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Briefing on How To Use the Federal Register
For information on a briefing in Washington, DC, see announcement on the inside cover of this issue.

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WHAT IT IS AND HOW TO USE IT

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

WHO: The Office of the Federal Register.

WHAT: Free public briefings (approximately 3 hours) to present:

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

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

WASHINGTON, DC

WHEN: February 23, at 9:00 a.m.
WHERE: Office of the Federal Register,
First Floor Conference Room,
1100 L Street NW., Washington, DC.
RESERVATIONS: 202–523–5240.

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Presidential Documents

Title 3—

The President

Order of February 1, 1990

Order Pursuant to Section 721 of the Defense Production Act of 1950

By the authority vested in me as President by the Constitution and statutes of the United States of America, including section 721 of the Defense Production Act of 1950 ("section 721"), 50 U.S.C. App. 2170,

Section 1. *Findings.* I hereby make the following findings:

(1) There is credible evidence that leads me to believe that, in exercising its control of MAMCO Manufacturing, Inc. ("MAMCO"), a corporation incorporated under the laws of the State of Washington, the China National Aero-Technology Import and Export Corporation ("CATIC") might take action that threatens to impair the national security of the United States of America; and

(2) Provisions of law, other than section 721 and the International Emergency Economic Powers Act (50 U.S.C. 1701–1706), do not in my judgment provide adequate and appropriate authority for me to protect the national security in this matter.

Section 2. *Actions Ordered and Authorized.* On the basis of the findings set forth in Section 1 of this Order, I hereby order that:

(1) CATIC's acquisition of control of MAMCO and its assets, whether directly or through subsidiaries or affiliates, is prohibited.

(2) CATIC and its subsidiaries and affiliates shall divest all of their interest in MAMCO and its assets by May 1, 1990, 3 months from the date of this Order, unless such date is extended for a period not to exceed 3 months, on such written conditions as the Committee on Foreign Investment in the United States ("CFIUS") may require. Immediately upon divestment, CATIC shall certify in writing to CFIUS that such divestment has been effected in accordance with this Order.

(3) Without limitation on the exercise of authority by any agency under other provisions of law, and until such time as the divestment is completed, CFIUS is authorized to implement measures it deems necessary and appropriate to verify that operations of MAMCO are carried out in such manner as to ensure protection of the national security interests of the United States. Such measures may include but are not limited to the following: On reasonable notice to MAMCO, CATIC, or CATIC's subsidiaries or affiliates (collectively "the Parties"), employees of the United States Government, as designated by CFIUS, shall be permitted access to all facilities of the Parties located in the United States—

(a) to inspect and copy any books, ledgers, accounts, correspondence, memoranda, and other records and documents in the possession or under the control of the Parties that concern any matter relating to this Order;

(b) to inspect any equipment, containers, packages, and technical data (including software) in the possession or under the control of the Parties; and

(c) to interview officers, employees, or agents of the Parties concerning any matter relating to this Order.

(4) The Attorney General is authorized to take any steps he deems necessary to enforce this Order.

Section 3. *Reservation.* I hereby reserve my authority, until such time as the divestment required by this Order has been completed, to issue further orders with respect to the Parties as shall in my judgment be necessary to protect the national security.

Section 4. *Publication.* This Order shall be published in the **Federal Register**.

George Bush

THE WHITE HOUSE,
February 1, 1990.

[FR Doc. 90-2879
Filed 2-2-90; 4:52 pm]
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Rules and Regulations

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DEPARTMENT OF AGRICULTURE

Agricultural Marketing Service

7 CFR Part 907

[Navel Orange Regulation 704, Amdt. 1]

Navel Oranges Grown in Arizona and Designated Part of California

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Final rule.

SUMMARY: This regulation increases the quantity of California-Arizona navel oranges that may be shipped to domestic markets during the period from January 26 through February 1, 1990. Consistent with program objectives, such action is needed to balance the supplies of fresh navel oranges with the demand for such oranges during the period specified. This action was recommended by the Navel Orange Administrative Committee (Committee), which is responsible for local administration of the navel orange marketing order.

DATES: Regulation 704, Amendment 1 [7 CFR part 907] is effective for the period from January 26 through February 1, 1990.

FOR FURTHER INFORMATION CONTACT: Jacquelyn R. Schlatter, Marketing Specialist, Marketing Order Administration Branch, Fruit and Vegetable Division, Agricultural Marketing Service, U.S. Department of Agriculture, Room 2523–S, P.O. Box 96456, Washington, DC 20090–6456; telephone: (202) 447–8139.

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

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

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

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

There are approximately 123 handlers of California-Arizona navel oranges subject to regulation under the navel orange marketing order and approximately 4,065 navel orange producers in California and Arizona. Small agricultural producers have been defined by the Small Business Administration [13 CFR 121.2] as those having annual receipts of less than $500,000, and small agricultural service firms are defined as those whose annual receipts are less than $3,500,000. The majority of handlers and producers of California-Arizona navel oranges may be classified as small entities.

The California-Arizona navel orange industry is characterized by a large number of growers located over a wide area. The production area is divided into four districts which span Arizona and part of California. The largest proportion of navel orange production is located in District 1, Central California, which represented 85 percent of the total production in 1988–89. District 2 is located in the southern coastal area of California and represented 13 percent of 1988–89 production; District 3 is the desert area of California and Arizona, and it represented approximately 1 percent; and District 4, which represented approximately 1 percent, is northern California. The Committee's estimate of 1989–90 production is 83,000 cars (one car equals 1,000 cartons at 37.5 pounds net weight each), as compared with 70,633 cars during the 1988–89 season.

The three basic outlets for California-Arizona navel oranges are the domestic fresh, export, and processing markets. The domestic (regulated) fresh market is a preferred market for California-Arizona navel oranges. The Committee estimates that about 60 percent of the 1989–90 crop of 83,000 cars will be utilized in fresh domestic channels (49,500 cars), with the remainder being exported fresh (9 percent), processed (29 percent), or designated for other uses (2 percent). This compares with the 1988–89 total of 45,581 cars shipped to fresh domestic markets, about 64 percent of the crop.

Volume regulations issued under the authority of the Act and Marketing Order No. 907 are intended to provide benefits to growers. Growers benefit from increased returns and improved market conditions. Reduced fluctuations in supplies and prices result from regulating shipping levels and contribute to a more stable market. The intent of regulation is to achieve a more even distribution of oranges in the market throughout the marketing season.

Based on the Committee's marketing policy, the crop and market information provided by the Committee, and other information available to the Department, the costs of implementing the regulations are expected to be more than offset by the potential benefits of regulation.

Reporting and recordkeeping requirements under the navel orange marketing order are required by the Committee from handlers of navel oranges. However, handlers in turn may require individual growers to utilize certain reporting and recordkeeping practices to enable handlers to carry out their functions. Costs incurred by handlers in connection with recordkeeping and reporting requirements may be passed on to growers.

Major reasons for the use of volume regulations under this marketing order are to foster market stability and enhance grower revenue. Prices for navel oranges tend to be relatively inelastic at the grower level. Thus, even a small variation in shipments can have a great impact on prices and grower revenue. Under these circumstances, strong arguments can be advanced as to

the benefits of regulation to growers, particularly smaller growers.

At the beginning of each marketing year, the Committee submits a marketing policy to the U.S. Department of Agriculture (Department) which discusses, among other things, the potential use of volume and size regulations for the ensuing season. The Committee, in its 1989–90 season marketing policy, considered the use of volume regulation for the season. This marketing policy is available from the Committee or Ms. Schlatter. The Department reviewed that policy with respect to administrative requirements and regulatory alternatives in order to determine if the use of volume regulations would be appropriate. A "Notice of Marketing Policy" (notice), which summarized the Committee's marketing policy, was prepared by the Department and published in the October 19, 1989, issue of the Federal Register [54 FR 42966]. The purpose of the notice was to allow public comment on the Committee's marketing policy and the impact of any regulations on small business activities.

The notice provided a 30-day period for the receipt of comments from interested persons. That comment period ended on November 20, 1989. Three comments were received. The Department is continuing its analysis of the comments received, and the analysis will be made available to interested persons. That analysis is assisting the Department in evaluating recommendations for the issuance of weekly volume regulations.

The Committee conducted a telephone vote on January 26, 1990, to consider the current and prospective conditions of supply and demand and recommended, with nine members voting in favor and two opposing, an increase of 150,000 cartons in the quantity of navel oranges deemed advisable to be shipped to fresh domestic markets during the specified week. The Committee reports that demand for California-Arizona navel oranges has continued to increase. Prices have also continued to improve. In addition, improved weather conditions in the eastern part of the United States and retail promotions are contributing to the increased movement of navel oranges.

The Department reviewed the Committee's recommendation in light of the Committee's projections as set forth in its 1989–90 marketing policy. This recommended amount is 400,000 cartons more than estimated in the January 9, 1990, tentative shipping schedule. Of the 2,050,000 cartons, 1,702,000 are allotted for District 1, 287,000 are allotted for District 2, and 61,000 are allotted for District 4. District 3 is not regulated since approximately 79 percent of its crop to date has been utilized.

