funds for the current year of existing grants.

If more than four lines are needed to list the program titles, submit additional schedules as necessary.

Line 20 – Enter the total for each of the Columns (b)-(e). When additional schedules are prepared for this Section, annotate accordingly and show the overall totals on this line.

Section F. Other Budget Information

Line 21 – Use this space to explain amounts for individual direct object-class cost categories that may appear to be out of the ordinary or to explain the details as required by the Federal grantor agency.

Line 22 – Enter the type of indirect rate (provisional, predetermined, final or fixed) that will be in effect during the funding period, the estimated amount of the base to which the rate is applied, and the total indirect expense.

Line 23 – Provide any other explanations or comments deemed necessary.

BILLING CODE 4000-01-C

Research and Demonstration (84.133A)
Rehabilitation Research and Training Centers (84.133B)
Innovation Grants (84.133C)
Knowledge Dissemination and Utilization (84.133D)
Research Engineering Centers (84.133E)
Research Fellowships (84.133F)
Field-Initiated Research (84.133G)
Special Demonstrations for Spinal Cord Injuries (84.133N)
Research Training Grants (84.133P)

Public reporting burden for these collections of information is estimated to average 30 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the date needed, and completing and reviewing the collection of information.

Send comments regarding this burden estimate or any other aspect of these collections of information, including suggestions for reducing this burden, to: the U.S. Department of Education, Information Management and Compliance Division, Washington, DC 20202–4651; and to the Office of Management and Budget, Paperwork Reduction Project 1620–0027, Washington, DC 20503.

(Information collection approved under OMB control number 1820–0027. Expiration date: September 30, 1990)

BILLING CODE 4000-01-M

OMB Approval No. 0348-0040

ASSURANCES — NON-CONSTRUCTION PROGRAMS

Note: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States, and if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§ 4728-4763) relating to prescribed standards for merit systems for programs funded under one of the nineteen statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§ 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C.§§ 6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§ 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. 290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. § 3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply with the provisions of the Hatch Act (5 U.S.C. §§ 1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§ 276a to 276a-7), the Copeland Act (40 U.S.C. § 276c and 18 U.S.C. §§ 874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 327-333), regarding labor standards for federally assisted construction subagreements.

Standard Form 424B (4-88)
Prescribed by OMB Circular A-102

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10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program andto purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§ 1451 et seq.); (f) conformity of Federal actions to State (Clear Air) Implementation Plans under Section 176(c) of the Clear Air Act of 1955, as amended (42 U.S.C. § 7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended, (P.L. 93-523); and (h) protection of endangered species under the Endangered Species Act of 1973, as amended, (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§ 1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. 469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. 2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§ 4801 et seq.) which prohibits the use of lead based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act of 1984.

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
APPLICANT ORGANIZATION	DATE SUBMITTED

SF 424B (4-88) Back

Certification Regarding Debarment, Suspension, and Other Responsibility Matters Primary Covered Transactions

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 34 CFR Part 85, Section 85.510, Participants' responsibilities. The regulations were published as Part VII of the May 26, 1988 Federal Register (pages 19160-19211). Copies of the regulations may be obtained by contacting the U.S. Department of Education, Grants and Contracts Service, 400 Maryland Avenue, S.W. (Room 3633 GSA Regional Office Building No. 3), Washington, D.C. 20202-4725, telephone (202) 732-2505.

(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON REVERSE)

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Organization Name PR/Award Number or Project Name

Name and Title of Authorized Representative

Signature Date

ED Form GCS-008, (REV.12/88)

Instructions for Certification

1. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

4. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if at any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department or agency to which this proposal being submitted for assistance in obtaining a copy of those regulations.

6. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

7. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion–Lower Tier Covered Transactions," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possess by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion Lower Tier Covered Transactions

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 34 CFR Part 85, Section 85.510, Participants' responsibilities. The regulations were published as Part VII of the May 26, 1988 Federal Register (pages 19160-19211). Copies of the regulations may be obtained by contacting the person to which this proposal is submitted.

(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON REVERSE)

(1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Organization Name PR/Award Number or Project Name

Name and Title of Authorized Representative

Signature Date

ED Form GCS-009, (REV. 12/88)

Instructions for Certification

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered in it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

6. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion–Lower Tier Covered Transactions," without modification, in all low tier covered transactions and in all solicitations for lower tier covered transactions.

7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possess by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Drug-Free Workplace Requirements Grantees Other Than Individuals

This certification is required by the regulations implementing the Drug-Free Workplace Act of 1988, 34 CFR Part 85, Subpart F. The regulations, published in the January 31, 1989 Federal Register, require certification by grantees, prior to award, that they will maintain a drug-free workplace. The certification set out below is a material representation of fact upon which reliance will be placed when the agency determines to award the grant. False certification or violation of the certification shall be grounds for suspension of payments, suspension or termination of grants, or governmentwide suspension or debarment (see 34 CFR Part 85, Sections 85.615 and 85.620).

The grantee certifies that it will provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

(b) Establishing a drug-free awareness program to inform employees about--

(1) The dangers of drug abuse in the workplace;
(2) The grantee's policy of maintaining a drug-free workplace;
(3) Any available drug counseling, rehabilitation, and employee assistance programs; and
(4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will--

(1) Abide by the terms of the statement; and
(2) Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction;

(e) Notifying the agency within ten days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction;

(f) Taking one of the following actions, within 30 days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted--

(1) Taking appropriate personnel action against such an employee, up to and including termination; or
(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).

Organization Name PR/Award Number or Project Name

Name and Title of Authorized Representative

Signature Date

ED 80-0004

Certification Regarding Drug-Free Workplace Requirements

Grantees Who Are Individuals

This certification is required by the regulations implementing the Drug-Free Workplace Act of 1988, 34 CFR Part 85, Subpart F. The regulations, published in the January 31, 1989 Federal Register, require certification by grantees, prior to award, that their conduct of grant activity will be drug-free. The certification set out below is a material representation of fact upon which reliance will be placed when the agency determines to award the grant. False certification or violation of the certification shall be grounds for suspension of payments, suspension or termination of grants, or governmentwide suspension or debarment (see 34 CFR Part 85, Sections 85.615 and 85.620).

The grantee certifies that, as a condition of the grant, he or she will not engage in the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance in conducting any activity with the grant.

Organization Name (As Appropriate) PR/Award Number or Project Name

Printed Name

Signature Date

ED 80-0005

federal register

Thursday
June 29, 1989

Part V

Department of Housing and Urban Development

Office of the Assistant Secretary for Housing—Federal Housing Commissioner

Requirements for Single Family Mortgage Instruments; Notice

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Office of the Assistant Secretary for Housing—Federal Housing Commissioner

[Docket No. N-89-1948; FR-2607]

Requirements for Single Family Mortgage Instruments

AGENCY: Office of the Assistant Secretary for Housing—Federal Housing Commissioner, HUD.

ACTION: Notice of policy.

SUMMARY: This Notice announces a new approach for creating mortgage instruments for HUD single family mortgage insurance programs. HUD will no longer print or distribute single family mortgage forms and will not approve the text of a complete form for each state. Mortgagees are responsible for developing or procuring their own instruments with provisions required by HUD and any additional provisions needed to produce a legally enforceable instrument conforming to the law of the state in which the property is located.

EFFECTIVE DATE: This Notice is effective June 29, 1989, but compliance is optional until a date or dates to be later announced in the **Federal Register**. See further discussion under "**SUPPLEMENTARY INFORMATION.**"

FOR FURTHER INFORMATION CONTACT: Donald B. Alexander, Home Mortgage Division, Office of General Counsel, Department of Housing and Urban Development, Room 9252, 451 7th Street, SW., Washington, DC 20410, telephone no. (202 755-7070). (This is not a toll-free number.)

SUPPLEMENTARY INFORMATION: This Notice changes HUD policy regarding the manner in which single family mortgage instruments are produced. Mortgage instruments will not be available from HUD. However, mortgagees must use instruments meeting HUD requirements to qualify for insurance. Once a mortgage is insured, section 203(e) of the National Housing Act provides that the validity of the contract of insurance held by an approved mortgagee is incontestable, except for mortgagee fraud or misrepresentation. Thus, assuming no such fraud or misrepresentation has occurred, any errors in complying with HUD's requirements for mortgage instruments will not affect insurance which has been issued on a particular mortgage. As with other violations of administrative requirements, however, a mortgagee's failure to use mortgage instruments meeting HUD's requirements could result in a particular mortgage being rejected for insurance, and could form a basis for appropriate administrative sanctions.

Background

On July 6, 1988, HUD published a Notice of Proposed Policy entitled "Requirements for Single Family Mortgage Instruments," 53 FR 25434. That Notice set forth and explained a proposed new approach for creating mortgage instruments for HUD single family mortgage insurance programs, under which mortgagees would develop or procure their own instruments meeting certain HUD requirements. The details of the proposed new requirements were contained in an Appendix to the Notice. Public comments on the Notice were due September 6, 1988.

In anticipation of publication of a final Notice of Policy which would set forth the new requirements, taking public comments into account, HUD also published a final rule making related technical changes to existing single family regulations. For example, the requirement of the former 24 CFR 203.17(a) that a mortgage "shall be executed upon a form approved by the Commissioner for use in the jurisdiction in which the property covered by the mortgage is situated" was replaced with a more general requirement that a mortgage "shall be in a form meeting the requirements of the Commissioner." See the new 24 CFR 203.17(a)(2)(i), 53 FR 34282 (September 6, 1988). Similar changes were made to other single family regulations. The final rule took effect on October 6, 1988. See 53 FR 40221 (October 14, 1988). Although the amended regulations remove the implication that the Federal Housing Commissioner must prescribe complete mortgage instruments for each jurisdiction, they permit the Commissioner to do so until such time as other requirements might be adopted. Until today, no new requirements have been issued, and HUD has continued to require use of its approved mortgage forms as the sole means of compliance with 24 CFR 203.17(a) and similar regulations. By this Notice of Policy, HUD is announcing its new requirements for single family mortgage instruments. This Notice is based on the July 6, 1988, Notice of Proposed Policy.

Paperwork Requirements

The information collection requirements contained in this Notice have been submitted to the Office of Management and Budget (OMB) for review under the Paperwork Reduction Act of 1980. No person may be subjected to a penalty for failure to comply with these information collection requirements until they have been approved and assigned an OMB control number. The OMB control number, when assigned, will be announced by separate notice in the **Federal Register**. Public reporting burden for the collection of information requirements contained in this rule are estimated to include the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Information on the estimated public reporting burden is provided below. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Department of Housing and Urban Development, Rules Docket Clerk, 451 Seventh Street, SW., Room 10276, Washington, DC 20410; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

Description of information collection	Section of 24 CFR affected	Number of respondents	Number of responses per respondents	Total annual responses	Hours per responses	Total hours
To complete a Single Family Mortage Instrument	203.17(a)	8,300	90	747,000	0.25	186,750

Public Comments

HUD received eight sets of public comments on the Notice of Proposed Policy—four from trade associations, three from financial institutions, and one from a law firm. Most of the commenters expressed concern that the proposed requirements would be difficult for mortgagees to implement because of the

large amount of discretion left to mortgagees. Although HUD proposed to require verbatim use of ten HUD-drafted mortgage paragraphs, and seven HUD-drafted promissory note paragraphs, HUD proposed that the mortgagees assume responsibility for preparing the provisions which would vary among states, as well as for "boilerplate" provisions on such subjects as governing law and manner of giving notice. Where appropriate, provisions in the mortgage instruments approved by the Federal National Mortgage Association (FNMA) and the Federal Home Loan Mortgage Corporation (FHLMC) were identified as suitable models, but their use was generally not required. In addition, commenters suggested some uncertainty about the extent to which variation by particular lenders was allowed.

The commenters identified a number of adverse consequences which could result from the perceived lack of precision in HUD's proposed requirements. The potential proliferation of differing forms for insured mortgages, according to several commenters, would interfere with the orderly operation of the secondary mortgage market, which depends on uniform standards. According to one commenter, the absence of specific FHA approval of forms could also impair the efficiency of the secondary market by eliminating the assurance that all insured mortgages are alike and therefore fungible. One commenter asserted that the new proposal would be costly for a mortgagee to implement, and might result in a defective instrument leading to technical problems during foreclosure. Another commenter mentioned the legal cost which mortgagees would incur due to the need to prepare new instruments, and the difficulty in training staff, particularly staff of mortgagees purchasing possibily differing instruments from several other mortgagees. The same commenter argued that the burden of implementing the new proposal would fall heaviest on small mortgagees, since larger mortgagees could better bear the demand on resources involved in forms production and distribution.