During the week ending on January 18, 1990, shipments of navel oranges to fresh domestic markets, including Canada, totaled 1,900,000 cartons compared with 1,705,000 cartons shipped during the week ending on January 19, 1989. Export shipments totaled 355,000 cartons compared with 479,000 cartons shipped during the week ending on January 19, 1989. Processing and other uses accounted for 502,000 cartons compared with 661,000 cartons shipped during the week ending on January 19, 1989.

Fresh domestic shipments to date this season total 19,182,000 cartons compared with 14,921,000 cartons shipped by this time last season. Export shipments total 3,130,000 cartons compared with 2,323,000 cartons shipped by this time last season. Processing and other use shipments total 4,912,000 cartons compared with 4,092,000 cartons shipped by this time last season.

For the week ending on January 18, 1990, regulated shipments of navel oranges to the fresh domestic market were 1,879,000 cartons on an adjusted allotment of 1,740,000 cartons which resulted in net overshipments of 104,000 cartons. Regulated shipments for the current week (January 19 through January 25, 1990) are estimated at 1,835,000 cartons on an adjusted allotment of 1,746,000 cartons. Thus, overshipments of 89,000 cartons could be carried over into the week ending on February 1, 1990.

The average f.o.b. shipping point price for the week ending on January 18, 1990, was $7.26 per carton based on a reported sales volume of 1,606,000 cartons compared with last week's average of $7.20 per carton on a reported sales volume of 1,594,000 cartons. The season average f.o.b. shipping point price to date is $7.76 per carton. The average f.o.b. shipping point price for the week ending on January 19, 1989, was $6.75 per carton; the season average f.o.b. shipping point price at this time last season was $8.35 per carton.

Over the weekend of December 22–25, Florida, Texas, Georgia, and Louisiana experienced a major freeze in produce-growing areas. In Florida, temperatures were at or below 27 degrees for the longest duration in many years. In addition, Texas citrus grown in the Rio Grande Valley experienced at least 16 hours of temperatures below 26 degrees on December 22–23.

According to a January 11 crop report issued by the National Agricultural Statistics Service, the citrus production estimate is 18 percent lower than in December and 25 percent below last season. This significant reduction is due mostly to the severe freezing temperatures in the Florida and Texas citrus belts. Fruit droppage is increasing in all areas of Florida, and the Texas fresh market citrus harvest has ended. In addition, orange production is down 19 percent from a December 1 forecast and 24 percent below last season. This decline is due mostly to Florida's 29 percent decrease from December and 37 percent decline from last season. The severe December freeze in Florida's citrus belt further reduced an already short orange crop. Both the Committee and the Department are continuing to monitor the effects of the Texas and Florida freezes on the California-Arizona navel orange industry.

The 1988–89 season average fresh equivalent on-tree price for California-Arizona navel oranges was $3.86 per carton, 65 percent of the season average parity equivalent price of $5.98 per carton.

Based upon fresh utilization levels indicated by the Committee and an econometric model developed by the Department, the 1989–90 season average fresh on-tree price is estimated to be between $4.80 and $5.10 per carton. This range is equivalent to 73–78 percent of the projected season average fresh on-tree parity equivalent price of $6.54 per carton. Thus, the 1989–90 season average fresh on-tree price is not expected to exceed the projected season average fresh on-tree parity equivalent price.

Increasing the quantity of navel oranges from 1,900,000 to 2,050,000 cartons that may be shipped during the period from January 26 through February 1, 1990, would be consistent with the provisions of the marketing order by tending to establish and maintain, in the interest of producers and consumers, an orderly flow of navel oranges to market.

Based on considerations of supply and market conditions, and the evaluation of alternatives to the implementation of this volume regulation, the Administrator of the AMS has determined that this final rule will not have a significant economic impact on a substantial number of small entities and that this action will tend to effectuate the declared policy of the Act.

Pursuant to 5 U.S.C. 553, it is further found and determined that it is impracticable, unnecessary, and contrary to the public interest to give preliminary notice, engage in future public procedure with respect to this action and that good cause exists for not postponing the effective date of this action until 30 days after publication in

the **Federal Register.** This is because there is insufficient time between the date when information became available upon which this regulation is based and the effective date necessary to effectuate the declared policy of the Act.

In addition, market information needed for the formulation of the basis for this action was not available until January 26, 1990, and this action needs to be effective for the regulatory week which begins on January 26, 1990. Further, handlers were apprised of its provisions and effective time. It is necessary, therefore, in order to effectuate the declared purposes of the Act, to make this regulatory provision effective as specified.

List of Subjects in 7 CFR Part 907

Arizona, California, Marketing agreements, Navel oranges.

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

PART 907—[AMENDED]

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

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

2. Section 907.1004 is revised to read as follows:

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

§ 907.1004 Navel Orange Regulation 704, Amendment 1.

The quantity of navel oranges grown in California and Arizona which may be handled during the period from January 26 through February 1, 1990, is established as follows: (a) District 1: 1,702,000 cartons; (b) District 2: 287,000 cartons; (c) District 3: unlimited cartons; (d) District 4: 61,000 cartons.

Dated: January 26, 1990.

Robert O. Keeney,

Deputy Director, Fruit and Vegetable Division.

[FR Doc. 90–2617 Filed 2–5–90; 8:45 am]

BILLING CODE 3410–02–M

Farmers Home Administration

7 CFR Parts 1944 and 1955

Sale of Inventory Property

AGENCY: Farmers Home Administration, USDA.

ACTION: Final rule.

SUMMARY: The Farmers Home Administration (FmHA) amends its regulations on the sale of Single Family Housing (SFH) inventory property to include provisions for purchase by a public body or nonprofit organization to use for transitional housing for the homeless, to authorize pilot projects and to make other minor changes consistent with the authorizing statute. This action is taken to provide eligible organizations priority in purchasing SFH inventory property, a discount of the listed price on nonprogram property, repairs to decent, safe and sanitary standards, and favorable financing terms. Pilot projects will improve the agency's ability to evaluate various methods to improve the management and disposition of inventory property. The intended effect is to assist the homeless and to improve the agency's ability to efficiently dispose of inventory property.

EFFECTIVE DATE: March 8, 1990.

FOR FURTHER INFORMATION CONTACT: Joyce M. Halasz, Senior Realty Specialist, Single Family Housing Servicing and Property Management Division, Farmers Home Administration, U.S. Department of Agriculture, Room 5309, South Agriculture Building, 14th Street and Independence Avenue SW., Washington, DC 20250, telephone (202) 382–1452.

SUPPLEMENTARY INFORMATION:

Classification

This action has been reviewed under USDA procedures established in Departmental Regulation 1512–1, which implements Executive Order 12291 and has been determined to be "nonmajor" since the annual effect on the economy is less than $100 million and there will be no significant increase in costs or prices for consumers, individual industries, Federal, State or local government agencies, or geographic regions. Furthermore, there will be no adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States based enterprises to compete with foreign-based enterprises in domestic or import markets. This action is not expected to substantially affect budget outlay or affect more than one Agency or to be controversial. The net result is to provide better service to rural communities.

Background/Discussion

On September 14, 1988, FmHA published an interim rule (53 FR 35638) which included revisions to farmer program (CONACT) portions of 7 CFR part 1955, implementing provisions of the Agricultural Credit Act of 1987. This action, except for the provisions on pilot projects and sealed bid sales, affects housing programs only and has no impact on the intent of revisions to 7 CFR part 1955 implementing the Agricultural Credit Act of 1987.

On July 25, 1988, FmHA published a proposed rule (53 FR 27863) on leasing SFH inventory property to community-based organizations to provide transitional housing for the homeless. Several comments suggested revisions to subpart C of 7 CFR part 1955 to facilitate the sale of SFH inventory property to certain organizations to provide transitional housing for the homeless. Based upon those comments, FmHA published a proposed rule (54 FR 17958) on April 26, 1989, and provided a 60-day comment period. Although comments had been made on the previous rulemaking, FmHA encouraged additional comments from housing advocacy groups, FmHA personnel and the public. Twelve comments were received: 2 from FmHA employees, 1 from a Department of Housing and Urban Development (DHUD) program official, 1 from a private individual, 1 from a limited profit housing rehabilitation organization, and the rest from 7 low-income housing advocacy groups. All comments were generally in support of the rule; however, several issues were raised over specific points of the proposal. The following is a discussion of the comments received:

Type of Property To Be Offered

Comment: FmHA should determine which properties are suitable for transitional housing and prepare a separate list to save an organization's time and effort looking at vacant lots or buildings which are not feasible.

Response: A list of SFH inventory property, indicating whether it is program or nonprogram, can be generated easily by field offices from the agency's Acquired Property Tracking System; therefore an organization can ask for such a breakdown when it decides to look at various properties. Because an organization's resources and requirements are unknown, FmHA should neither impose its own criteria, nor exclude any property from consideration.

Comment: Program property should be excluded fom the program.

Response: An organization eligible for this program is not a program applicant; however, its purpose, to provide transitional housing for the homeless, makes it worthy of equal access to program property.

Comment: Under this rulemaking, FmHA should provide for the disposition of properties that include large tracts of land to facilitate the

establishment of Regional Homeless Training Centers (RHTC).

Response: This rulemaking is limited to SFH inventory property, therefore, addressing the facilitation of RHTC is beyond its scope. Larger tracts of land in FmHA inventory are available, subject to other provisions of subpart C of part 1955 of this chapter.

Eligibility of Organizations for Program Participation

Comment: FmHA should offer a Local Urban Homesteading Agency (LUHA) a 10 percent discount on any SFH inventory property to be used in the Urban Homesteading (UH) program.

Response: A LUHA is a community nonprofit corporation but it does not meet the required purpose identified for this program in the Memorandum of Understanding between USDA and Department of Health and Human Services (DHHS). The comment has merit, however, since similar consideration is given to a LUHA under DHUD or Veterans Administration (VA) inventory sale procedures. Therefore, § 1955.144(b) of 7 CFR part 1955 subpart C is amended to specify that a LUHA is authorized a 10 percent discount of the listed price on nonprogram property. In order to protect the ability of program applicants to compete for program property, no discount is authorized on program property.

Comment: FmHA should extend the program to limited profit or profit organizations which rent units to very-low-income families. Comments on the proposed rule on leasing inventory property also made this suggestion.

Response: The Memorandum of Understanding between USDA and DHHS limits this program to community nonprofit organizations interested in initiating shelter projects. Organizations which do not meet this definition may compete on the same terms with other nonprogram applicants for program or nonprogram property.

Method of Offering

Comment: The list of inventory property should be referred to DHUD in accordance with the terms of the McKinney Act.

Response: SFH inventory property is not subject to the reporting requirements of the McKinney Act because it is neither property which is subject to Federal Property and Administrative Services Act (FPASA) surveys, nor is it underutilized because it is prepared and offered for sale as soon as possible after acquisition. The above notwithstanding, FmHA is committed to assisting the homeless, consistent with the objectives of the Housing Act of 1949 and in accordance with the terms of the Memorandum of Understanding with DHHS. The proposed rule assures ample notice of property availability, without burdening agency resources, by providing interested organizations with a list of inventory property upon request.

Priority Order for Disposition of Property

Comment: FmHA should establish a priority order for disposition of inventory property, giving first and equal priority to program applicants and organizations to buy property for rental, cooperative or transitional housing; second priority to organizations to lease property for transitional housing; third priority to organizations to buy property for any public purpose; and last to any other buyers.

Response: The priorities suggested would not necessarily benefit the intended beneficiaries, the homeless. Additional levels of priority, with the implication of additional reservation periods required, could adversely impact the amount of time a property is retained in inventory, adding to the Government's cost of property disposition. The suggestion would also result in an inequitable position for an organization which may not be authorized or have the resources to buy property. We will continue to give priority to a program applicant, yet provide equal access to an eligible organization whose purpose is to provide transitional housing for the homeless. The organization has an advantage over a nonprogram applicant, by the withdrawal from the market upon notice of interest.

Program Purposes

Comment: Several comments suggested expanding program purposes to permit the use of the property for rental or cooperative housing or for any other public purpose. Comments on the proposed rule on leasing inventory property also suggested this.

Reponse: The intent of this action is to address the housing needs of the homeless within the framework of the Memorandum of Understanding between USDA and DHHS. It is not intended to facilitate the transfer of SFH inventory property to rental or cooperative housing nor to convert it from residential use, regardless of ownership, to any other public purpose.

Terms of Sale

Comment: FmHA should offer more than a 10 percent discount.

Response: A 10 percent discount of the listed price on nonprogram property is adequate. The listed price may already be 10 percent or 20 percent below appraised market value because of administrative price reductions, depending upon how long the property has been listed.

Comment: FmHA should extend the time for the organization to execute a sales contract or permit a lease with option to purchase, to allow time to obtain funding.

Response: FmHA proposed to withdraw a property from the market for 15 days to allow time to present a written contract. Although many of the requirements for an organization to enter into a contract could be met ahead of time, additional time might be required, therefore this period is extended to 30 days. FmHA leases nonprogram property under subpart B of part 1955 of this chapter; however, there is no cash rent to accumulate toward a purchase. Additional time to obtain funds should not be necessary because FmHA offers financing at favorable nonprogram terms.

Comment: FmHA financing at the proposed terms will not permit an organization to charge a fair market rent and cover mortagage payments, maintenance and insurance.

Response: The proposed terms included a 2 percent downpayment, with financing at the nonprogram interest rate, amortized over 20 years with a balloon payment due in 10 years. We cannot change the interest rate or provide interest credit subsidy to nonprogram applicants; however, we have eliminated the downpayment, and will permit amortization over thirty years to conform to nonprogram terms for owner/occupants.

Repairs to Property

Comment: FmHA should not repair a property for this program.

Response: FmHA will repair a property, if necessary, only to meet decent, safe and sanitary (DSS) standards, and then, only if it is feasible. This is to enable organizations without resources for essential repairs to provide housing which does not endanger the safety or health of the occupants. The price will be adjusted accordingly.

Comment: FmHA should make repairs to meet thermal performance standards.

Response: FmHA proposed to repair property to meet DSS standards, except for thermal performance standards. Section 510(e) of the Housing Act of 1949, as amended, requires that inventory property meet DSS standards, including thermal performance standards, before it is occupied for

residential purposes; therefore, to meet all the criteria, the proposed rule is revised to reflect that FmHA repairs the property to DSS standards, including thermal performance standards.

Comment: The cost of repairs should have to exceed $15,000, not $7,500, before requiring prior approval from the Assistant Administrator.

Response: The agency has decided to repair property for this program under existing regulations; therefore, the need for prior approval from the Assistant Administrator has been eliminated.

Lease of Inventory Property

Several comments regarding the lease of inventory property, although beyond the scope of this rulemaking, are addressed here even though they may have been answered in the Final rule (54 FR 20518), published on May 12, 1989.

Comment: FmHA should allow lease of program property as well as nonprogram property.

Response: The public benefit of leasing program property and the cost of retaining property in inventory for an extended period cannot outweigh the value of the prompt turnover of program property. The agency mission for its single family housing program is to provide financial assistance to help applicants obtain adequate but modest homes of their own in rural areas. Inventory properties that can help meet the agency mission will be used for that purpose.

Comment: FmHA should publish the fact sheet on leasing inventory property for the homeless and the sample lease form for public comment.

Response: FmHA has determined the **Federal Register** publication of this information is not required because these materials merely implement the published rules are not themselves rules. These items are available to the public and all interested organizations at any FmHA office.

The following is a summary of the program features as amended by the comments received:

1. Upon request, FmHA provides a list of SFH inventory property to any public body or nonprofit organization which expresses an interest in buying it to provide transitional housing for the homeless. Upon written notice of intent to purchase, FmHA withdraws the property from the market for up to 30 days to allow time to execute a sales contract.

2. A 10 percent discount of the listed price is authorized on nonprogram property. No discount is authorized on program property.

3. If necessary, FmHA repairs the property, when feasible, to decent, safe, and sanitary (DSS) standards, including thermal performance standards. The price is adjusted to reflect any resulting change in value. The buyer is responsible for any cosmetic repairs.

4. No earnest money deposit or down payment is required. Financing is available for 30 years at the nonprogram interest rate.

Other minor editorial changes were made to clarify the instruction.

No comments were received regarding the five-day waiting period before FmHA considers offers for the purchase of SFH inventory property, assuring all real estate brokers equal opportunity to submit offers; therefore, § 1955.114(a)(1)(iv) is amended as proposed, except for minor editorial changes.

No comments were received regarding the State Director's authority to offer 20-year amortization on nonprogram financing, special effort sales bonuses and sealed bid sales to promote the sale of inventory property; therefore, § 1955.118(f), redesignated to paragraph (b)(6)(i)(B), § 1955.130(f) and § 1955.147 are amended as proposed, except special effort sales bonuses are limited to short terms not to exceed three months. Section 1955.118 is also amended to correct the designation of several paragraphs and to add instructions for closing a credit sale of more than one property to the same buyer. Although a separate note will still be taken for each property, only one mortgage will cover all the properties to discourage investors from defaulting on payments on those individual properties they no longer want.

No comments were received regarding the use of pilot projects; therefore § 1955.132 is amended as proposed, except for minor editorial changes.

No comments were received regarding the authorization of a maximum total loan amount in excess of the market value by one percent of the sale price, for a subsequent loan for closing costs with a credit sale or a transfer.

A minor editorial change was made to § 1944.17(d) of subpart A of part 1944 of this chapter; however, to clarify that the maximum loan amount is based on the market value or the sale price, whichever is less.