We received no objections to the requirement that mortgagees be responsible for the expenses of reproduction and distribution of mortgage instruments; all adverse comments on expenses and staff burden on mortgagees were directed to the burden surrounding the original drafting process and the transition to a new system. Many commenters expressly recognized, and did not object to, HUD's desire to reduce the costs and administrative burden involved in the current HUD approach to single family mortgage forms. They suggested other ways HUD could achieve these objectives.

Two commenters suggested that HUD change only the manner of distribution. Currently, HUD makes copies of its approved mortgage instruments available free of charge to all mortgagees, although many mortgagees prefer to reproduce the forms at their own expense or to purchase supplies from private forms companies. The commenters suggest that HUD continue to approve mortgage forms, but provide to each mortgagee only a "camera-ready copy" of each form. Each mortgagee could then have the camera-ready copy reproduced in quantities meeting its requirements. The Department has been informed that FNMA/FHLMC mortgage forms are provided to mortgagees in this manner.

Three commenters suggested use of the appropriate FNMA/FHLMC form, with additional HUD language. One of these commenters also suggested, as its first preference, the VA policy under which no specific mortgage instrument is required. VA regulatory requirements are considered to supersede any inconsistent provisions appearing in mortgage instruments.

HUD has carefully considered these comments. We have adopted a modified approach which should achieve many of the benefits of the suggested alternatives and which should remove or mitigate many of the problems perceived by commenters. However, the approach adopted in this notice differs in some respects from the various approaches advocated by the commenters. The final requirements appear as the Appendix to this Notice. The requirements now are represented primarily in terms of a model mortgage form and model note form set out as Exhibits A and B, respectively, to the Appendix. The model mortgage form is a complete form with two exceptions: the mortgagee must complete Paragraph 17, Foreclosure Procedures, in accordance with state law requirements, and the mortgagee must add language taken verbatim from certain specified paragraphs of the approved FNMA/FHLMC mortgage form for the jurisdiction. Footnotes to the model form explain other specific changes needed for particular states. Other changes are not permitted, unless needed to comply with state law. The model note form is a complete form with footnotes explaining specific changes needed for particular states, with no other changes permitted, unless needed to comply with state law. The revised requirements also include the mortgage riders and note allonges needed to adapt the model forms to special situations, such as non-fixed payment mortgages (adjustable rate, graduated payment or growing equity mortgages), condominiums and planned unit developments, and tax-exempt financing. We believe that this revised means of presenting our new requirements will be easier for mortgagees to follow, will result in a large degree of uniformity among mortgagees, and will substantially reduce the burden on mortgagees which choose to develop their own forms rather than procure them from other private sources.

The requirements identify a number of specific adaptations of the model forms needed to comply with state laws. We received no public comments indentifying any need to alter the mandatory mortgage and note language to comply with state law, although such comments were specifically requested. We have used the current FNMA/FHLMC forms as the principal basis of identifying state adaptations. HUD does not have blanket authority to exempt insured mortgages from relevant state laws, however, and it is possible that other state law provisions currently exist which are not reflected in the requirements, or that relevant state laws may be enacted in the future. Mortgagees aware of such laws should bring them to HUD's attention so that the requirements may be updated or the local HUD Office may issue a Circular Letter reflecting additional state law requirements. However, the enforceability of mortgage instruments will depend on compliance with state law whether or not such law is reflected in these requirements. For this reason, the requirements emphasize the need for a mortgagee to use instruments in compliance with state law. It should be noted that this is not a new position of HUD. However, it has not been clearly set forth before as a generally-applicable policy, although specific publications (e.g., the Growing Equity Mortgage Handbook and the Mortgagee Letters on Adjustable Rate Mortgages and Graduated Payment Mortgages) have recognized the need for possible adaptation of HUD-prescribed language to meet state requirements.

Many of the comments appeared to assume that all or most mortgages would produce their own forms, with a resulting wide variety of documentation for insured loans. Although any mortgagee may produce its own form in conformity with HUD requirements, HUD expects that a small number of

forms suppliers will prepare and market forms meeting HUD requirements, and that few mortgagees will find it advantageous to produce their own forms due to some of the concerns expressed in the comments—expense, possible technical defects in mortgagee-prepared instruments, and demand for uniformity by the secondary market. The revised requirements also allow almost no room for variation, so that a lender has little incentive to enter the forms drafting and production business. HUD will not attempt to review individual mortgagees' forms in advance of actual use, but we do expect to be receptive to requests for advance review of forms which are reasonably expected to be made available to a larger number of mortgagees (see later discussion).

HUD had previously considered each of the three basic alternatives proposed in the comments. The suggestion of supplying camera-ready copies for mortgagee use was not pursued since HUD would continue to retain the considerable burden and expense of maintaining and updating the current inventory of more than 150 separate note and mortgage forms. Much of the expense of actual printing and distribution of forms has already been assumed voluntarily by mortgagees. The requirements HUD is now adopting, unlike the camera-ready copy approach, will enable HUD to focus its efforts on one set of uniform provisions which can be more easily kept up to date than the current HUD inventory of forms. HUD believes that the mortgage lending industry is competent to undertake the additional responsibilities provided in these requirements, and that the resulting mortgage and note instruments will be superior to those in the current HUD inventory.

HUD had also considered use of the FNMA/FHLMC forms with additional language in a rider to conform the instruments to HUD requirements. That approach was discussed in the Notice of Proposed Policy (53 FR 25435) as a possible way of creating a form which would comply with the new HUD requirements. However, that approach was discouraged because of the extra recording costs involved and the impaired readability of an instrument in which much of the printed text was altered or removed by a rider. We recognize that the transition to a "rider" approach might be easier than a transition to the requirement HUD is adopting. However, once supplies of forms meeting these requirements are produced, we see no major long-term advantages of the rider approach over the new requirements set forth in this Notice. HUD expects mortgages to comply with the requirements by creating (or purchasing) completely new forms rather than tacking additional language onto existing FNMA/FHLMC forms. If an FHA-approved rider form were created, it might provide greater assurance of uniformity among mortgages. However, HUD believes that the fact that a mortgage has been insured should provide the same assurance of uniformity for all substantive matters, since no mortgages will be insured without a certification of compliance with HUD requirements (discussed below) and these requirements do not permit substantive variations by mortgagees.

The VA approach, suggested by one commenter, was not pursued since it would require a major revision of the single family regulations, and could lead to use of mortgage instruments with no necessary relationship to actual rights of borrowers with insured mortgages. As well, the VA approach could be less flexible than the requirements in this Notice if all future adjustments in mortgage form requirements could only be implemented through notice-and-comment rulemaking.

In addition to the comments on the general approach to mortgage instruments described in the Notice of Proposed Policy, there were a number of comments on specific features of the proposed mortgage language.

Other Significant Changes From Notice of Proposed Policy

A commenter suggested that the provisions in the note and the mortgage be interchangeable in each document. The proposed requirements allowed note provisions to be included in the mortgage; mortgage provisions, however, could not be inserted into the note. The suggestion for the interchangeability of note and mortgage provisions has been rejected since the insertion of any mortgage provision into the note may impair the negotiability of the note. (See section 3–104(1)(b) of the Uniform Commercial Code regarding requirements for a negotiable instrument.) The same commenter also suggested that the required mortgage document size be 8½" x 14". The final requirements are silent on document size, allowing the lender to use whatever size or sizes are acceptable for the jurisdiction. We see no need to limit industry flexibility in determining document size.

A second commenter suggested that the use of the term "in trust" in the provisions that allow the lender to hold amounts collected for taxes, insurance premiums and other charges could imply a different relationship than intended. We rejected the commenter's suggestion since the phrase "in trust" is used in this context in all current insured single family mortgages and has caused no problems. The trust relationship created by this provision would be subject to and regulated by applicable state laws regarding the manner in which trust issues will be determined. We doubt that use of the "in trust" term would imply, as suggested, that the borrower could be entitled to an amount in the escrow funds as interest. If the language has such a result, in a particular state, however, HUD does not object to that result.

The same commenter suggested that we change our proposed language in Paragraph 6 of the mortgage referring to property inspection. It could be argued, as the commenter noted, that the inspection requirements prior to foreclosure would impose an affirmative duty on the lender to the borrower that is extremely unusual and problematic. The commenter suggested the following change:

> Lenders *may* inspect *the* property if the property is vacant or abandoned *or* the loan is in default *or at* any *other reasonable time.* Lender *may* take reasonable action to protect and preserve such vacant or abandoned property. (Delete rest of sentence.)

The underlining (represented by italics) indicated changes from the language proposed by HUD. We believe the proposed language more fully explains the borrower's agreement to permit the lenders to inspect the property when appropriate. We have accepted the proposed change, in part, and will insert it where applicable. This change also responds to another commenter who suggested the lender should be able to forego inspection. We will delete conflicting language. We are not including the language allowing inspection "at any reasonable time." Such inspections have not been part of servicing for HUD-insured or HUD-held mortgages, and go beyond the requirements for inspection in 24 CFR 203.377.

The second commenter also recommended that the provisions allowing for acceleration of the indebtedness be expanded. The commenter's concern focused on the mortgage which identified breaches of paragraphs 1 through 7 of the mortgage as the basis for foreclosure. The proposed mortgage language was based on the premise that the mortgage provisions in paragraphs 1 through 7 covered all the major obligations of the borrower. We have concluded that the specific reference to paragraphs 1

through 7 is unnecessary, and incomplete in some cases (such as when riders are used), and have removed the reference. In addition, the same commenter suggested that the mortgage language should clarify when the borrower's rights to reinstatement end. We reject the commenter's suggestion. At present, HUD regulations adequately address the borrower's right to reinstatement, and the mortgage repeats the regulations. As long as it is possible under state law to restore the relationship that existed between the borrower and lender, then HUD concludes that the borrower should be permitted to bring the account current, subject to three exceptions provided in the regulations and the mortgage.

Another commenter suggested that mortgage language referring to charges for processing a purchaser's application for credit approval be inserted. We have generalized the commenter's suggestion to read as follows: "The Lender may collect fees and charges authorized by the Secretary." (New paragraph 8 of the mortgage.) This modification will provide greater flexibility.

The same commenter also proposed inserting language in the mortgage that would require an investor to pay the principal balance down to 75 percent of the property value if the mortgagor is released. We did not accept the commenter's recommendation because the new section 203(r) of the National Housing Act added by section 406 of the Housing and Community Development Act of 1987 achieves the same result. Current HUD practice is to require approval of a substitute mortgagor before a mortgagee may release the mortgagor from personal liability, and section 203(r) would prevent HUD from granting approval in case of sale to an investor unless the mortgage is paid down to 75 percent. In addition, the language proposed by the commenter may be misleading by suggesting that the mortgage sets forth all conditions of release. HUD's policy on release is based on 24 CFR 203.258, which may be altered based on future conditions that are not currently known.

A commenter representing a trade association suggested that HUD "specifically include the new FHA assumption policy in its entirety, as well as the restrictions on assumptions by persons without approved credit." We believe the model mortgage form (Exhibit A to the Appendix) under paragraph 9(b) includes the necessary information to fully understand the assumption requirements. In addition, the same commenter suggested that HUD monitor and establish standards for fees charged to mortgagors in order to prevent possible abuse. Our current practice under 24 CFR 203.552 is to permit the HUD field offices to establish "reasonable and customary" fees for that locality; this ability to establish maximum fees will prevent the possible abuse the commenter mentioned. The new paragraph 8 of the mortgage (discussed above) only allows fees to be collected if authorized by HUD.

A commenter made specific suggestions to eliminate language referring to regulations issued by the Secretary in the default section of the mortgage instrument as well as other similar references. The commenter noted that such language would create foreclosure proceedings that would be more time consuming and expensive. The borrower's attorneys could commence exhaustive discovery to determine whether the lender met all of the servicing requirements. We rejected the commenter's suggestions that the references to regulations by the Secretary will impair the lender's ability to successfully defend a suit. HUD does not intend to create a conflict between the mortgage language and regulations, and there should be no adverse impact of informing the borrower that some regulations procedures exist which limit a lender's rights to foreclose.

We note that the proposed mortgage language does not incorporate all of HUD's servicing requirements into the mortgage, but simply prevents acceleration and foreclosure on the basis of the mortgage language when foreclosure would not be permitted by HUD regulations. For example, 24 CFR 203.606 specifically prohibits a mortgagee from foreclosing unless three full monthly payments due on the mortgage are unpaid. As long as this requirement remains in the regulations, we do not expect mortgagees to violate it even though the mortgage fails to repeat the requirement, and we believe that a borrower could appropriately raise the regulatory violation in his or her defense. If a mortgagee has violated parts of the servicing regulations which do not specifically state prerequisites to acceleration or foreclosure, however, the reference to regulations in the mortgage would not be applicable. HUD retains the general position recited in 24 CFR 203.500, that whether a mortgagee's refusal or failure to comply with servicing regulations is a legal defense is a matter to be determined by the courts.