Programs Affected

These programs/activities are listed in the Catalog of Federal Domestic Assistance under Nos:

10.404 Emergency Loans
10.405 Farm Labor Housing Loans
10.406 Farm Operating Loans
10.407 Farm Ownership Loans
10.410 Low Income Housing Loans
10.411 Rural Housing Site Loans
10.414 Resource Conservation and Development Loans
10.415 Rural Rental Housing Loans
10.416 Soil and Water Loans
10.417 Very Low Income Housing Repair Loan and Grants
10.418 Water and Waste Disposal Systems for Rural Communities
10.419 Watershed Protection and Flood Prevention Loans
10.421 Indian Tribes and Tribal Corporation Loans
10.422 Business and Industrial Loans
10.423 Community Facility Loans
10.427 Rural Rental Assistance Payments

Intergovernmental Consultation

For the reasons set forth in the Final Rule related Notice(s) to 7 CFR part 2015, subpart V, the following programs are excluded from the scope of Executive Order 12372 which requires intergovernmental consultation with State and local officials: 10.404—Emergency Loans; 10.406—Farm Operating Loans; 10.407—Farm Ownership Loans; 10.410—Low Income Housing Loans; 10.416—Soil and Water Loans; 10.417—Very Low Income Housing Repair Loan and Grants. However, this activity impacts the following programs which are subject to intergovernmental consultation with State and local officials: 10.405—Farm Labor Housing Loans and Grants; 10.411—Rural Housing Site Loans; 10.414—Resource Conservation and Development Loans; 10.415—Rural Rental Housing Loans; 10.418—Water and Waste Disposal Systems for Rural Communities; 10.419—Watershed Protection and Flood Prevention Loans; 10.421—Indian Tribes and Tribal Corporation Loans; 10.422—Business and Industrial Loans; 10.423—Community Facility Loans; 10.427—Rural Rental Assistance Payments.

Environmental Impact Statement

This document has been reviewed in accordance with 7 CFR part 1940, subpart G, "Environmental Program." It is the determination of FmHA that the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment and in accordance with the National Environmental Policy Act of 1949, Public Law 91-190, an Environmental Impact Statement is not required.

Regulatory Flexibility Act

This final rule has been reviewed with regard to the requirements of the Regulatory Flexibility Act (5. U.S.C. 601-

612). The undersigned has determined and certified by signature of this document that this rule will not have a significant economic impact on a substantial number of small entities since this rulemaking action does not involve a large number of small entities.

List of Subjects

7 CFR Part 1944

Home improvement, Loan programs—Housing and community development, Low and moderate income housing—Rental, Mobile homes, Mortgages, Rural housing, Subsidies.

7 CFR Part 1955

Government acquired property, Sale of government acquired property, Surplus government property.

Therefore, as proposed, Chapter XVIII, Title 7, Code of Federal Regulations, is amended as follows:

PART 1944—HOUSING

1. The authority citation for part 1944 continues to read as follows:

Authority: 42 U.S.C. 1480, 5 U.S.C. 301, 7 CFR 2.23, 7 CFR 2.70.

Subpart A—Section 502 Rural Housing Loan Policies, Procedures and Authorizations

2. In § 1944.17, paragraph (d) is revised to read as follows:

§ 1944.17 Maximum loan amounts.

* * * * *

(d) When a subsequent loan for closing costs only is made simultaneously with a credit sale (as provided in § 1955.117(f) of subpart C of part 1955 of this chapter) or a transfer, the total indebtedness may exceed the sale price or market value of the security property, whichever is less, by no more than one percent.

* * * * *

PART 1955—PROPERTY MANAGEMENT

3. The authority citation for part 1955 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 C—Disposal of Inventory Property

4. The title and text of § 1955.111 is revised to read as follows:

§ 1955.111 Sale of real estate for RH purposes (housing).

Sections 1955.112 through 1955.120 of this subpart pertain to the sale of acquired property pursuant to the Housing Act of 1949, as amended, (RH property). Single family units (generally which secured loans made under section 502 or 504 of the Housing Act of 1949, as amended) are referred to as SFH property. All other property is referred to as MFH property. Notwithstanding the provisions of §§ 1955.112 through 1955.118 of this subpart, § 1955.119 is the governing section for the sale of SFH inventory property to a public body or nonprofit organization to use for transitional housing for the homeless.

5. In § 1955.114, paragraph (a)(1)(iv) is revised to read as follows:

§ 1955.114 Sales steps for program property (housing).

(a) * * *

(1) * * *

(iv) An offer may be submitted any time after the effective date the property is available for sale or any price reduction; however, it is not considered until five business days after the effective date. An offer received during the five business day period is considered on the 6th day, at the same time as any offer received on the 6th day.

* * * * *

6. Section 1955.118 is amended by redesignating the introductory text as paragraph (a); redesignating the last sentence of paragraph (a), beginning with the words "The following provisions" as paragraph (b); by redesignating paragraphs (a) through (k) as paragraphs (b)(1) through (b)(11); in newly designated paragraph (b)(6) by redesignating subparagraphs (1)(i), (1)(ii) and (2) as (i), (i)(A), (i)(B) and (ii) respectively; in newly designated paragraph (b)(8), by redesignating subparagraphs (1), (2) and (3) as (i), (ii) and (iii) respectively; by revising redesignated paragraphs (b)(4) and (6)(i)(B) and adding paragraph (b)(8)(iv) to read as follows:

§ 1955.118 Processing cash sales or credit sales on NP terms (housing).

* * * * *

(b) * * *

(4) *Downpayment.* For credit sales, a downpayment will be collected at closing and will be remitted in accordance with FmHA Instruction 1951–B (available in any FmHA office). For SFH properties, purchases who fall into the category specified in § 1955.118(b)(6)(i)(A) of this subpart (owner/occupants), a downpayment of not less than 2 percent is required. For purchasers who fall into the category specified in § 1955.118(b)(6)(i)(B) of this subpart (nonoccupant/investors), a downpayment of not less than 5 percent is required. For MFH properties, a downpayment of not less than 10 percent is required.

* * * * *

(6) * * *

(i) * * *

(B) For purchasers who do not meet the criteria in paragraph (b)(6)(i)(A) of this section, the note amount will be amortized for not more than 10 years. However, if the State Director detetermines more favorable terms are necessary to facilitate the sale, the note amount may be amortized using up to a 20-year factor with payment in full (balloon payment) due not later than 10 years from the date of closing. The State Director may authorize 20-year amortization on a group, county, district or state-wide basis, if it appears necessary to facilitate the sale of nonprogram property.

* * * * *

(8) * * *

(iv) When more than one property is bought by the same buyer and the transactions are closed at the same time, a separate promissory note will be prepared for each property, but one mortgage will cover all the properties.

* * * * *

§ 1955.120 [Redesignated from § 1955.119]

7. § 1955.119 is redesignated as § 1955.120, and new § 1955.119 is added to read as follows:

§ 1955.119 Sale of SFH inventory property to a public body or nonprofit organization.

Notwithstanding the provisions of § 1955.111 through § 1955.118 of this subpart, this section contains provisions for the sale of SFH inventory property to a public body or nonprofit organization to use for transitional housing for the homeless. A public body or nonprofit organization is a nonprogram applicant.

(a) *Method of sale.* The method of sale is according to § 1955.112 of this subpart. Upon request from a public body or nonprofit organization, FmHA will provide a list of all SFH inventory property, regardless of whether it is listed for sale with real estate brokers. The list will indicate whether the property is program or nonprogram. Upon written notice of the organization's intent to buy a specific property, if it is not under a sale contract, FmHA will withdraw the property from the market for a period not to exceed 30 days to provide the organization sufficient time to execute Form FmHA 1955–45.

(b) *Price.* The price of the property will be established according to § 1955.113 of this subpart; however, a 10 percent discount of the listed price is

authorized on nonprogram property. No discount is authorized on program property.

(c) *Decent, safe and sanitary (DSS) standards.* If an organization wants to buy a property which does not meet DSS standards, FmHA will repair it to meet those standards, including thermal performance standards, unless FmHA determines it is not feasible to do so according to § 1955.64(a)(1)(ii) of subpart B of part 1955 of this chapter. The price will be adjusted to reflect any resulting change in value. Cosmetic repairs, if needed, such as painting, floor covering, landscaping, etc., are the responsibility of the organization. Form FmHA 1955–44, itemizing the required repairs and FmHA's agreement to complete them before closing will be made a part of Form FmHA 1955–45, the sales contract, before it is signed. Required repairs must be completed before closing so DSS restrictions will not be required in the deed.

(d) *Approval and closing.* Processing cash sales or credit sales on nonprogram terms will be done according to §1955.118 of this subpart, except as follows:

(1) *Earnest money deposit.* No earnest money deposit is required.

(2) *Downpayment.* No downpayment is required.

(3) *Term of note.* The term of the note may not exceed 30 years.

8. In § 1955.130, a sentence is added to the end of paragraph (f)(2) to read as follows:

§ 1955.130 Real estate brokers.

* * * * *

(f) * * *

(2) * * * The State Director may authorize use of short-term (not to exceed three months) special effort sales bonuses on a group, county, district or state-wide basis, if it appears necessary to facilitate the sale of nonprogram property.

* * * * *

9. § 1955.132 is added under the undesignated heading "GENERAL" to read as follows:

§ 1955.132 Pilot projects.

FmHA may conduct pilot projects to test policies and procedures for the management and disposition of inventory property which deviate from the provisions of this subpart, but are not inconsistent with the provisions of the authorizing statute or other applicable Acts. A pilot project may be conducted by FmHA employees or by contract with individuals, organizations or other entities. Prior to initiation of a pilot project, FmHA will publish notice in the **Federal Register** of its nature, scope, and duration.

10. In § 1955.144(b), a sentence is added at the end of the paragraph, to read as follows:

§ 1955.144 Disposal of NP or surplus property to, through, or acquisition from other Agencies.

* * * * *

(b) * * * A Local Urban Homesteading Agency (LUHA) is authorized a 10 percent discount of the listed price on any SFH nonprogram property for the UH Program. No discount is authorized on program property.

11. In § 1955.147, a new sentence is added after the fifth senence in the introductory text to read as follows:

§ 1955.147 Sealed bid sales.

* * * When a group of properties is to be sold at one time, advertising may indicate that FmHA will consider bids on an individual property or a group of properties and FmHA will accept the bid or bids which are in the best financial interest of the Government. * * *

* * * * *

Dated: January 3, 1990.

Neal Sox Johnson,

Acting Administrator, Farmers Home Administration.

[FR Doc. 90–2694 Filed 2–5–90; 8:45 am]

BILLING CODE 3410–07–M

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

18 CFR Part 32

[Docket No. RM89–18–000; Order No. 518]

Deletion of Procedural Regulations for Transmission Electricity to a Foreign Country and for Emergency Connection of Facilities

Issued January 30, 1990.

AGENCY: Federal Energy Regulatory Commission, Energy.

ACTION: Final rule.

SUMMARY: The Federal Energy Regulatory Commission is deleting §§ 32.20 through 32.62 under part 32 of its regulations because the Commission's jurisdiction over these matters was transferred to the Secretary of Energy by the Department of Energy Organization Act. Sections 32.20 through 32.62 established certain procedural requirements governing the filing of applications to transmit electric energy from the United States to a foreign country, and applications for emergency connections of facilities and emergency service. The Commission, however, is retaining §§ 32.1 through 32.4 under part 32 of its regulations because these sections implement the interconnection provisions of section 202(b) of the Federal Power Act, which were transferred to the Commission by the DOE Act.

EFFECTIVE DATE: This final rule is effective January 30, 1990.

FOR FURTHER INFORMATION CONTACT: Barry M. Smoler, Office of the General Counsel, Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, (202) 357–8530.

SUPPLEMENTARY INFORMATION: In addition to publishing the full text of this document in the **Federal Register**, the Commission also provides all interested persons an opportunity to inspect or copy the contents of this document during normal business hours in Hearing Room A at the Commission's Headquarters, 825 North Capitol Street, NE., Washington, DC 20426.

The Commission Issuance Posting System (CIPS), an electronic bulletin board service, provides access to the texts of formal documents issued by the Commission. CIPS is available at no charge to the user and may be accessed using a personal computer with a modem by dialing (202) 357–8997. To access CIPS, set your communications software to use 300, 1200 or 2400 baud, full duplex, no parity, 8 data bits, and 1 stop bit. The full text of this final rule will be available on CIPS for 30 days from the date of issuance. The complete text on diskette in WordPerfect format may also be purchased from the Commission's copy contractor, La Dorn Systems Corporation, also located in Hearing Room A, 825 North Capitol Street, NE., Washington, DC 20426.

Before Commissioners: Martin L. Allday, Chairman; Charles A. Trabandt, Elizabeth Anne Moler, and Jerry J. Langdon.

I. Introduction

The Federal Energy Regulatory Commission (Commission) is deleting from its regulations certain procedural requirements governing the filing of applications to transmit electric energy from the United States to a foreign country, and applications for emergency connections of facilities and emergency service. These regulations are being deleted because the Commission's jurisdiction over these matters was transferred to the Secretary of Energy.

II. Background

The regulations being deleted herein were adopted by the Federal Power Commission (FPC) prior to 1977, to implement that Commission's jurisdiction: (1) Under section 202(e) of the Federal Power Act [1] to authorize the transmission of electric energy to a foreign country; (2) under Executive Order No. 10,485 [2] to approve the construction and operation of electric power transmission facilities located at the international boundaries of the United States; and (3) under sections 202(c) and 202(d) of the Federal Power Act to order temporary interconnections of electric transmission facilities during an emergency.

On October 1, 1977, the Department of Energy Organization Act (DOE Act) [3] became effective. It reconstituted the FPC as the Federal Energy Regulatory Commission, and transferred to it most, but not all, of the FPC's statutory authority. Pursuant to sections 301(b) and 402(a) of the DOE Act, the FPC's functions under sections 202(c), (d) and (e) of the Federal Power Act were transferred to the Secretary of Energy.[4] From 1977 to the present, the Secretary of Energy (through subordinate officers within the Department of Energy) has also exercised the function under Executive Order No. 10,485 of approving facilities at the international boundaries that are used to export electric power.

III. Discussion

Sections 32.30 through 32.38 of the Commission's regulations establish procedures for filing an application for authorization to transmit electric power to a foreign country. Sections 32.50 through 32.52 establish procedures for filing an application for construction, operation, maintenance, or connection at an international boundary of facilities for the transmission of electric power between the United States and a foreign country. Sections 32.20 through 32.23, and §§ 32.60 through 32.62, establish procedures for filing an application for emergency connection of facilities and for emergency service. By virtue of the DOE Act, the Commission lacks jurisdiction to act on any of these applications. Accordingly, the final rule deletes §§ 32.20 through 32.62 from the regulations.[5]

IV. Regulatory Flexibility Act Certification

The Regulatory Flexibility Act [6] generally requires a description and analysis of final rules that will have significant economic impact on a substantial number of small entities. The Commission certifies that promulgating this rule does not represent a major Federal action having a significant economic impact on a substantial number of small entities. Therefore, no regulatory flexibility analysis is required.

V. Information Collection

The Office of Management and Budget's (OMB) regulations [7] require that OMB approve certain information collection requirements imposed by agency rule. The Commission is notifying OMB of the information collection and recordkeeping requirements deleted by this rule.

VI. National Environmental Policy Act Statement

The Commission concludes that promulgating this rule does not represent a major Federal action having significant adverse effect on the human environment under the Commission's regulations implementing the National Environmental Policy Act.[8] This rule is procedural in nature and therefore falls within the categorical exemptions provided in the Commission's regulations.[9] Consequently, neither an environmental impact statement nor an environmental assessment are required.

VII. Effective Date

This rule does not alter the substantive rights or interests of any interested persons, and it conforms the regulations to Commission practice. Therefore, prior notice and comment under section 4 of the Administrative Procedure Act (APA) [10] are unnecessary. Since the purpose of this final rule is to delete certain procedural requirements in the Commission's regulations that are no longer pertinent, the Commission finds good cause to make this rule effective immediately upon issuance. This rule therefore is effective January 30, 1990.

List of Subjects in 18 CFR Part 32

Electric utilities, Foreign relations, Reporting and recordkeeping requirements.

Accordingly, the Commission amends part 32, chapter I, title 18, Code of Federal Regulations, as set forth below.

By the Commission.

Lois D. Cashell,

Secretary.

PART 32—[AMENDED]

1. The authority citation for part 32 is revised to read as follows:

Authority: Department of Energy Organization Act, 42 U.S.C. 7101–7352 (1982); E. O. No. 12,009, 3 CFR 1978 Comp., p. 142; Independent Offices Appropriations Act, 31 U.S.C. 9701 (1982); Federal Power Act, 16 U.S.C. 791a–825r (1988); Public Utility Regulatory Policies Act, 16 U.S.C. 2601–2645 (1988).

2. The title of part 32 is revised to read as follows:

PART 32—INTERCONNECTION OF FACILITIES

§§ 32.20 through 32.62 [Removed]

3. Sections 32.20 through 32.62 and undesignated center headings preceding them are removed.

[FR Doc. 90–2633 Filed 2–5–90; 8:45 am]

BILLING CODE 6717-01-M

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18 CFR Part 272

[Docket No. RM88–10–001]

Revision of Definition of Natural Gas Produced From Devonian Shale; Order Clarifying Order No. 501

Issued January 30, 1990.

AGENCY: Federal Energy Regulatory Commission, Department of Energy.

ACTION: Final rule; clarification.

SUMMARY: The Federal Energy Regulatory Commission (Commission) is clarifying Order No. 501, Docket No. RM 88–10–000, 53 FR 28,192 (July 27, 1988), which amended the Commission's regulations defining Devonian shale to allow producers to measure Devonian shale from a selected interval within the Devonian age stratigraphic interval. The Commission is clarifying that the gamma ray index should be calculated for the entire Devonian age interval when the producer is seeking to qualify the well under § 272.103(e)(1)(i) or for the selected interval when the producer is

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[1] 16 U.S.C. 824a(e) (1988).

[2] Performance of Functions respecting Electric Power and Natural Gas Facilities Located on United States Borders, Exec. Order No. 10,485, Sept. 3, 1953, 18 FR 5397, 3 CFR 1049–1953 Comp. p. 970.

[3] 42 U.S.C. 7101 *et seq.* (1982).

[4] The Department of Energy has implemented this authority through adoption of its own regulations. *See* 10 CFR 205.300–205.309 and 205.370–205.379 (1989).

[5] Sections 32.1 through 32.4 of the regulations are retained because they implement the interconnection provisions of 202(b) of the Federal Power Act. Section 402(a)(1)(B) of the DOE Act transferred the interconnection provisions of 202(b) to the Commission.

[6] 5 U.S.C. 601–612 (1988).

[7] 5 CFR Part 1320 (1989).

[8] 52 FR 47,897 (Dec. 17, 1987), III FERC Stats. & Regs. ¶ 30,783 (Dec. 10, 1987).

[9] 18 CFR 380.4(a)(2)(ii) (1989).

[10] 5 U.S.C. 553(b) (1988).

seeking to qualify the well under § 272.103(e)(1)(ii) of the Commission's regulations.