In addition to changes suggested in public comments, HUD is adopting some other changes to its proposal. HUD is eliminating its long-standing disparity in policy concerning dues and assessments by condominium associations and homeowner (PUD) associations. Previously, the mortgage could only contain a borrower covenant to pay dues and assessments for condominium assessments. The new mandatory PUD rider (Exhibit J to the Appendix) also contains such a covenant. Further, both the PUD rider and the condominium rider (Exhibit I to the Appendix) permit the mortgagee to advance funds for delinquent dues and assessments, with such advances being secured by the mortgage, and due and payable with interest on demand. HUD believes these provisions will eliminate the incentive for mortgagees to leave dues and assessments unpaid until they can receive reimbursement through insurance benefits under 24 CFR 203.402(j).

The proposed notice instructed mortgagees to include a mortgage paragraph 12 titled "Lender in Possession" which was subsequently the same as paragraph 20 of the FNMA/FHLMC "non-uniform covenants" for the jurisdiction. The corresponding paragraph in the model mortgage form, paragraph 16, is titled "Assignment of Rents" and is based on paragraph F of the FNMA/FHLMC "1–4 Family Rider."

The proposed requirements anticipated a separate note form for each state. The final requirements will permit use of a multistate note form except where special state provisions may be required by state statutes, including situations indicated in the footnotes to Exhibit B of the Appendix.

The Adjustable Rate Mortgage (ARM) Rider and Note Allonge (Exhibits C and D to the Appendix) have been amended to reflect two changes to the HUD Arm regulations published at 54 FR 110 (January 4, 1989) which eliminated reference to carryovers and reduced to 25 days the required notice period for interest rate adjustments. An effective date for the regulations changes will be announced by separate notice in the **Federal Register**. Any mortgagees intending to follow the Appendix requirements for an ARM before the regulation effective date is issued should request advice from the HUD office listed below.

Other Information

It is anticipated that a notice will be published in the **Federal Register** within 60 days announcing the dates upon which the requirements set forth in the Appendix to this notice will become mandatory. Except for Puerto Rico, Virgin Islands and Guam, any date set will not be earlier than December 1, 1989. For Puerto Rico, the Virgin Islands

and Guam the date will not be earlier than June 1, 1990.

In general, mortgagees should not seek advance approval of forms from either HUD Headquarters or HUD Field Offices. Mortgagees are responsible for determining that the mortgage and note comply with HUD requirements. Mortgagees are reminded that the underwriter's certification required for each direct endorsement case contains a certification that the mortgage is on a form meeting HUD requirements. (See Handbook 4000.4 REV–1, Appendix 4, Certification No. 1.) The certification for all prior approval cases processed by HUD also certifies compliance with HUD regulatory requirements, which include the mortgage form requirements.

Questions on interpretation of the requirements in the Appendix should be directed to:

Assistant General Counsel for Home Mortgages, Department of Housing and Urban Development, 451 7th Street, SW., Washington, DC 20410, (202–755–7070).

On a very limited basis, requests for review of forms directed to the above address will be honored if the forms will be made available for use by a large number of mortgagees (for example, forms developed by or for forms companies or trade associations). HUD's ability to honor such requests will depend on the number of requests and the quality of the forms submitted. HUD review and comment on a form will not relieve each mortgagee of responsibility for certifying that its mortgage instruments meet HUD requirements, and will not be the same as HUD approval.

In the past, some mortgagees have received approval from HUD to make specific changes to HUD-approved forms. Such previously approved changes will not necessarily be acceptable when applied to the new mortgage language required by the Appendix. New approval must be received from the HUD Assistant General Counsel for Home Mortgages, at the address shown above, if a mortgagee desires to make changes not authorized by the new requirements.

The requirements in the Appendix will be updated from time to time as needed through Mortgagee Letters, notices in the Federal Register, or both.

This Notice is exempt from the requirements of the National Environmental Policy Act under 24 CFR 50.20(k), so that a Finding of No Significant Impact is not required.

Dated: May 1, 1989.

James E. Schoenberger,

General Deputy Assistant Secretary for Housing-Federal Housing Commissioner.

Appendix—Requirements for Single Family Mortgage Instruments

Index

Part I—General Instructions

A. The term "mortgage" as used below includes any form of security instrument commonly used in a jurisdiction in connection with loans secured by a one- to four-family residential property. The term "note" as used below includes any form of credit instrument commonly used in a jurisdiction to evidence such loans.

B. HUD will not provide mortgage and note forms for use with its single family mortgage insurance programs. A mortgagee must develop or procure mortgage and note forms which comply with form and substance with both these requirements and all applicable state and local requirements for a recordable and enforceable mortgage and an enforceable note. The note must be a negotiable instrument or, in the case of adjustable rate notes, must meet all requirements for negotiability except that interest rates will be determined by reference to an index. The model note form, Exhibit B, is intended to be a negotiable instrument but it has not been reviewed for compliance with all state laws which could affect negotiability. The mortgage and note must be separate documents.

C. Model mortgage and note language for fixed-rate fixed-payment loans is explained in Parts II and III. Permitted variation from the model language is explained in those Parts. Additional requirements for other loans and special situations are explained in Part IV.

D. A mortgage or note may include the mortagee's business name and/or logotype on the top of the form. Although layout and format are within the discretion of mortgagees where not specified in these requirements, size and style or typeface or print should be similar to the FNMA/FHLMC mortgages and notes. The exhibits to these requirements use underlining instead of blanks to indicate required insertions, but mortgagees may use blanks to facilitate use of computerized systems.

E. These requirements do not supersede HUD regulations. They are intended to supersede anything contained in HUD administrative issuances, such as Handbooks, Notices or Mortgagee Letters, that prescribes the form and content of a mortgage or note and conflicts directly with these requirements.

F. Some of the mortgage or note language required or permitted by these requirements may result in a mortgagor granting broad rights to a mortgagee while the exercise of those rights is limited by HUD regulations or administrative issuances. These requirements do not supersede any such limitations on mortgagees, and a mortgagee's rights under the mortgage and note may be exercised only in a manner consistent with all relevant HUD requirements.

G. HUD field offices have authority to impose additional requirements regarding mortgage and note provisions, for consistency with state laws appropriate to their jurisdictions, and to advise mortgagees of any such requirements through a Circular Letter. In states served by more than one HUD

field office, issuance of such Circular Letters must be coordinated with the Regional Office.

Part II—Mortgage Provisions

A. Mortgagees must use the model form, Exhibit A, and the footnotes accompanying the model form, with only such adaptation as may be necessary to conform to state or local requirements. Some required state variations are explained in the footnotes and in Part IV of these requirements, based on the state variations in FNMA/FHLMC forms, but HUD has not necessarily explained all required variation. However, paragraphs 1–10 must be used verbatim; HUD must be consulted if the mortgagee concludes that they do not meet state or local requirements, but the mortgagee shall make no changes without prior HUD approval.

B. In preparing these requirements, HUD has made heavy use of the approved FNMA/FHLMC mortgage forms. The provisions preceding the numbered paragraphs in the model mortgage form, with state variations explained in the footnotes, are the same as the provisions preceding the "uniform covenants" in the December 1983 FNMA/FHLMC mortgages (except New York), with the addition of a state reference and FHA case number on the front page. Unlike FNMA/FHLMC, HUD is not requiring a special "plain English" form for New York. (HUD also has made no use of the FHLMC March 1985 "plain English" mortgage for Maine, which FNMA does not require; all references to a FNMA/FHLMC Maine mortgage are to the December 1983 edition.)

C. The numbered paragraphs in the model mortgage form must be used rather than the FNMA/FHLMC "uniform covenants," which contain some substantial differences from HUD policy. However, paragraphs 11, 12, 13, 14 and 15 of the model form are based on paragraphs 10, 11, 14, 15 and 16 of the FNMA/FHLMC "uniform covenants," the "Rider" paragraph is based on the final numbered paragraph in the FNMA/FHLMC "non-uniform covenants," and paragraph 16 is based on paragraph F of the FNMA/FHLMC "1–4 Family Rider."

D. Paragraph 17 of the model mortgage form ("Foreclosure Procedure") will need adaption for each state, as explained in footnote 7 to the form.

E. Following paragraph 17 of the model mortgage form, a mortgagee shall insert additional numbered paragraphs required to adapt the mortgage for a particular state. The text of these paragraphs shall be the same as the text of the paragraphs following paragraph 20 (except the paragraph titled "Riders to this Security Instrument") in the "non-uniform covenants" of the most recent approved FNMA/FHLMC mortgage form for the appropriate jurisdiction. (The reference should be to Paragraph *18* for Guam, the Virgin Islands and Puerto Rico, and FNMA/FHLMC Paragraph 20 should be omitted for these jurisdictions.) See Part IV, Section B.8, for special instructions regarding New York.

Part III—Note Provisions

Mortgagees must use the model form, Exhibit B, and the footnotes accompanying the form, with only such adaptation as may be necessary to conform to state or local requirements. Some required state variations are explained in the footnotes and in Part IV of these requirements, based on the state variations in FNMA/FHLMC forms, but HUD has not necessarily explained all required variation.

Part IV—Other Requirements

A. Special Situations

As special situations arise, additional language may be required for a mortgage and/or note. Mandatory requirements to be followed in special situations are set forth in this Part IV. The following prescribed forms of mortgage rider and/or allonge are provided and must be used when applicable:

Model Mortgage Form
Model Note Form
Adjustable Rate Rider
Adjustable Rate Allonge Amending Note
Graduated Payment Rider
Graduated Payment Allonge Amending Note
Growing Equity Allonge Amending Note
Condominium Rider
Planned Unit Development Rider
Tax-Exempt Financing Rider
Rider for Section 248 Mortgage

In other cases, whenever additional language is to be added, the addition may be printed or typed in the body of the instrument or incorporated through use of a rider, addendum or similar document.

1. *Adjustable Rate Mortgage (ARM).* These instructions supersede the instructions regarding ARM instruments in Attachment I to Mortgagee Letter 84–16 or any sucessor Mortgagee Letter. For an ARM, the mortgagee must use the model mortgage form and the Adjustable Rate Rider (Exhibit C), and the model note form and the Adjustable Rate Allonge Amending Note (Exhibit D).

2. *Graduated Payment Mortgage (GPM).* These instructions supersede the instructions in Handbook 4240.2 Revised, Appendix 4. For a GPM, the mortagee must use the model mortgage form and the Graduated Payment Rider (Exhibit E), and the model note form and the Graduated Payment Allonge Amending Note (Exhibit F).

3. *Growing Equity Mortgage (GEM).* These instructions supersede the instructions in Attachment 5 to Mortgagee Letter 85–3. For a GEM, the mortgagee must use the model note form and the Growing Equity Allonge Amending Note (Exhibit G).

There is no prescribed Growing Equity rider for a GEM. The mortgage shall contain a payment schedule, consistent with the schedule set forth in the Growing Equity Allonge, if required by state law or as otherwise needed to ensure the enforceability and priority of the mortgage. Otherwise, the mortgagee may include such a schedule at its option. Mortgagees may recite the Note verbatim in a rider.

4. *Rehabilitation Loans* (Section 203(k) of the National Housing Act). These instructions supersede instructions in Handbook 4240.4, regarding mortgage forms. If the loan involves releases from the Rehabilitation Escrow Account, the mortgagee must use the model note form and the Rehabilitation Loan Rider (Exhibit H). In those cases where the Security Instrument is a second lien, the following language should be typed in the form:

> Notwithstanding any other provision to the contrary, this mortage is superior to all liens on the property, other than a mortgage dated _____, 19____, and published in book _____ at _____.

5. *Condominiums.* These instructions do not supersede the instructions in Handbook 4265.1, except as follows: (i) The provisions in Paragraph 4–2 of the Handbook shall not be added to the mortgage and note, (ii) the "Resolution of Inconsistency" in Paragraph 12–8 (10) shall not be contained in the mortgage, and (iii) the mortgagee shall use the model mortgage form and the Condominum Rider (Exhibit I). The FNMA/FHLMC Multistate Condominium Rider shall not be used for an insured mortgage.

6. *Cooperatives.* No special uniform language has been devised for single family mortgages for use with cooperatives. The instructions in Handbook 4240.3, Paragraph 1–12, continue to apply for mortgages insured under section 203(n).

7. *Planned Unit Development (PUD).* The mortgagee shall use the model mortgage form and the Planning Unit Development Rider (Exhibit J).

8. *Tax-exempt Financing.* A memorandum dated July 8, 1987, from Assistant Secretary Thomas T. Demery

to HUD Field Offices permits the mortgage to contain an addendum (Attachment I to the memorandum) setting forth a due-on-sale clause concerning tax-exempt financing. The due-on-sale provision may be used whenever the mortgage loan is funded, directly or indirectly, from proceeds of Qualified Mortgage Bonds (QMBS) issued by a state or local agency. Under the July 8, 1987 memorandum, the provision may be attached as an addendum to the mortgage, or it may be included in the body of the mortgage after the uniform provisions.

The addendum is now replaced by the Tax-Exempt Financing Rider (Exhibit K), which shall be used with the model mortgage form whenever the addendum to the July 8, 1987, memorandum would have been used.

9. *Open-end Advances.* Nothing in these instructions is applicable to open-end advances. Relevant requirements are set forth in 24 CFR 203.44(h) and 234.70(h).

10. *Purchase of Fee Simple Title from Lessors (Section 240).* For instructions on a mortgage for the purchase of fee simple title from a lessor (section 240 of the National Housing Act), see Handbooks 4000.2, Rev. 1, Paragraph 2–42c and 4270.1 Rev. The instructions in Handbook 4270.1 Rev. are not superseded by these requirements, except that the sample text of the mortgage used in Appendix 1 of the Handbook is superseded by the model mortgage form, and the terms used in the Leasehold Rider in Appendix 2 of the Handbook shall conform to the terms used in the model form.

11. *Junior Mortgages to HUD—Section 235 and TMAP.* These instructions do not supersede the instructions in Handbook 4330.1 concerning junior mortgages to HUD to secure repayment of Section 235 assistance. The form of junior mortgage shall be the mortgage approved by HUD for the jurisdiction before these requirements take effect, but modified as required by Paragraph 183 of Handbook 4330.1 (see Appendix 26 of the Handbook). No instructions concerning mortgages and notes for the temporary Mortgage Assistance Payments (TMAP) program have yet been devised.

12. *Home Equity Conversion Mortgage.* Special instructions for mortgages and notes to be used in the Home Equity Conversion Mortgage insurance program (section 255 of the National Housing Act), when that program is implemented, will be contained in HUD Handbook 4235.1.

13. *Price Level Adjusted Mortgage.* Special instructions will be issued for mortgages and notes to be used in the Price Level Adjusted Mortgage insurance program (section 245(c) of the National Housing Act), when that program is implemented.

B. Special Requirements for Particular States and Localities

In addition to special requirements for particular states identified in the footnotes to Exhibits A and B (model mortgage and note forms), and any special instructions issued by a HUD field Office, the following special requirements need to be followed.

1. *Colorado.* Colorado law provides for a Public Trustee. For Colorado deeds of trust the first two sentences in the model mortgage form should be replaced with this sentence: "THIS DEED OF TRUST ("Security Instrument") is made on _____, 19_____, among the grantor, _____ ("Borrower"), the Public Trustee of _____ county ("Trustee") and the beneficiary, _____, which is organized and existing under the laws of _____, and whose address is _____ ("Lender")."

2. *Georgia.* For Georgia security deeds, the first two sentences in the model mortgage form should be replaced with the following: "THIS SECURITY DEED ("Security Instrument") is given on _____, 19_____. The grantor is _____ ("Borrower"). This Security Instrument is given to _____, which is organized and existing under the laws of _____, and whose address is _____."

3. *Hawaiian Home Lands.* If the mortgage is on a Hawaiian Home Lands leasehold, "Hawaiian Home Lands" shall be added to the title at the top of the first page of the mortgage.

4. *Northern Mariana Islands and American Samoa.* Exhibits A and B will not be immediately applicable to the Commonwealth of the Northern Mariana Islands. Until further notice, existing HUD-approved mortgage and note forms for the Northern Mariana Islands shall continue to be used with an assumption rider, instead of Exhibits A and B. Insured mortgages in American Samoa will also use HUD-approved forms until further notice.

5. *Puerto Rico.* Mortgages and notes in Puerto Rico, and all riders and allonges, shall be written in English and interlineated with Spanish in the same manner as the FNMA/FHLMC forms for Puerto Rico. A Spanish translation of required language will be available from HUD before these requirements become mandatory for Puerto Rico.

6. *Indian Reservations* (Section 248 of the National Housing Act). Mortgagee Letter 88–11 required a special rider for use with a mortgage covering single family property located on Indian reservations, pursuant to Section 248 of the National Housing Act. Mortgagees shall now use the Rider for Section 248 Mortgage (Exhibit L).

7. *Redemption periods—Iowa, North Dakota, South Dakota and Wisconsin.* Requirements concerning deficiency judgments are provided in Note 7. to the model mortgage form. Iowa, North Dakota and Wisconsin are excepted from those requirements because these states permit short-term redemption periods after foreclosure if mortgagees waive their rights to deficiency judgments. Since it may be in the Department's interest to have a short-term redemption period, HUD requires that mortgages in these states shall contain the short-term redemption provisions set forth in the "non-uniform covenants" of the current approved FNMA/FHLMC mortgage forms, in Paragraph 23 for Iowa and 22 for North Dakota and Wisconsin. In addition, the North Dakota mortgage *must* include in the title the words "Short Term Mortgage Redemption," in boldface type.

The South Dakota mortgage must include in the title the words "Mortgage—One Hundred Eighty Day Redemption" in bold type, and immediately following Paragraph 17 the following must appear in bold type: **NOTICE—THE PARTIES AGREE THAT THE PROVISIONS OF THE ONE HUNDRED EIGHTY DAY REDEMPTION MORTGAGE ACT GOVERN THIS MORTGAGE.** After this notice, the following language should be included:

Borrower agrees that in the event of a foreclosure of this Security Instrument by action the holder of the certificate of sale issued as a result of the foreclosure may apply to the appropriate court for a reduction of the redemption period if the mortgaged property has been abandoned by Borrower. Borrower agrees that if, after such notice to the parties as the court may direct, the court finds that the mortgaged property has been abandoned, then the redemption period may be reduced to a period of not less than 60 days from the date of recording of the certificate of sale issued as a result of the foreclosure of this Security Instrument.

8. *New York.* The New York FNMA/FHLMC mortgage term is written in a "plain English" style which sometimes uses "I" instead of "Borrower."

When Paragraphs 21 and 22 from the New York FNMA/FHLMC form are added to the model mortgage form, "I" should be changed to "Borrower" and any necessary changes in verb form required by this change should also be made.

BILLING CODE 4210-27-M

EXHIBIT A

MODEL MORTGAGE FORM

[Space Above This Line For Recording Data]

State of _____[1]

FHA Case No.

MORTGAGE[2]

THIS MORTGAGE ("Security Instrument") is given on , 19 .
The Mortgagor is

whose address is

("Borrower"). This Security Instrument is given to

which is organized and existing under the laws of , and whose address is

("Lender"). Borrower owes Lender the principal sum of

Dollars (U.S. $). This debt is evidenced by Borrower's note dated the same date as this Security Instrument ("Note"), which provides for monthly payments, with the full debt, if not paid earlier, due and payable on . This Security Instrument secures to Lender: (a) the repayment of the debt evidenced by the Note, with interest, and all renewals, extensions and modifications; (b) the payment of all other sums, with interest, advanced under paragraph 6 to protect the security of this Security Instrument; and (c) the performance of Borrower's covenants and agreements under this Security Instrument and the Note. For this purpose, Borrower does hereby mortgage, grant and convey to Lender[3], the following described property located in

County[4]:

which has the address of [Street] , [City],
[State] [Zip Code], ("Property Address");

TOGETHER WITH[5] all the improvements now or hereafter erected on the property, and all easements, rights, appurtenances, rents, royalties, mineral, oil and gas rights and profits, water rights and stock and all fixtures now or hereafter a part of the property. All replacements and additions shall also be covered by this Security Instrument. All of the foregoing is referred to in this Security Instrument as the "Property."

BORROWER COVENANTS that Borrower is lawfully seized of the estate hereby conveyed and has the right to mortgage, grant and convey[5a] the Property and that the Property is unencumbered, except for encumbrances of record. Borrower warrants and will defend generally the title to the Property against all claims and demands, subject to any encumbrances of record.

1. Payment of Principal, Interest and Late Charge. Borrower shall pay when due the principal of, and interest on, the debt evidenced by the Note and late charges due under the Note.

2. Monthly Payments of Taxes, Insurance and Other Charges. Borrower shall include in each monthly payment, together with the principal and interest as set forth in the Note and any late charges, an installment of any (a) taxes and special assessments levied or to be levied against the Property, (b) leasehold payments or ground rents on the Property, and (c) premiums for insurance required by Paragraph 4.

Each monthly installment for items (a), (b) and (c) shall equal one-twelfth of the annual amounts, as reasonably estimated by Lender, plus an amount sufficient to maintain an additional balance of not more than one-sixth of the estimated amounts. The full annual amount for each item shall be accumulated by Lender within a period ending one month before an item would become delinquent. Lender shall hold the amounts collected in trust to pay items (a), (b) and (c) before they become delinquent.

If at any time the total of the payments held by Lender for items (a), (b), and (c), together with the future monthly payments for such items payable to Lender prior to the due dates of such items, exceeds by more than one-sixth the estimated amount of payments required to pay such items when due, and if payments on the Note are current, then Lender shall either refund the excess over one-sixth of the estimated payments or credit the excess over one-sixth of the estimated payments to subsequent payments by Borrower, at the option of Borrower. If the total of the payments made by Borrower for item (a), (b), or (c) is insufficient to pay the item when due, then Borrower shall pay to Lender any amount necessary to make up the deficiency on or before the date the item becomes due.

As used in this Security Instrument, "Secretary" means the Secretary of Housing and Urban Development or his or her designee. Most Security Instruments insured by the Secretary are insured under programs which require advance payment of the entire mortgage insurance premium. If this Security Instrument is or was insured under a program which did not require advance payment of the entire mortgage insurance premium, then each monthly payment shall also include either: (i) an installment of the annual mortgage insurance premium to be paid by Lender to the Secretary, or (ii) a monthly charge instead of a mortgage insurance premium if this Security Instrument is held by the Secretary. Each monthly installment of the mortgage insurance premium shall be in an amount sufficient to accumulate the full annual mortgage insurance premium with Lender one month prior to the date the full annual mortgage insurance premium is due to the Secretary, or if this Security Instrument is held by the Secretary, each monthly charge shall be in an amount equal to one-twelfth of one-half percent of the outstanding principal balance due on the Note.

If Borrower tenders to Lender the full payment of all sums secured by this Security Instrument, Borrower's account shall be credited with the balance remaining for all installments for items (a), (b) and (c) and any mortgage insurance premium installment that Lender has not become obligated to pay to the Secretary, and Lender shall promptly refund any excess funds to Borrower. Immediately prior to a foreclosure sale of the Property or its acquisition by Lender, Borrower's account shall be credited with any balance remaining for all installments for items (a), (b) and (c).

3. Application of Payments. All payments under paragraphs 1 and 2 shall be applied by Lender as follows:
First, to the mortgage insurance premium to be paid by Lender to the Secretary or to the monthly charge by the Secretary instead of the monthly mortgage insurance premium, unless Borrower paid the entire mortgage insurance premium when this Security Instrument was signed;
Second, to any taxes, special assessments, leasehold payments or ground rents, and fire, flood and other hazard insurance premiums, as required;
Third, to interest due under the Note;
Fourth, to amortization of the principal of the Note;
Fifth, to late charges due under the Note.

4. Fire, Flood and Other Hazard Insurance. Borrower shall insure all improvements on the Property, whether now in existence or subsequently erected, against any hazards, casualties, and contingencies, including fire, for which Lender requires insurance. This insurance shall be maintained in the amounts and for the periods that Lender requires. Borrower shall also insure all improvements on the Property, whether now in existence or subsequently erected, against loss by floods to the extent required by the Secretary. All insurance shall be carried with companies approved by Lender. The insurance policies and any renewals shall be held by Lender and shall include loss payable clauses in favor of, and in a form acceptable to, Lender.

In the event of loss, Borrower shall give Lender immediate notice by mail. Lender may make proof of loss if not made promptly by Borrower. Each insurance company concerned is hereby authorized and directed to make payment for such loss directly to Lender,

instead of to Borrower and to Lender jointly. All or any part of the insurance proceeds may be applied by Lender, at its option, either (a) to the reduction of the indebtedness under the Note and this Security Instrument, first to any delinquent amounts applied in the order in Paragraph 3, and then to prepayment of principal, or (b) to the restoration or repair of the damaged property. Any application of the proceeds to the principal shall not extend or postpone the due date of the monthly payments which are referred to in Paragraph 2, or change the amount of such payments. Any excess insurance proceeds over an amount required to pay all outstanding indebtedness under the Note and this Security Instrument shall be paid to the entity legally entitled thereto.

In the event of foreclosure of this Security Instrument or other transfer of title to the Property that extinguishes the indebtedness, all right, title and interest of Borrower in and to insurance policies in force shall pass to the purchaser.

5. Preservation and Maintenance of the Property, Leaseholds. Borrower shall not commit waste or destroy, damage or substantially change the Property or allow the Property to deteriorate, reasonable wear and tear excepted. Lender may inspect the property if the property is vacant or abandoned or the loan is in default. Lender may take reasonable action to protect and preserve such vacant or abandoned property. If this Security Instrument is on a leasehold, Borrower shall comply with the provisions of the lease. If Borrower acquires fee title to the Property, the leasehold and fee title shall not be merged unless Lender agrees to the merger in writing.