EFFECTIVE DATE: This final rule is effective January 30, 1990.

FOR FURTHER INFORMATION CONTACT: Nina Sandman, Office of the General Counsel, Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, (202) 357–5447.

SUPPLEMENTARY INFORMATION: In addition to publishing the full text of this document in the **Federal Register**, the Commission also provides all interested persons an opportunity to inspect or copy the contents of this document during normal business hours in Hearing Room A at the Commission's Headquarters, 825 North Capitol Street, NE., Washington, DC 20426.

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Before Commissioners: Martin L. Allday, Chairman; Charles A. Trabandt, Elizabeth Anne Moler, and, Jerry J. Langdon.

On August 3, 1989, the Pennsylvania Natural Gas Associates (PNGA) petitioned the Commission to clarify Order No. 501, alleging that the Pennsylvania jurisdictional agency (Pennsylvania) making determinations under the Natural Gas Policy Act (NGPA) interprets that order as requiring producers seeking NGPA section 107(c)(4) [1] Devonian shale well determinations to submit a gamma ray log with a 0.7 gamma ray index over the entire Devonian age interval even when they are seeking to qualify only a selected Devonian shale interval.

Background

As adopted in Order No. 78,[2] § 272.103(e) of the Commission's regulations defined "natural gas produced from Devonian shale" as natural gas produced from the fractures, micropores and bedding planes of shales deposited during the Paleozoic Devonian Period. Section 272.103(e) measured "shales deposited during the Paleozoic Devonian Period" as the gross Devonian age stratigraphic interval encountered by a wellbore, at least 95 percent of which has a gamma ray index of 0.7 or greater (the five percent test). Section 272.103(e) required that the gamma ray index at any point was to be calculated by dividing the gamma ray log value at that point by the gamma ray log value at the shale base line established over the entire Devonian age interval penetrated by the wellbore. Thus, an NGPA section 107(c)(4) application for a Devonian shale well determination had to be based on the entire Devonian age interval that was encountered in the wellbore.

On July 21, 1988, the Commission issued Order No. 501 which expanded the definition by adding § 272.103(e)(1)(ii)(A) to permit producers to apply the five percent test to either the entire Devonian age interval in the wellbore or, any single, continuous interval within the gross Devonian age interval.[3] However, the measure provisions in § 272.103(e) redesignated as § 272.103(e)(2), did not incorporate the expanded definition and referred only to paragraph (e)(2).[4]

Order No. 501 also amended the filing requirements in § 274.205(d)(3)(i) for applications for Devonian shale determinations to read:

> For wells completed on or after November 1, 1979, a gamma ray log with superimposed indications of the shale base line and the gamma ray index of 0.7 over the Devonian age stratigraphic section *designated* pursuant to § 272.103(e) (emphasis added).

Thus, producers are allowed to submit a gamma ray log with appropriate markings for either the entire Devonian age interval or the specific interval within the Devonian age interval.

On August 3, 1989, PNGA filed its request for clarification asserting that Pennsylvania has rejected numerous well classification requests based on its interpretation that § 272.103(e)(2) requires that the gamma ray log have a 0.7 gamma ray index over the entire Devonian age interval in the wellbore even when the applicant is seeking a determination for only a selected interval.

PNGA therefore requests the Commission to clarify Order No. 501 by stating that in calculating the gamma ray index under § 272.103(e)(2) the entire interval is used only when producers request qualification of the entire Devonian age interval, and not when qualification of a selected interval within the Devonian age interval is sought.

Discussion

The purpose of Order No. 501 was to expand the definition of Devonian shale gas so that producers can qualify either a selected interval within the Devonian age interval or the entire Devonian age interval penetrated by the entire wellbore. Accordingly, the Commission is hereby clarifying Order No. 501 as follows.

Under § 272.103(e)(2), the gamma ray index, which is calculated by dividing the gamma ray log value at any point by the gamma ray log value at the shale base line at that point, should be calculated for the entire Devonian age interval when the producer is seeking to qualify the well under § 272.103(e)(1)(i) or for the selected interval when the producer is seeking to qualify the well under § 272.103(e)(1)(ii).

The Commission orders

PNGA's request for clarification is granted.

By the Commission.

Lois D. Cashell,

Secretary.

[FR Doc. 90–2654 Filed 2–5–90; 8:45 am]

BILLING CODE 6717–01–M

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[1] 15 U.S.C. 3317(c)(4) (1982).

[2] Final Rule Defining and Deregulating Certain High-Cost Gas, Docket No. RM79–44–000, 45 FR 28,092 (Apr. 28, 1980); FERC Stats. & Regs. ¶ 30,147.

[3] Revision of Definition for Natural Gas Produced From Devonian Shale, Docket No. RM88–10–000, 53 FR 28,192; FERC Stats. & Regs. ¶ 30,824.

[4] Section 272.103(e)(2) provided when measuring the Devonian age stratigraphic interval under paragraph (e)(1) of this section, the gamma ray index at any given point is to be calculated by dividing the gamma ray log value at that point by the gamma log value at the shale base line established over the entire Devonian age interval penetrated by the wellbore.

DEPARTMENT OF JUSTICE

Office of the Attorney General

28 CFR Part 64

[Order No. 1394–90]

Designation of Officers and Employers of the United States for Coverage Under Section 1114 of Title 18 of the United States Code

AGENCY: U.S. Department of Justice.

ACTION: Final rule.

SUMMARY: Part 64 of title 28, Code of Federal Regulations, designates categories of Federal officers and employees who, in addition to those already designated by statute, warrant

the protective coverage of Federal criminal law. This assures federal jurisdiction to prosecute the killing, attempted killing, kidnaping, forcible assault, intimidation or interference with any of the federal officers or employees designated by this regulation while they are engaged in or on account of the performance of their official duties. This order amends 28 CFR part 64 by adding special agents of the Office of the Inspector General, Department of Justice, who perform investigations and employees of that office who are assigned to perform audit and inspection functions.

EFFECTIVE DATE: January 29, 1990.

FOR FURTHER INFORMATION CONTACT: Robert L. Ashbaugh, Deputy Inspector General, Office of the Inspector General, Department of Justice, Washington, DC 20530 (202–633–3435).

SUPPLEMENTARY INFORMATION: Part K of chapter X of the Comprehensive Crime Control Act of 1984, Public Law 98–473, title II, section 1012, 98 Stat. 1976, 2142 (1984) amended 18 U.S.C. 1114, which prohibits the killing of designated Federal employees, to authorize the Attorney General to add by regulation other Federal personnel who will be protected by this section. The categories of Federal officers and employees covered by section 1114 are, by incorporation, also protected, while engaged in or on account of the performance of their official duties, from a conspiracy to kill, 18 U.S.C. 1117; kidnapping, 18 U.S.C. 1201(a)(5); forcible assault, interference, or intimidation, 18 U.S.C. 111; and threat of assault, kidnap or murder with intent to impede or intimidate, 18 U.S.C. 115. Consistent with the legislative history and purpose of section 1114, this protective coverage has been extended by 28 CFR part 64 to those Federal officers and employees whose jobs involve inspection, investigative or other law enforcement responsibilities or whose work involves a substantial degree of physical danger from the public that may not be adequately addressed by available State or local law enforcement resources.

Because of the potential hazards encountered by special agents, and employees of the Office of the Inspector General who perform investigations and audit and inspection functions, coverage under these regulations is appropriate. Coverage is provided in new subsection (7) of 28 CFR 64.2(d).

Because the material contained herein involves only one Federal agency and is thus of limited and not general effect, the Department of Justice finds inapplicable the provision of the Administrative Procedure Act (5 U.S.C. 553) requiring notice of proposed rulemaking, opportunity for public participation, and delay in effective date.

The Department of Justice has determined that this Order is not a major rule for purposes of either Executive Order 12291, or the Regulatory Flexibility Act, 5 U.S.C. 601, *et seq.*

List of Subjects in 28 CFR Part 64

Crime, Government employees, Law enforcement officers.

By virtue of the authority vested in me by 28 U.S.C. 509, 5 U.S.C. 301, and 18 U.S.C. 1114, part 64 of chapter I of title 28, Code of Federal Regulations, is hereby amended as follows:

PART 64—[AMENDED]

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

Authority: 18 U.S.C. 1114, 28 U.S.C. 509, 5 U.S.C. 301.

2. Section 64.2 is amended by adding a new paragraph (d)(7), to read as follows:

§ 64.2 Designated offices and employees.

* * * * *

(d) * * *

(7) The Department of Justice.

* * * * *

§ 64.2 [Amended]

3. Section 64.2 is amended by removing the final word, "and", from paragraph (d)(5) and by adding the word "and" at the end of paragraph (d) (6).

§ 64.2 [Amended]

4. In § 64.2, paragraph (s) is removed and paragraphs (t) through (w) are redesignated as paragraphs (s) through (v) respectively.

Dated: January 29, 1990.

Dick Thornburgh,

Attorney General.

[FR Doc. 90–2659 Filed 2–5–90; 8:45 am]

BILLING CODE 4410–01–M

DEPARTMENT OF LABOR

Mine Safety and Health Administration

30 CFR Part 5

Fee Adjustments for Testing, Evaluation and Approval of Mining Products

AGENCY: Mine Safety and Health Administration, Labor.

ACTION: Final rule; corrections.

SUMMARY: This document corrects typographical errors in the document concerning fee adjustments which appeared in the **Federal Register** on December 27, 1989 (54 FR 53298).

FOR FURTHER INFORMATION CONTACT: Patricia W. Silvey, Director, Office of Standards, Regulations, and Variances, Mine Safety and Health Administration, telephone (703) 235–1910.

SUPPLEMENTARY INFORMATION: On December 27, 1989, the Mine Safety and Health Administration (MSHA) published a notice to revise its user fees for testing, evaluation and approval of certain products manufactured for use in underground mines in title 30 of the Code of Federal Regulations (54 FR 53298). This document corrects typographical errors in that notice.

1. On page 53298 in the Fee Schedule table, Part 18—Electric Motor Driven Equipment and Accessories, in the Hourly Rate column opposite "Explosion Test," the figure "30" should appear; opposite "Surface/Temperature Test," the figure "30" should be changed to "33"; opposite "Impact Test," the figure "33" should be changed to "29"; and opposite "Thermal Shock Test," the figure "29" should be changed to "30."

2. On page 53299, the first entry in the Hourly Rate column opposite "Product Flame Test," the figure "30," should be changed to "36."

3. On page 53299, the second figure in the Hourly Rate column should be removed.

4. On page 53301, in the section titled "Other A&CC Services," in the Flat Rate column, opposite "40 Stamped Notification Acceptance (SNAP) ST&E," the figure "53" should be changed to "23."

Dated: January 30, 1990.

Patricia W. Silvey,

Director, Office of Standards, Regulations and Variances.

[FR Doc. 90–2613 Filed 2–5–90; 8:45 am]

BILLING CODE 4510–43–M

DEPARTMENT OF TRANSPORTATION

Coast Guard

33 CFR Parts 84 and 87

[89–024]

RIN 2115–AD28

Annexes I and IV; Positioning and Technical Details of Lights and Shapes and Distress Signals

AGENCY: Coast Guard, DOT.

ACTION: Final rule.

SUMMARY: The Coast Guard is amending Annex I and Annex IV of the Inland

Navigation Rules to conform to changes in the International Navigation Rules. The amendments in Annex I are technical clarifications, and the amendment to Annex IV lists additional signals to indicate distress and need of assistance.

EFFECTIVE DATE: March 8, 1990.

FOR FURTHER INFORMATION CONTACT: Mr. Peter Palmer, Navigation Rules and Information Branch, Office of Navigation Safety and Waterway Services, (202) 267–0406.

SUPPLEMENTARY INFORMATION: A Notice of Proposed Rulemaking was published in the **Federal Register** on September 19, 1989 (54 FR 38529), and interested parties were given until November 3, 1989, to comment. The Coast Guard received no comments on the proposal.

Drafting Information

The principal persons involved in drafting this document are Mr. Peter Palmer, Project Manager, Office of Navigation Safety and Waterway Services, and Christena Green, Office of Chief Counsel.

Discussion of Proposed Regulation

The Inland Navigational Rules Act of 1980 (33 U.S.C. 2001–2073) established navigation rules that apply to all vessels operating on the inland waters of the United States and on the Great Lakes to the extent that there is no conflict with Canadian law. These Inland Rules conform as closely as possible with the International Navigation Rules (72 COLREGS). In November 1987, the International Maritime Organization (IMO) approved nine amendments to the 72 COLREGS. These nine changes became effective on November 19, 1989.

In October 1988, the Rules of the Road Advisory Council, after reviewing the IMO amendments, recommended that five of the changes approved by IMO be incorporated into the Inland Rules. Two of the changes involve Inland Rules 1 and 8 and require legislative action. The Coast Guard has submitted a legislative proposal to the Congress to effect these amendments. The three remaining changes involve amendments to Annexes I and IV of the Inland Rules and are the subject of this rulemaking.

Annex I, § 84.03—Vertical positioning and spacing of lights. In paragraph (i)(2), the term "gunwale" replaces the term "hull" in the existing text. This change clarifies the location from which the vertical positioning of certain lights on vessels of less than 20 meters in length is measured.

Annex I, § 84.19—Vertical sectors. In paragraphs (a) and (b) the word "underway" is added after the words "sailing vessels". This change clarifies when sailing vessels must comply with the vertical sector requirements.

In Annex IV, § 87.1—Need of assistance. A new paragraph (o) is added and old paragraph (o) is redesignated as "(p)". This change allows use of the International Maritime Satellite Corporation (INMARSAT) ship to earth station terminal, the Digital Selective Calling (DSC) system and other radio communication systems developed in the future.

The INMARSAT's U.S. representative is Communication Satellite Corporation (COMSAT). The INMARSAT is a computerized system with an automatic alert function used during distress situations. The DSC system transmits distress information through use of radio signals. Both systems may use the currently available frequencies in Chapter 9 of the International Telecommunication Union Radio Regulations.

In Annex IV, § 87.5—Supplemental signals. In the introductory text of § 87.5, the words "the International Telecommunication Union Radio Regulations" are inserted. This change identifies the operation and available frequencies of the radio-telegraph alarm, radiotelephone alarm, emergency position-indicating radio beacons, INMARSAT and DSC systems.

Regulatory Evaluation: The proposed regulations are considered to be non-major under Executive Order 12291 and non-significant under the DOT regulatory policies and procedures (44 FR 11034; February 26, 1979). The proposed technical amendments merely conform the Inland Rules with the 72 COLREGS. Since the impact is expected to be minimal, the Coast Guard certifies that this rule will not have a significant economic impact on a substantial number of small entities.

Federalism: This proposed rule has been analyzed in accordance with the principles and criteria contained in Executive Order 12612, and it has been determined that this proposed rulemaking does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

List of Subjects in 33 CFR Parts 84 and 87

Navigable (waters) waterways.

For the reasons set out in the preamble, the Coast Guard amends parts 84 and 87 of title 33, Code of Federal Regulations, as follows:

PART 84—[AMENDED]

1. The authority citation for part 84 continues to read as follows:

Authority: 33 U.S.C. 2071; 49 CFR 1.46.

2. Section 84.03 is amended by revising paragraph (i)(2) and republishing the introductory text of paragraph (i) to read as follows:

§ 84.03 Vertical positioning and spacing of lights.

* * * * *

(i) When the Rules prescribe two or three lights to be carried in a vertical line, they shall be spaced as follows:

* * * * *

(2) On a vessel of less than 20 meters in length such lights shall be spaced not less than 1 meter apart and the lowest of these lights shall, except where a towing light is required, be placed at a height of not less than 2 meters above the gunwale;

* * * * *

3. Section 84.19 is amended by revising the introductory text of paragraphs (a) and (b) to read as follows:

§ 84.19 Vertical sectors.

(a) The vertical sectors of electric lights as fitted, with the exception of lights on sailing vessels underway and on unmanned barges, shall ensure that:

* * * * *

(b) In the case of sailing vessels underway the vertical sectors of electric lights as fitted shall ensure that:

* * * * *

PART 87—[AMENDED]

4. The authority citation for part 87 is revised to read as follows:

Authority: 33 U.S.C. 2071; 49 CFR 1.46.

5. Section 87.1 is amended by redesignating paragraph (o) as paragraph (p) and republishing it and by adding a new paragraph (o) to read as follows:

§ 87.1 Need of assistance.

* * * * *

(o) Signals transmitted by radiocommunication systems.

(p) A high intensity white light flashing at regular intervals from 50 to 70 times per minute.

6. Section 87.5 is amended by revising the introductory text to read as follows:

§ 87.5 Supplemental signals.

Attention is drawn to the relevant sections of the International Code of Signals, the Merchant Ship Search and Rescue Manual, the International

Telecommunication Union Radio Regulations and the following signals:

* * * * *

Dated: January 3, 1990.

R.T. Nelson,

Rear Admiral, U.S. Coast Guard, Chief, Office of Navigation Safety and Waterway Services.

[FR Doc. 90-2614 Filed 2-5-90; 8:45 am]

BILLING CODE 4910-14-M

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33 CFR Part 117

[7-89-59]

Drawbridge Operation Regulations; Atlantic Intracoastal Waterway, Florida

AGENCY: Coast Guard, DOT.

ACTION: Temporary rule.

SUMMARY: At the request of U.S. Congressman Tom Lewis, the Coast Guard is temporarily changing the regulations governing the operation of the PGA and Parker drawbridges at North Palm Beach by extending the hours of the existing regulations to provide draw openings at 30 minute intervals on weekdays. This temporary change is being made to evaluate its effect on peak season vehicular and waterway traffic.

DATES: These temporary regulations become effective on January 2, 1990 and terminate on March 2, 1990.

ADDRESSES: Comments regarding this temporary change should be mailed to Commander (oan), Seventh Coast Guard District, 909 SE. 1st Ave. Miami, FL 33131-3050. Any comments received will be available for inspection and copying in the office of the Bridge Administrator located in room 484 at Brickell Plaza Federal Building, 909 SE. 1st Avenue, Miami, FL. Documents and comments concerning this regulation may be inspected Monday through Friday between 7:30 a.m. and 4 p.m.

FOR FURTHER INFORMATION CONTACT: Walt Paskowsky (305) 536-4103.