6. Charges to Borrower and Protection of Lender's Rights in the Property. Borrower shall pay all governmental or municipal charges, fines and impositions that are not included in Paragraph 2. Borrower shall pay these obligations on time directly to the entity which is owed the payment. If failure to pay would adversely affect Lender's interest in the Property, upon Lender's request Borrower shall promptly furnish to Lender receipts evidencing these payments.

If Borrower fails to make these payments or the payments required by Paragraph 2, or fails to perform any other covenants and agreements contained in this Security Instrument, or there is a legal proceeding that may significantly affect Lender's rights in the Property (such as a proceeding in bankruptcy, for condemnation or to enforce laws or regulations), then Lender may do and pay whatever is necessary to protect the value of the Property and Lender's rights in the Property, including payment of taxes, hazard insurance and other items mentioned in Paragraph 2.

Any amounts disbursed by Lender under this Paragraph shall become an additional debt of Borrower and be secured by this Security Instrument. These amounts shall bear interest from the date of disbursement, at the Note rate, and at the option of Lender, shall be immediately due and payable.

7. Condemnation. The proceeds of any award or claim for damages, direct or consequential, in connection with any condemnation or other taking of any part of the Property, or for conveyance in place of condemnation, are hereby assigned and shall be paid to Lender to the extent of the full amount of the indebtedness that remains unpaid under the Note and this Security Instrument. Lender shall apply such proceeds to the reduction of the indebtedness under the Note and this Security Instrument, first to any delinquent amounts applied in the order provided in Paragraph 3, and then to prepayment of principal. Any application of the proceeds to the principal shall not extend or postpone the due date of the monthly payments, which are referred to in Paragraph 2, or change the amount of such payments. Any excess proceeds over an amount required to pay all outstanding indebtedness under the Note and this Security Instrument shall be paid to the entity legally entitled thereto.

8. Fees. Lender may collect fees and charges authorized by the Secretary.

9. Grounds for Acceleration of Debt.

(a) Default. Lender may, except as limited by regulations issued by the Secretary in the case of payment defaults, require immediate payment in full of all sums secured by this Security Instrument if:

(i) Borrower defaults by failing to pay in full any monthly payment required by this Security Instrument prior to or on the due date of the next monthly payment, or

(ii) Borrower defaults by failing, for a period of thirty days, to perform any other obligations contained in this Security Instrument.

(b) Sale Without Credit Approval. Lender shall, with the prior approval of the Secretary, require immediate payment in full of all the sums secured by this Security Instrument if:

(i) All or part of the Property is sold or otherwise transferred (other than by devise, descent or operation of law) by the Borrower,

(ii) The sale or other transfer is pursuant to a contract of sale (or by deed, if there is no contract of sale) executed no later than 12 months (24 months if the Property is not the principal or secondary residence of the Borrower) after the date on which this Security Instrument is executed, and

(iii) The credit of the purchaser or grantee has not been approved in accordance with the requirements of the Secretary.

(c) **No Waiver.** If circumstances occur that would permit Lender to require immediate payment in full, but Lender does not require such payments, Lender does not waive its rights with respect to subsequent events.

(d) **Regulations of HUD Secretary.** In many circumstances regulations issued by the Secretary will limit Lender's rights, in the case of payment defaults, to require immediate payment in full and foreclose if not paid. This Security Instrument does not authorize acceleration or foreclosure if not permitted by regulations of the Secretary.

10. Reinstatement. Borrower has a right to be reinstated if Lender has required immediate payment in full because of Borrower's failure to pay an amount due under the Note or this Security Instrument. This right applies even after foreclosure proceedings are instituted. To reinstate the Security Instrument, Borrower shall tender in a lump sum all amounts required to bring Borrower's account current including, to the extent they are obligations of Borrower under this Security Instrument, foreclosure costs and reasonable and customary attorney's fees and expenses properly associated with the foreclosure proceeding. Upon reinstatement by Borrower, this Security Instrument and the obligations that it secures shall remain in effect as if Lender had not required immediate payment in full. However, Lender is not required to permit reinstatement if: (i) Lender has accepted reinstatement after the commencement of foreclosure proceedings within two years immediately preceding the commencement of a current foreclosure proceeding, (ii) reinstatement will preclude foreclosure on different grounds in the future, or (iii) reinstatement will adversely affect the priority of the lien created by this Security Instrument.

11. Borrower Not Released; Forbearance By Lender Not a Waiver. Extension of the time of payment or modification of amortization of the sums secured by this Security Instrument granted by Lender to any successor in interest of Borrower shall not operate to release the liability of the original Borrower or Borrower's successor in interest. Lender shall not be required to commence proceedings against any successor in interest or refuse to extend time for payment or otherwise modify amortization of the sums secured by this Security Instrument by reason of any demand made by the original Borrower or Borrower's successors in interest. Any forbearance by Lender in exercising any right or remedy shall not be a waiver of or preclude the exercise of any right or remedy.

12. Successors and Assigns Bound; Joint and Several Liability; Co-Signers. The covenants and agreements of this Security Instrument shall bind and benefit the successors and assigns of Lender and borrower, subject to the provisions of paragraph 9.b. Borrower's covenants and agreements shall be joint and several. Any Borrower who co-signs this Security Instrument but does not execute the Note: (a) is co-signing this Security Instrument only to mortgage, grant and convey that Borrower's interest in the Property under the terms of this Security Instrument; (b) is not personally obligated to pay the sums secured by this Security Instrument; and (c) agrees that Lender and any other Borrower may agree to extend, modify, forbear or make any accommodations with regard to the term of this Security Instrument or the Note without that Borrower's consent.

13. Notices. Any notice to Borrower provided for in this Security Instrument shall be given by delivering it or by mailing it by first class mail unless applicable law requires use of another method. The notice shall be directed to the Property Address or any other address Borrower designates by notice to Lender. Any notice to Lender shall be given by first class mail to Lender's address stated herein or any address Lender designates by notice to Borrower. Any notice provided for in this Security Instrument shall be deemed to have been given to Borrower or Lender when given as provided in this paragraph.

14. Governing Law; Severability. This Security Instrument shall be governed by Federal law and the law of the jurisdiction in which the Property is located. In the event that any provision or clause of this Security Instrument or the Note conflicts with applicable law, such conflict shall not affect other provisions of this Security Instrument or the Note which can be given effect without the conflicting provision. To this end the provisions of this Security Instrument and the Note are declared to be severable.

15. Borrower's Copy. Borrower shall be given one conformed copy of this Security Instrument.

16. Assignment of Rents. Borrower unconditionally assigns and transfers to Lender all the rents and revenues of the Property. Borrower authorizes Lender or Lender's agents to collect the rents and revenues and hereby directs each tenant of the Property to pay the rents to Lender or Lender's agents. However, prior to Lender's notice to Borrower of Borrower's breach of any covenant or agreement in the Security Instrument, Borrower shall collect and receive all rents and revenues of the Property as trustee for the benefit of Lender and Borrower. This assignment of rents constitutes an absolute assignment and not an assignment for additional security only.

If Lender gives notice of breach to Borrower: (a) all rents received by Borrower shall be held by Borrower as trustee for benefit of Lender only, to be applied to the sums secured by the Security Instrument; (b) Lender shall be entitled to collect and receive all of the rents of the Property; and (c) each tenant of the Property shall pay all rents due and unpaid to Lender or Lender's agent on Lender's written demand to the tenant.

Borrower has not executed any prior assignment of the rents and has not and will not perform any act that would prevent Lender from exercising its rights under this paragraph 16.

Lender shall not be required to enter upon, take control of or maintain the Property before or after giving notice of breach to Borrower. However, Lender or a judicially appointed receiver may do so at any time there is a breach. Any application of rents shall not cure or waive any default or invalidate any other right or remedy of Lender. This assignment of rents of the Property shall terminate when the debt secured by the Security Instrument is paid in full.

17. Foreclosure Procedure. [For illustration only. Needs state adaptation.] If Lender requires immediate payment in full under paragraph 9,[6] Lender may invoke the power of sale and any other remedies provided in this paragraph 17, including, but not limited to, reasonable attorney's fees and costs of title evidence.

If Lender invokes the power of sale, Lender shall give notice of sale to Borrower in the manner provided in paragraph 13. Lender shall publish and post the notice of sale, and the Property shall be sold in the manner prescribed by applicable law. Lender or its designee may purchase the Property at any sale. The proceeds of the sale shall be applied in the following order: (a) to all expenses of the sale, including, but not limited to, reasonable attorney's fees; (b) to all sums secured by this Security Instrument; and (c) any excess to the person or persons legally entitled to it.

[Add any state-specific provisions in accordance with Part II.E. of the requirements]

[Number as final paragraph or leave unnumbered but place after numbered paragraphs.] **Riders to this Security Instrument.** If one or more riders are executed by Borrower and recorded together with this Security Instrument, the covenants of each such rider shall be incorporated into and shall amend and supplement the covenants and agreements of this Security Instrument as if the rider(s) were in a part of this Security Instrument. [Check applicable box(es)].

☐ Condominium Rider ☐ Adjustable Rate Rider ☐ Growing Equity Rider

☐ Planned Unit Development Rider ☐ Graduated Payment Rider ☐ Other

BY SIGNING BELOW[7], Borrower accepts and agrees to the terms contained in this Security Instrument and in any rider(s) executed by Borrower and recorded with it.

Witnesses:

_____ _____ (Seal)
Borrower

_____ _____ (Seal)
Borrower

_____ [Space Below This Line For Acknowledgement][8] _____

_____

BILLING CODE 4210-27-C

Footnotes for Model Mortgage Form

1. Substitute the appropriate jurisdiction and use "Commonwealth of" or "Territory of" if appropriate.

2. Substitute "Deed of Trust" or "Security Deed" when appropriate for the jurisdiction. For deeds of trust (except Colorado—see instructions in Part IV, Section A.1.), the first two sentences should be replaced with the following: "THIS DEED OF TRUST ("Security Instrument") is made on _____, 19__. The grantor [or "trustor," if commonly used in the jurisdiction] is _____ ("Borrower"). The trustee is _____, ("Trustee"). The beneficiary is _____, which is organized and existing under the laws of _____, and whose address is _____ ("Lender"). For a security deed (Georgia), see instructions in Part IV, Section A.2.).

3. For deeds of trust, substitute "Trustee with power of sale," for "Lender." For mortgages, where applicable, "with power of sale" may be added. The phrase "mortgage, grant and convey" may be replaced with other language appropriate to the jurisdiction, such as "irrevocably grant and convey," "grant and convey," and "mortgage and hypothecate." The FNMA/FHLMC form for the jurisdiction may be used for guidance.

4. For Louisiana and Alaska, "Parish" and "Judicial District," respectively shall be sutstituted for "County." In the District of Columbia, Guam, Hawaii, Virgin Islands, Virginia and Puerto Rico, a county designation is not required.

5. Add "to have and to hold this property unto Lender and Lender's successors and assigns, Forever," immediately preceding "Together with" for the following states: Alabama, Connecticut, Georgia, Maine, North Carolina, South Carolina, or Vermont.

5.a. The phrase "mortgage, grant and convey" may be placed with other language appropriate to the jurisdiction, such as "irrevocably grant and convey," "grant and convey," or "Mortgage and hypothecate." The FNMA/FHLMC form for the jurisdiction may be used for guidance.

6. Following the introductory phrase (up to the footnote), Paragraph 17 *must* be adapted to conform to applicable law of the jurisdiction. (The model form is an example of paragraph 17 designed for use in Michigan). Paragraph 17 must include the mortgagee's right to a public sale of the mortgage, including a power of sale if legally permissible. All rights to a deficiency judgment must be preserved to the extent legally permissible, except as provided in Part IV, section B.7. for Iowa, North Dakota, and Wisconsin. Paragraph 17 may require the mortgagor, in the event of foreclosure, to pay costs and reasonable and customary attorney's fees and trustee's fees, which may bear interest from the date of disbursement (not to exceed the note rate) and may be immediately due and payable. Mortgagees should use the foreclosure provisions in Paragraph 19 of the current approved FNMA/FHLMC mortgage form for the jurisdiction (Paragraph 18 for Guam, the Virgin Islands and Puerto Rico) with any necessary adaption to conform to these instructions. (The initial sentences of FNMA/FHLMC Paragraph 19 concerning notice and acceleration should be omitted; except for Georgia and New York, the foreclosure language begins in the middle of the fourth sentence, paragraph 19.)

7. For Oklahoma, the following provisions shall be included in *bold print* at the end of the mortgage immediately before "BY SIGNING BELOW":

Notice to Borrower

A Power of Sale has been granted in this Security Instrument. A Power of Sale may allow the Lender to take the property and sell it without going to court in a foreclosure action upon default by Borrower under this Security Instrument.

8. Any legally valid form of acknowledgement may be used.

BILLING CODE 4210-27-M

EXHIBIT B

MODEL NOTE FORM

State of _____ [1]

FHA Case No.

NOTE

, 19

[Property Address]

1. PARTIES

"Borrower" means each person signing at the end of this Note, and the person's successors and assigns. "Lender" means

and its successors and assigns.

2. BORROWER'S PROMISE TO PAY; INTEREST

In return for a loan received from Lender, Borrower promises to pay the principal sum of

Dollars (U.S. $), plus interest, to the order of Lender. Interest will be charged on unpaid principal, from the date of disbursement of the loan proceeds by Lender, at the rate of per cent (%) per year until the full amount of principal has been paid.

3. PROMISE TO PAY SECURED

Borrower's promise to pay is secured by a mortgage, deed of trust or similar security instrument that is dated the same date as this Note and called the "Security Instrument." That Security Instrument protects the Lender from losses which might result if Borrower defaults under this Note.

4. MANNER OF PAYMENT

(A) Time

Borrower shall make a payment of principal and interest to Lender on the first day of each month beginning on , 19 . Any principal and interest remaining on the first day of , 20 , will be due on that date, which is called the maturity date.[2]

(B) Place

Payment shall be made at

or at such other place as Lender may designate in writing.

(C) Amount

Each monthly payment of principal and interest will be in the amount of $. This amount will be part of a larger monthly payment required by the Security Instrument, that shall be applied to principal, interest and other items in the order described in the Security Instrument.

(D) Allonge to this note for payment adjustments

If an allonge providing for payment adjustments is executed by Borrower together with this Note, the covenants of the allonge shall be incorporated into and shall amend and supplement the covenants of this Note as if the allonge were a part of this Note. [Check applicable box.]

☐ Adjustable Rate Allonge
☐ Growing Equity Allonge
☐ Graduated Payment Allonge
☐ Other

5. BORROWER'S RIGHT TO PREPAY

Borrower has the right to pay the debt evidenced by this Note, in whole or in part,without charge or penalty, on the first day of any month.

6. BORROWER'S FAILURE TO PAY

(A) Late Charge for Overdue Payments

If Lender has not received the full monthly payment required by the Security Instrument, as described in Paragraph 4(C) of this note, by the end of fifteen calendar days after the payment is due, Lender may collect a late charge in the amount of percent (%) of the overdue amount of each payment.[3]

(B) Default

If Borrower defaults by failing to pay in full any monthly payment, then Lender may, except as limited by regulations of the Secretary in the case of payment defaults, require immediate payment in full of the principal balance remaining due and all accrued interest. Lender may choose not to exercise this option without waiving its rights in the event of any subsequent default. In many circumstances regulations issued by the Secretary will limit Lender's rights to require immediate payment in full in the case of payment defaults. This Note does not authorize acceleration when not permitted by HUD regulations. As used in this Note, "Secretary" means the Secretary of Housing and Urban Development or his or her designee.

(C) Payment of Costs and Expenses

If Lender has required immediate payment in full, as described above, Lender may require Borrower to pay costs and expenses including reasonable and customary attorney's fees for enforcing this Note. Such fees and costs shall bear interest from the date of disbursement at the same rate as the principal of this Note.

7. WAIVERS

Borrower and any other person who has obligations under this Note waive the rights of presentment and notice of dishonor. "Presentment" means the right to require Lender to demand payment of amounts due. "Notice of dishonor" means the right to require Lender to give notice to other persons that amounts due have not been paid.

8. GIVING OF NOTICES

Unless applicable law requires a different method, any notice that must be given to Borrower under this Note will be given by delivering it or by mailing it by first class mail to Borrower at the property address above or at a different address if Borrower has given Lender a notice of Borrower's different address.

Any notice that must be given to Lender under this Note will be given by first class mail to Lender at the address stated in Paragraph 4(B) or at a different address if Borrower is given a notice of that different address.

9. OBLIGATIONS OF PERSONS UNDER THIS NOTE

If more than one person signs this Note, each person is fully and personally obligated to keep all of the promises made in this Note, including the promise to pay the full amount owed. Any person who is a guarantor, surety or endorser of this Note is also obligated to do these things. Any person who takes over these obligations, including the obligations of a guarantor, surety or endorser of this Note, is also obligated to keep all of the promises made in this Note. Lender may enforce its rights under this Note against each person individually or against all signatories together. Any one person signing this Note may be required to pay all of the amounts under this Note.

BY SIGNING BELOW, Borrower accepts and agrees to the terms and covenants contained in this Note.[4,5]

_____ (SEAL)
Borrower

_____ (SEAL)
Borrower

Footnotes for Model Note Form

1. Use either the appropriate jurisdiction or substitute "Multistate."

2. For Maryland, the Note may be amended if the borrower does not voluntarily elect to pay interim interest at closing. The following must be inserted at the beginning of subsection 4(A): "Borrower shall pay $_____ as interest due on the unpaid principal for the period between the date of this Note and the first day of the next month on the first day of _____, 19__. Thereafter,".

3. The late charge may be printed in the form but shall not exceed 4%.

4. Include any required or customary form of authentication.

5. The model note is a multistate form which requires adaption for the following jurisdictions:

a. *Alaska.* Add the Borrower's Post Office address, if different from the property address.

b. *Kansas.* Delete "including reasonable and customary attorney's fees" from Paragraph 6(c).

c. *Kentucky.* The first sentence of Paragraph 6(c) should be changed to read:

If Lender has required immediate payment in full, as described above, Lender may require Borrower to pay $500.00 for costs and expenses for enforcing this Note.

d. *Louisiana.* Add the following text following the Borrower's signature lines:

'NE VARIETUR' for identification with a mortgage given before me on _____, 19__.

Notary qualified in _____
Parish, Louisiana

e. *Puerto Rico.* See Part IV, Paragraph B.5.

f. *Vermont.* At the end of the Note immediately before "BY SIGNING BELOW", add the following notice in at least ten point type:

Notice to Co-Signer

Your signature on this Note means that you are equally liable for repayment of this loan. If Borrower does not pay, Lender has a legal right to collect from you.

g. *Virginia.* The first sentence of Paragraph 7 should be changed to read:

"Borrower and any other person who has obligations under this Note waive the rights of presentment and notice of dishonor and waive the homestead exemption."

After the Borrower's signature lines, add:

This is to certify that this is the Note described in and secured by a Deed of Trust dated _____, 19__ on the Property located in _____, Virginia.

My Commission expires:

Notary Public

h. *West Virginia.* Add to the end of Paragraph 6(A): "but not more than $_____."

BILLING CODE 4210-27-M

EXHIBIT C

ADJUSTABLE RATE RIDER

THIS ADJUSTABLE RATE RIDER is made this day of , 19 , and is incorporated into and shall be deemed to amend and supplement the Mortgage, Deed of Trust or Security Deed ("Security Instrument") of the same date given by the undersigned ("Borrower") to secure Borrower's Note ("Note") to

(the "Lender") of the same date and covering the property described in the Security Instrument and located at:

[Property Address]

THE NOTE CONTAINS PROVISIONS ALLOWING FOR CHANGES IN THE INTEREST RATE AND THE MONTHLY PAYMENT. THE NOTE LIMITS THE AMOUNT THE BORROWER'S INTEREST RATE CAN CHANGE AT ANY ONE TIME AND THE MAXIMUM RATE THE BORROWER MUST PAY.

ADDITIONAL COVENANTS. In addition to the covenants and agreements made in the Security Instrument, Borrower and Lender further covenant and agree as follows:

1. Under the Note, the initial stated interest rate of per centum (%) per annum ("Initial Interest Rate") on the unpaid principal balance is subject to change, as hereinafter described. When the interest rate changes, the equal monthly installments of principal and interest also will be adjusted, as hereinafter provided, so that each installment will be in an amount necessary to fully amortize the unpaid principal balance of the Note, at the new adjusted interest rate, over the remaining term of the Note.

2. The first adjustment to the interest rate (if any adjustment is required) will be effective on the first day of , 19 (which date will not be less than twelve months nor more than eighteen months from the due date of the first installment payment under the Note), and thereafter each adjustment to the interest rate will be made effective on that day of each succeeding year during the term of the Security Instrument ("Change Date").

3. Each adjustment to the interest rate will be made based upon the following method of employing the weekly average yield on United States Treasury Securities adjusted to a constant maturity of one year ("Index"; the Index is published in the Federal Reserve Bulletin and made available by the United States Treasury Department in Statistical Release H.15 (519)). As of each Change Date, it will be determined whether or not an interest rate adjustment must be made, and the amount of the new adjusted interest rate, if any, as follows:

   (a) The amount of the Index will be determined, using the most recently available figure, thirty (30) days before the Change Date ("Current Index").

   (b) percentage points (%; the "Margin") will be added to the Current Index and the sum of this addition will be rounded to the nearest one-eighth of one percentage point (0.125%). The rounded sum, of the Margin plus the Current Index, will be called the "Calculated Interest Rate" for each Change Date.[1]

   (c) The Calculated Interest Rate will be compared to the interest rate being earned immediately prior to the current Change Date (such interest rate being called the "Existing Interest Rate"). Then, the new adjusted interest rate, if any, will be determined as follows:

      (i) If the Calculated Interest Rate is the same as the Existing Interest Rate, the interest rate will not change.

(ii) If the difference between the Calculated Interest Rate and the Existing Interest Rate is less than or equal to one percentage point, the new adjusted interest rate will be equal to the Calculated Interest Rate (subject to the maximum allowable change over the term of the Security Instrument of five percentage points, in either direction, from the Initial Interest Rate, herein called the "5% Cap").

(iii) If the Calculated Interest Rate exceeds the Existing Interest Rate by more than one percentage point, the new adjusted interest rate will be equal to one percentage point higher than the Existing Interest Rate (subject to the 5% Cap).

(iv) If the Calculated Interest Rate is less than the Existing Interest Rate by more than one percentage point, the new adjusted interest rate will be equal to one percentage point less than the Existing Interest Rate (subject to the 5% Cap).

(d) Notwithstanding anything contained in this Adjustable Rate Rider, in no event will any new adjusted interest rate be more than five percentage (5%) points higher or lower than the Initial Interest Rate. If any increase or decrease in the Existing Interest Rate would cause the new adjusted interest rate to exceed the 5% Cap, the new adjusted interest rate will be limited to five percentage (5%) points higher or lower, whichever is applicable, than the Initial Interest Rate.

(e) Lender will perform the functions required under Subparagraphs 3(a), (b) and (c) to determine the amount of the new adjusted rate, if any. Any such new adjusted rate will become effective on the Change Date and thereafter will be deemed to be the Existing Interest Rate. The new Existing Interest Rate will remain in effect until the next Change Date on which the interest rate is adjusted.

(f) If the Index is no longer available, Lender will be required to use any index prescribed by the Department of Housing and Urban Development. Lender will notify Borrower in writing of any such substitute index (giving all necessary information for Mortgagor to obtain such index) and after the date of such notice the substitute index will be deemed to be the Index hereunder.

4. (a) If the Existing Interest Rate changes on any Change Date, Lender will recalculate the monthly installment payments of principal and interest to determine the amount which would be necessary to repay in full, on the maturity date, the unpaid principal balance (which unpaid principal balance will be deemed to be the amount due on such Change Date assuming there has been no default in any payment on the Note but that all prepayments on the Note have been taken into account), at the new Existing Interest Rate, in equal monthly payments. At least 25 days before the date on which the new monthly payment at the new level is due, Lender will give Borrower written notice ("Adjustment Notice") of any change in the Existing Interest Rate and of the revised amount of the monthly installment payments of principal and interest, calculated as provided above. Each Adjustment Notice will set forth (i) the date the Adjustment Notice is given, (ii) the Change Date, (iii) the new Existing Interest Rate as adjusted on the Change Date, (iv) the amount of the adjusted monthly installment payments, calculated as provided above, (v) the Current Index and the date it was published, (vi) the method of calculating the adjustment to the monthly installment payments, and (vii) any other information which may be required by law from time to time.

(b) Borrower agrees to pay the adjusted monthly installment amount beginning on the first payment date which occurs at least twenty-five (25) days after Lender has given the Adjustment Notice to Borrower. Borrower will continue to pay the adjusted monthly installment amount set forth in the last Adjustment Notice given by Lender to Borrower until the first payment date which occurs at least twenty-five (25) days after Lender has given a further Adjustment Notice to Borrower. Notwithstanding anything to the contrary contained in this Adjustable Rate Rider or the Security Instrument, Borrower will be relieved of any obligation to pay, and Lender will have forfeited its right to collect, any increase in the monthly installment amount (caused by the recalculation of such amount under Subparagraph 4(a)) for any payment date occurring less than twenty-five (25) days after Lender has given the applicable Adjustment Notice to Borrower.

(c) Notwithstanding anything contained in this Adjustable Rate Rider, in the event that (i) the Existing Interest Rate was reduced on a Change Date, and (ii) Lender failed to give the Adjustment Notice when required, and (iii) Borrower, consequently, has made any monthly installment payments in excess of the amount which would have been set forth in such Adjustment Notice ("Excess Payments"), then Borrower, at Borrower's sole option, may either (1) demand the return from Lender (who for the purposes of this sentence will be deemed to be the lender, or lenders, who received such Excess Payments, whether or not any such lender subsequently assigned the Security Instrument) of all or any portion of such Excess Payments, with interest thereon at a rate equal to the sum of the Margin and the Index on the Change Date when the Existing Interest Rate was so reduced, from the date each such Excess Payment was made by Borrower to repayment, or (2) request that all or any portion of such Excess Payments, together with all interest thereon calculated as provided above, be applied as payments against principal.

5. Nothing contained in this Adjustable Rate Rider will permit Lender to accomplish an interest rate adjustment through an increase (or decrease) to the unpaid principal balance. Changes to the Existing Interest Rate may only be reflected through adjustment to Borrower's monthly installment payments of principal and interest, as provided for herein.

BY SIGNING BELOW, Borrower accepts and agrees to the terms and covenants contained in this Adjustable Rate Rider.

_____ (SEAL)
Borrower

_____ (SEAL)
Borrower

[ADD ANY NECESSARY ACKNOWLEDGEMENT PROVISIONS]

[1]The mortgagee may omit "and the sum of this addition will be rounded to the nearest one-eighth of one percentage point (0.125%)" in the first sentence of 3(b) and "rounded" in the second sentence of 3(b) for loans which will not be included in GNMA pools.

EXHIBIT D

ADJUSTABLE RATE ALLONGE AMENDING NOTE

THIS ADJUSTABLE RATE ALLONGE is an AMENDMENT made this day of , 19 , and is incorporated into and shall be deemed to amend and supplement the Note ("Note") of the same date given by the undersigned ("Borrower") to evidence Borrower's indebtedness to

("Lender"), which indebtedness is secured by a Mortgage, Deed of Trust or Security Deed ("Security Instrument"), of the same date and covering the property described in the Security Instrument and located at:

[Property Address]

Notwithstanding anything to the contrary set forth in the Note, Borrower hereby agrees to the following:

1. The interest rate stated in the Note, of per centum (%) per annum ("Initial Interest Rate"), is subject to change as hereinafter provided. Borrower promises to pay, on the unpaid principal amount, interest at the rate in effect from time to time, as adjusted in accordance with the provisions of this Amendment, in monthly installments of principal and interest as provided in Paragraph 4. When the interest rate changes, the equal monthly installments of principal and interest also will be adjusted, as hereinafter provided, so that each installment will be in an amount necessary to fully amortize the unpaid principal balance of the Note, at the new adjusted interest rate, over the remaining term of the Note. Borrower agrees to pay to the order of Lender the amount of all such adjusted monthly installments, provided that Borrower is notified of such adjustments as hereinafter required.

2. The first adjustment to the interest rate (if any adjustment is required) will be effective on the first day of , 19 (which date will not be less than twelve months nor more than eighteen months from the due date of the first installment payment under the Note), and thereafter each adjustment to the interest rate will be made effective on that day of each succeeding year during the term of the Note ("Change Date").

3. Each adjustment to the interest rate will be made based upon the following method of employing the weekly average yield on United States Treasury Securities adjusted to a constant maturity of one year ("Index"; the Index is published in the Federal Reserve Bulletin and made available by the United States Treasury Department in Statistical Release H. 15 (519)). As of each Change Date, it will be determined whether or not an interest rate adjustment must be made, and the amount of the new adjusted interest rate, if any, as follows:

   (a) The amount of the Index will be determined, using the most recently available figure, thirty (30) days before the Change Date ("Current Index").

   (b) percentage points (%; the 'Margin") will be added to the Current Index and the sum of this addition will be rounded to the nearest one-eighth of one percentage point (0.125%). The rounded sum, of the Margin plus the Current Index, will be called the "Calculated Interest Rate" for each Change Date.[1]

   (c) The Calculated Interest Rate will be compared to the interest rate being earned immediately prior to the current Change Date (such interest rate being called the "Existing Interest Rate"). Then, the new adjusted interest rate, if any, will be determined as follows:

      (i) If the Calculated Interest Rate is the same as the Existing Interest Rate, the interest rate will not change.

(ii) If the difference between the Calculated Interest Rate and the Existing Interest Rate is less than or equal to one percentage point, the new adjusted interest rate will be equal to the Calculated Interest Rate (subject to the maximum allowable change over the term of the Note of five percentage points, in either direction, from the Initial Interest Rate, herein called the "5% Cap").

(iii) If the Calculated Interest Rate exceeds the Existing Interest Rate by more than one percentage point, the new adjusted interest rate will be equal to one percentage point higher than the Existing Interest Rate (subject to the 5% Cap).

(iv) If the Calculated Interest Rate is less than the Existing Interest Rate by more than one percentage point, the new adjusted interest rate will be equal to one percentage point less than the Existing Interest Rate (subject to the 5% Cap).

(d) Notwithstanding anything contained in this Amendment, in no event will any new adjusted interest rate be more than five percentage (5%) points higher or lower than the Initial Interest Rate. If any increase or decrease in the Existing Interest Rate would cause the new adjusted interest rate to exceed the 5% Cap, the new adjusted interest rate will be limited to five percentage (5%) points higher or lower, whichever is applicable, than the Initial Interest Rate.

(e) Lender will perform the functions required under Subparagraphs 3(a), (b) and (c) to determine the amount of the new adjusted interest rate, if any. Any such new adjusted interest rate will become effective on the Change Date and thereafter will be deemed to be the Existing Interest Rate. The new Existing Interest Rate will remain in effect until the next Change Date on which the interest rate is adjusted.

(f) If the Index is no longer available, Lender will be required to use any index prescribed by the Department of Housing and Urban Development. Lender will notify Borrower in writing of any such substitute index (giving all necessary information for Borrower to obtain such index) and after the date of such notice the substitute index will be deemed to be the Index hereunder.

4. (a) If the Existing Interest Rate changes on any Change Date, Lender will recalculate the monthly installment payments of principal and interest to determine the amount which would be necessary to repay in full, on the maturity date, the unpaid principal balance (which unpaid principal balance will be deemed to be the amount due on such Change Date assuming there has been no default in any payment on the Note but that all prepayments on the Note have been taken into account), at the new Existing Interest Rate, in equal monthly payments. At least 25 days before the date on which the new monthly payment at the new level is due, Lender will give Borrower written notice ("Adjustment Notice") of any change in the Existing Interest Rate and of the revised amount of the monthly installment payments of principal and interest, calculated as provided above. Each Adjustment Notice will set forth (i) the date the Adjustment Notice is given, (ii) the Change Date, (iii) the new Existing Interest Rate as adjusted on the Change Date, (iv) the amount of the adjusted monthly installment payments, calculated as provided above, (v) the Current Index and the date it was published, (vi) the method of calculating the adjustment to the monthly installment payments, and (vii) any other information which may be required by law from time to time.

(b) Borrower agrees to pay the adjusted monthly installment amount beginning on the first payment date which occurs at least twenty-five (25) days after Lender has given the Adjustment Notice to Borrower. Borrower will continue to pay the adjusted monthly installment amount set forth in the last Adjustment Notice given by Lender to Borrower until the first payment date which occurs at least twenty-five (25) days after Lender has given a further Adjustment Notice to Borrower. Notwithstanding anything to the contrary contained in this Amendment of the Note, Borrower will be relieved of any obligation to pay, and Lender will have forfeited its right to collect, any increase in the monthly installment amount (caused by the recalculation of such amount under Subparagraph 4(a)) for any payment date occurring less than twenty-five (25) days after Lender has given the applicable Adjustment Notice to Borrower.

(c) Notwithstanding anything contained in this Amendment, in the event that (i) the Existing Interest Rate was reduced on a Change Date, and (ii) Lender failed to give the Adjustment Notice when required, and (iii) Borrower has, consequently, made any monthly installment payments in excess of the amount which would have been set forth in such Adjustment Notice ("Excess Payments"), then Borrower, at Borrower's sole option, may either (1) demand the return from Lender (who for the purposes of this sentence will be deemed to be the lender, or lenders, who received such Excess Payments, whether or not any such lender subsequently assigned the Note and Security Instrument) of all or any portion of such Excess Payments, with interest thereon at a rate equal to the sum of the Margin and the Index on the Change Date when the Existing Interest Rate was so reduced, from the date each such Excess Payment was made by Borrower to repayment, or (2) request that all or any portion of such Excess Payments, together with all interest thereon calculated as provided above, be applied as payments against principal.

5. Nothing contained in this Amendment will permit the Lender to accomplish an interest rate adjustment through an increase (or decrease) to the unpaid principal balance. Changes to the Existing Interest Rate may only be reflected through adjustment to Borrower's monthly installment payments of principal and interest, as provided for herein.

6. If more than one person has signed the Note and this Amendment, each person is jointly and severally liable for all of the obligations under the Note as modified by this Amendment and, therefore, each person is fully and personally obligated to fulfill all of the promises made in the Note and this Agreement, including, without limitation, payment of the entire amount owed (except as provided under Subparagraph 4(b)).

BY SIGNING BELOW, Borrower accepts and agrees to the terms and covenants contained in this amendment.

_____ (SEAL)
Borrower

_____ (SEAL)
Borrower

[1]The mortgagee may omit "and the sum of this addition will be rounded to the nearest one-eighth of one percentage point (0.125%)" in the first sentence of 3(b) and "rounded" in the second sentence of 3(b) for loans which will not be included in GNMA pools.

EXHIBIT E

GRADUATED PAYMENT RIDER

THIS GRADUATED PAYMENT RIDER is made this _____ day of _____, 19____, and is incorporated into and shall be deemed to amend and supplement the Mortgage, Deed of Trust or Security Deed ("Security Instrument") of the same date given by the undersigned ("Borrower") to secure Borrower's Graduated Payment Note to

_____

("Lender") of the same date ("Note") and covering the property described in the Security Instrument and located at:

[Property Address]

THE NOTE PROVIDES FOR DEFERRED INTEREST AND INCREASING MONTHLY INSTALLMENTS ACCORDING TO A SCHEDULE IN THE NOTE. DEFERRAL OF INTEREST MAY INCREASE THE PRINCIPAL BALANCE TO $ _____.[1]

The payment in the schedule in the Note is as follows:

$ _____ during the 1st note year.
$ _____ during the 2nd note year.

$ _____ during the _____ note year and thereafter.[2]

BY SIGNING BELOW, Borrower accepts and agrees to the terms and covenants contained in this Graduated Payment Rider.

_____ (SEAL)
Borrower

_____ (SEAL)
Borrower

[1]Insert maximum principal balance, not the amount by which the principal balance may be increased.
[2]Complete schedule until payments stop increasing. This paragraph is optional; it should be included if required by state law or as otherwise needed to ensure the enforceability and priority of the mortgage. Mortgagees may recite the Note verbatim in this rider.

EXHIBIT F

GRADUATED PAYMENT ALLONGE AMENDING NOTE

THIS GRADUATED PAYMENT ALLONGE is made this day of , 19 , and is incorporated into and shall be deemed to amend and supplement the Note ("Note") of the same date, given by the undersigned ("Borrower") to evidence Borrower's indebtedness to

("Lender"), which evidence is secured by a Mortgage, Deed of Trust or Security Deed ("Security Instrument") of the same date and covering the property described in the Security Instrument and located at:

[Property Address]

Notwithstanding anything to the contrary set forth in the Note, Borrower hereby agrees to the following

1. AS AMENDED, THE NOTE PROVIDES FOR DEFERRED INTEREST AND INCREASING MONTHLY INSTALLMENTS. DEFERRED INTEREST SHALL BE ADDED TO THE PRINCIPAL MONTHLY AND SHALL INCREASE THE PRINCIPAL BALANCE TO NOT MORE THAN $.[1]

2. The payment amount in Paragraph 4(C) of the Note is applicable only during the first note year. The schedule of monthly payments of principal and interest is as follows:

$ during the 1st note year.
$ during the 2nd note year.
$ during the 3rd note year.
$ during the 4th note year.

$ during the note year and thereafter.[2]

BY SIGNING BELOW, Borrower accepts and agrees to the terms and covenants contained in this Amendment.

_____ (SEAL)
Borrower

_____ (SEAL)
Borrower

[1]Insert **maximum** principal balance, not the amount by which the principal balance may be increased.
[2]Complete schedule until payments stop increasing, through the 6th note year for Plans I, II and III and through the 11th note year for Plans IV and V.

EXHIBIT G

GROWING EQUITY ALLONGE AMENDING NOTE

THIS GROWING EQUITY ALLONGE is an AMENDMENT made this day of , 19 , and is incorporated into and shall be deemed to amend and supplement the Note ("Note") of the same date, given by the undersigned ("Borrower") to evidence Borrower's indebtedness to

("Lender"), which evidence is secured by a Mortgage, Deed of Trust or Security Deed ("Security Instrument") of the same date and covering the property described in the Security Instrument and located at:

[Property Address]

Notwithstanding anything to the contrary set forth in the Note, Borrower hereby agrees to the following:

1. AS AMENDED, THE NOTE PROVIDES FOR INCREASING MONTHLY INSTALLMENTS.

2. The payment amount in Paragraph 4(C) of the Note is applicable only during the first note year. This schedule of monthly payments of principal and interest is as follows:

$ during the 1st note year.
$ during the 2nd note year.
$ during the 3rd note year.
$ during the 4th note year.
(Continue this schedule for each of the remaining note years.)

BY SIGNING BELOW, Borrower accepts and agrees to the terms and covenants contained in this Amendment.

_____ (SEAL)
Borrower

_____ (SEAL)
Borrower

EXHIBIT H

REHABILITATION LOAN RIDER

THIS REHABILITATION LOAN RIDER is made this day of , 19 , and is incorporated into and shall be deemed to amend and supplement the Mortgage, Deed of Trust or Security Deed ("Security Instrument") of the same date given by the undersigned ("Borrower") to secure Borrower's Note ("Note") to

("Lender") of the same date and covering the property described in the Security Instrument and located at:

[Property Address]

ADDITIONAL COVENANTS. In addition to the covenants and agreements made in the Security Instrument, Borrower and Lender further covenant and agree as follows:

A. Loan proceeds are to be advanced for the premises in accordance with the Rehabilitation Loan Agreement dated , 19 , between Borrower and Lender. This agreement is incorporated by reference and made a part of this Security Instrument. No advances shall be made unless approved by the Secretary of Housing and Urban Development.

B. If the rehabilitation is not properly completed, performed with reasonable diligence, or is discontinued at any time except for strikes or lockouts, the lender is vested with full authority to take the necessary steps to protect the rehabilitation improvements and property from harm, continue existing contracts or enter into necessary contracts to complete the rehabilitation. All sums expended for such protection, exclusive of the advances of the principal indebtedness, shall be added to the principal indebtedness, and secured by the Security Instrument and be due and payable on demand with interest as set out in the Note.

C. If Borrower fails to perform any obligation under the loan, including the commencement, progress and completion provisions of the Rehabilitation Loan Agreement, and such failure continues for a period of 30 days, the loan shall, at the option of Lender, be in default.

BY SIGNING BELOW, Borrower accepts and agrees to the terms and covenants contained in this Rehabilitation Loan Rider.

_____ (SEAL)
Borrower

_____ (SEAL)
Borrower

[ADD ANY NECESSARY ACKNOWLEDGEMENT PROVISIONS]

EXHIBIT I

CONDOMINIUM RIDER

THIS CONDOMINIUM RIDER is made this day of , 19 , and is incorporated into and shall be deemed to amend and supplement the Mortgage, Deed of Trust or Security Deed ("Security Instrument") of the same date given by the undersigned ("Borrower") to secure Borrower's Note ("Note") to

("Lender") of the same date and covering the property described in the Security Instrument and located at:

[Property Address]

The Property Address includes a unit in, together with an individual interest in the common elements of, a condominium project known as:

[Name of Condominium Project]

("Condominium Project"). If the owners association or other entity which acts for the Condominium Project ("Owners Association") holds title to property for the benefit or use of its members or shareholders, the Property also includes Borrower's interest in the Owners Association and the uses, proceeds and benefits of Borrower's interest.

CONDOMINIUM COVENANTS. In addition to the covenants and agreements made in the Security Instrument, Borrower and Lender further covenant and agree as follows:

A. So long as the Owners Association maintains, with a generally accepted insurance carrier, a "master" or "blanket" policy insuring all property subject to the condominium documents, including all improvements now existing or hereafter erected on the Property, and such policy is satisfactory to Lender and provides insurance coverage in the amounts, for the periods, and against the hazards Lender requires, including fire and other hazards included within the term "extended coverage," and loss by flood, to the extent required by the Secretary, then: (i) Lender waives the provision in Paragraph 2 of this Security Instrument for the monthly payment to Lender of one-twelfth of the yearly premium installments for hazard insurance on the Property, and (ii) Borrower's obligation under this Paragraph 4 to maintain hazard insurance coverage on the Property is deemed satisfied to the extent that the required coverage is provided by the Owners' Association policy. Borrower shall give Lender prompt notice of any lapse in required hazard insurance coverage and of any loss occurring from a hazard. In the event of a distribution of hazard insurance proceeds in lieu of restoration or repair following a loss to the Property, whether to the condominium unit or to the common elements, any proceeds payable to Borrower are hereby assigned and shall be paid to Lender for application to the sums secured by this Security Instrument, with any excess paid to the entity legally entitled thereto.

B. Borrower promises to pay Borrower's allocated share of the common expenses or assessments and charges imposed by the Owners Association, as provided in the condominium documents.

C. If Borrower does not pay condominium dues and assessments when due, then Lender may pay them. Any amounts disbursed by Lender under this paragraph C shall become additional debt of Borrower secured by the Security Instrument. Unless Borrower and Lender agree to other terms of payment, these amounts shall bear interest from the date of disbursement at the Note rate and shall be payable, with interest, upon notice from Lender to Borrower requesting payment.

BY SIGNING BELOW, Borrower accepts and agrees to the terms and provisions contained in this Condominium Rider.

_____ (SEAL)
Borrower

_____ (SEAL)
Borrower

[Add any necessary acknowledgement provisions]

EXHIBIT J

PLANNED UNIT DEVELOPMENT RIDER

THIS PLANNED UNIT DEVELOPMENT RIDER is made this day of , 19 , and is incorporated into and shall be deemed to amend and supplement the Mortgage, Deed of Trust or Security Deed ("Security Instrument") of the same date given by the undersigned ("Borrower") to secure Borrower's Note ("Note") to

("Lender") of the same date and covering the property described in the Security Instrument and located at:

[Property Address]

The Property is a part of a planned unit development ("PUD") known as

[Name of Planned Unit Development]

PUD COVENANTS. In addition to the covenants and agreements made in the Security Instrument, Borrower and Lender further covenant and agree as follows:

A. So long as the Owners Association (or equivalent entity holding title to common areas and facilities), acting as trustee for the homeowners, maintains, with a generally accepted insurance carrier, a "master" or "blanket" policy insuring the property located in the PUD, including all improvements now existing or hereafter erected on the mortgaged premises, and such policy is satisfactory to Lender and provides insurance coverage in the amounts, for the periods, and against the hazards Lender requires, including fire and other hazards included within the term "extended coverage," and loss by flood, to the extent required by the Secretary, then: (i) Lender waives the provision in Paragraph 2 of this Security Instrument for the monthly payment to Lender of one-twelfth of the yearly premium installments for hazard insurance on the Property, and (ii) Borrower's obligation under this Paragraph 4 to maintain hazard insurance coverage on the Property is deemed satisfied to the extent that the required coverage is provided by the Owners Association policy. Borrower shall give Lender prompt notice of any lapse in required hazard insurance coverage and of any loss occurring from a hazard. In the event of a distribution of hazard insurance proceeds in lieu of restoration or repair following a loss to the Property or to common areas and facilities of the PUD, any proceeds payable to Borrower are hereby assigned and shall be paid to Lender for application to the sums secured by this Security Instrument, with any excess paid to the entity legally entitled thereto.

B. Borrower promises to pay all dues and assessments imposed pursuant to the legal instruments creating and governing the PUD.

C. If Borrower does not pay PUD dues and assessments when due, then Lender may pay them. Any amounts disbursed by Lender under this paragraph C shall become additional debt of Borrower secured by the Security Instrument. Unless Borrower and Lender agree to other terms of payment, these amounts shall bear interest from the date of disbursement at the Note rate and shall be payable, with interest, upon notice from Lender to Borrower requesting payment.

BY SIGNING BELOW, Borrower accepts and agrees to the terms and provisions contained in this PUD Rider.

_____ (SEAL)
Borrower

_____ (SEAL)
Borrower

[Add any necessary acknowledgement provisions]

EXHIBIT K

TAX-EXEMPT FINANCING RIDER

THIS TAX-EXEMPT FINANCING RIDER is made this day of , 19 , and is incorporated into and shall be deemed to amend and supplement the Mortgage, Deed of Trust or Security Deed ("Security Instrument") of the same date given by the undersigned ("Borrower") to secure Borrower's Note ("Note") to

("Lender") of the same date and covering the property described in the Security Instrument and located at:

[Property Address]

In addition to the covenants and agreements made in the Security Instrument, Borrower and Lender further covenant and agree as follows:

Lender, or such of its successors or assigns as may be separate instrument assume responsibility for assuring compliance by the Borrower with the provisions of this Tax Exempt Financing Rider, may require immediate payment in full of all sums secured by this Security Instrument if:

(a) All or part of the Property is sold or otherwise transferred (other than by devise, descent or operation of law) by Borrower to a purchaser or other transferee:

(i) Who cannot reasonably be expected to occupy the property as a principal resident within a reasonable time after the sale or transfer, all as provided in Section 143(c) and (i)(2) of the Internal Revenue Code; or

(ii) Who has had a present ownership interest in a principal residence during any part of the three-year period ending on the date of the sale or transfer, all as provided in Section 143(d) and (i)(2) of the Internal Revenue Code (except that "100 percent" shall be substituted for "95 percent or more" where the latter appears in Section 143(d)(1)); or

(iii) At an acquisition cost which is greater than 90 percent of the average area purchase price (greater than 110 percent for targeted area residences), all as provided in Section 143(e) and (i)(2) of the Internal Revenue Code; or

(iv) Whose family income exceeds 115 percent of applicable median family income (140 percent for a family in a targeted area residence), all as provided in Section 143(f) and (i)(2) of the Internal Revenue Code; or

(b) Borrower fails to occupy the property described in the Security Instrument without prior written consent of Lender or its successors or assigns described at the beginning of this Tax Exempt Financing Rider, or

(c) Borrower omits or misrepresents a fact that is material with respect to the provisions of Section 143 of the Internal Revenue Code in an application for the loan secured by this Security Instrument.

References are to the 1986 Internal Revenue Code in effect on the date of execution of the Security Instrument and are deemed to include the implementing regulations.

BY SIGNING BELOW, Borrower accepts and agrees to the terms and provisions in this Tax-Exempt Financing Rider.

_____ (SEAL)
Borrower

_____ (SEAL)
Borrower

[Add any necessary acknowledgement provisions]

EXHIBIT L

RIDER FOR SECTION 248 MORTGAGE

THIS RIDER FOR SECTION 248 MORTGAGE is made this day of , 19 , and is incorporated into and shall be deemed to amend and supplement the Mortgage, Deed of Trust or Security Deed ("Security Instrument") of the same date given by the undersigned ("Borrower") to secure Borrower's Note ("Note") to

("Lender") of the same date and covering the property described in the Security Instrument and located at:

[Property Address]

ADDITIONAL COVENANTS. In addition to the covenants and agreements made in the Security Instrument, Borrower and Lender further covenant and agree as follows:

A. The interests of the Borrower in the property described above were created by a lease agreement from

as lessor dated , 19 . Any reference to the "Property" shall be construed as referring only to the interests of Borrower created by such lease or any replacement lease.

B. If the Security Instrument is assigned to the Secretary of Housing and Urban Development ("Secretary"), any foreclosure proceeding may take place in a tribal court, Federal district court, or other court of competent jurisdiction. Section 248(f)(5) of the National Housing Act grants to any such court the jurisdiction to convey to the Secretary the remaining life of a lease on the property and to order eviction of the delinquent Borrower.

C. Any purchaser at foreclosure sale other than the Secretary must receive the written consent of the lessor or, if lessor is not an Indian tribe, the tribe of which lessor is a member. The purchaser shall receive a new lease for the remaining term of the existing lease unless the tribe consents to an assumption of the existing lease.

D. This Security Instrument may be assumed, subject to credit approval by the Lender and the consent of the tribe to an assumption of the existing lease or the grant of the new lease. Assumption shall not cause an adjustment of the interest rate.

E. A sale of property subject to the Security Instrument without an assumption of the Security Instrument may be made if a new lease for the remaining term of the existing lease is granted.

BY SIGNING BELOW, Borrower accepts and agrees to the terms and covenants contained in this Rider for Section 248 Mortgage.

_____ (SEAL)
Borrower

_____ (SEAL)
Borrower

[ADD ANY NECESSARY ACKNOWLEDGEMENT PROVISIONS]

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George Bush

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