SUPPLEMENTARY INFORMATION: Interested parties submitting written views, comments, data, or arguments should include their names and addresses, identify the bridge, and give reasons for concurrence with or any recommended change to the temporary regulation.

Drafting Information

The drafters of this notice are Walt Paskowsky, project officer, and Lieutenant Commander D.G. Dickman, project attorney.

Discussion of Temporary Regulations

The PGA and Parker bridges presently open on signal, except that from 7 a.m. to 9 a.m. and 4 p.m. to 7 p.m., Monday through Friday, the PGA opens on the quarter and three quarter hour while Parker opens on the hour and half hour. On weekends and Federal holidays both bridges open on the hour, 20 minutes after the hour, and 40 minutes after the hour between 8 a.m. and 6 p.m. This change adds 30 minute scheduled synchronized openings from 9 a.m. to 4 p.m. on weekdays. Because this is a temporary regulation, it will not appear in the Code of Federal Regulations.

Economic Assessment and Certification

These temporary regulations are considered to be non-major under Executive Order 12291 on Federal Regulation and non-significant under the Department of Transportation regulatory policies and procedures (44 FR 11034; February 26, 1979).

The economic impact of this rule is expected to be so minimal that a full regulatory evaluation is unnecessary. We conclude this because the rule exempts tugs with tows. Since the economic impact of the proposal is expected to be minimal, the Coast Guard certifies that, if adopted, it will not have a significant impact on a substantial number of small entities.

List of Subjects in 33 CFR Part 117

Bridges.

Proposed Regulations

In consideration of the foregoing, the Coast Guard has amended part 117 of title 33, Code of Federal Regulations as follows:

PART 33—[AMENDED]

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

Authority: 33 U.S.C. 499; 49 CFR 1.46; 33 CFR 1.05-1g.

2. For the period between January 2, 1990 through March 2, 1990, paragraphs (s) and (t) of § 117.261 are revised to read as follows.

Note: This is a temporary rule and will not appear in the Code of Federal Regulations.

§ 117.261 Atlantic Intracoastal Waterway from St. Marys River to Key Largo.

* * * * *

(s) PGA Boulevard bridge, mile 1012.6. The draw shall open on signal; except that from 7 a.m. to 7 p.m., Monday through Friday, except Federal holidays, the draw need open only on the quarter-hour and three-quarter hour. On Saturdays, Sundays and Federal holidays from 8 a.m. to 6 p.m., the draw need open only on the hour, 20 minutes after the hour, and 40 minutes after the hour.

(t) Parker (US 1) bridge, mile 1013.7. The draw shall open on signal; except that from 7 a.m. to 7 p.m., Monday through Friday, except Federal holidays, the draw need open only on the hour and half hour. On Saturdays, Sundays and Federal holidays from 8 a.m. to 6 p.m., the draw need open only on the hour, 20 minutes after the hour, and 40 minutes after the hour.

* * * * *

Dated January 12, 1990.

Martin H. Daniell,

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

[FR Doc. 90-2562 Filed 2-5-90; 8:45 am]

BILLING CODE 4910-14-M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 228

[FRL-3719-4]

Ocean Dumping; Designation of Site

AGENCY: Environmental Protection Agency (EPA), Region IX.

ACTION: Final rule.

SUMMARY: EPA Region IX today designates an ocean disposal site located southeast of Tutuila Island, American Samoa, for the disposal of fish processing wastes. The center of the site is 5.45 nautical miles from land (14° 24.00' South latitude by 170° 38.20' West longitude), located in 1,502 fathoms of water, with a radius of 1.5 nautical miles. The fish processing wastes are generated by Star-Kist Samoa, Incorporated and Samoa Packing, Incorporated located in Pago Pago. These are subsidiaries of Star-Kist Foods, Incorporated and Van Camp Seafood Company, Incorporated, respectively.

This action is necessary to provide an acceptable ocean dumping site for the disposal of fish processing wastes from American Samoa canneries (the "canneries"). This final site designation is for an indefinite time. The site is subject to periodic monitoring to insure that unacceptable adverse environmental impacts do not occur. If EPA Region IX determines that unacceptable environmental impacts are occurring at the site, the Regional Administrator may take appropriate action under his authority defined at 40 CFR 228.11. Upon final designation, all other sites previously designated, including the interim Fish Cannery Wastes Site—Region IX listed at 40 CFR 228.12(a)(3), shall be cancelled.

DATES: *Effective date:* February 6, 1990. This designation shall become applicable when three-year special permits for Star-Kist Samoa, Inc. and Samoa Packing, Inc. are issued.

ADDRESSES: Send comments to: Mr. Patrick Cotter, Ocean Dumping Coordinator (W–7–1), U.S. Environmental Protection Agency, Region IX, 215 Fremont Street, San Francisco, California 94105. The file supporting this designation and the letters of comment are available for public inspection at the following locations:

1. EPA Public Information Reference Unit (PIRU), Room 2904 (rear), 401 M Street, SW., Washington, DC
2. EPA Region IX, 211 Main Street, San Francisco, California. Call (415) 744–2180 to make special arrangements
3. EPA Pacific Islands Coordination Office, 300 Ala Moana Boulevard, Room 1302, Honolulu, Hawaii
4. American Samoa Environmental Quality Commission, Pago Pago, American Samoa

FOR FURTHER INFORMATION CONTACT: Mr. Patrick Cotter at the above address, or by telephone at (415) 744–1640.

SUPPLEMENTARY INFORMATION

A. Background

Section 102(c) of the Marine Protection, Research, and Sanctuaries Act (MPRSA) of 1972, as amended, 33 U.S.C. 1401 *et seq.*, gives the Administrator of EPA the authority to designate sites where ocean dumping may be permitted. On December 23, 1986, EPA's Administrator delegated the authority to designate ocean disposal sites for fish processing wastes to EPA Regional Administrators. This site designation is being made according to that authority.

The EPA Ocean Dumping Regulations (40 CFR chapter 1, subchapter H, § 228.4) state that ocean dumping sites will be designated by publication in part 228. A list of "Approved Interim and Final Ocean Dumping Sites" was published on January 11, 1977 (42 FR 2462 *et seq.*). A fish cannery waste disposal site was designated for American Samoa on November 24, 1980 (45 FR 77435). This site designation was restricted to a three-year period which ended on November 24, 1983. Before the site authorization expired, EPA Region IX issued a letter on August 8, 1983 authorizing the canneries to dispose of the fish processing wastes at the site until a suitable site designation environmental impact statement was prepared by the Agency. After the effective date of this final rule for the fish processing waste disposal site, the Fish Cannery Wastes Site—Region IX listed at 40 CFR 228.12(a)(3) and any other sites shall be cancelled.

A series of MPRSA section 102 research permits (OD 86–01, OD 87–01, OD 88–01 and OD 88–02) were issued to the canneries. The special conditions and monitoring requirements in these permits have been used to characterize the current disposal site (900-fathom site) during actual disposal operations. Research permits were issued because EPA Region IX determined there was a need to collect scientific information about the impact of this fish processing waste disposal in the environment near American Samoa. Results of the site monitoring program revealed that unacceptable environmental impacts did not occur at the designated ocean disposal site.

On November 18, 1988, the Ocean Dumping Ban Act (ODBA) of 1988 (PL 100–688) was signed. The ODBA excludes waste from the tuna canneries in American Samoa, amended MPRSA section 104B(k)(3)(B), from the prohibition of ocean dumping of industrial wastes after December 31, 1991. EPA administratively extended Research Permit OD 88–02 on March 3, 1989. This was necessary because ODBA banned the use of research permits. The final designation of this ocean dumping site is intended to provide an acceptable location for disposing of fish cannery wastes in the most environmentally sound manner.

Interested persons may participate in this final rulemaking by submitting written comments within 30 days of the date of this publication to the address given above.

B. EIS Development

Section 102(c) of the National Environmental Policy Act of 1969, 42 U.S.C. sections 4321 *et seq.*, (NEPA), requires that Federal agencies prepare environmental impact statements (EIS) on proposals for major Federal actions significantly affecting the quality of the human environment. The object of NEPA is to build into agency decision-making processes careful consideration of all environmental aspects of proposed actions. While NEPA does not apply to EPA activities of this type, EPA has voluntarily committed to prepare EISs in connection with ocean dumping site designations (39 FR 16186, May 7, 1974; as amended by 39 FR 37419, October 24, 1974).

EPA Region IX prepared a Draft EIS entitled "The Designation of an Ocean Disposal Site off Tutila Island, American Samoa, for Fish Processing Wastes." A notice of availability of the DEIS for public review and comment was published in the **Federal Register** (53 FR 38118, September 16, 1988). The public comment period on this DEIS closed on October 31, 1988 after receipt of 11 comment letters. Notification of a Proposed Rule (54 FR 7207, February 17, 1989) and a Final EIS (54 FR 9083, March 3, 1989) were published in the **Federal Register.** The public comment period for these documents closed on April 3, 1989. EPA Region IX received 6 comment letters during the comment period and 1 comment letter after the close of the comment period.

In addition to the Coastal Zone Management Act coordination discussed below, EPA Region IX has also coordinated with the appropriate agencies on the Endangered Species Act and the National Historic Preservation Act. The agencies responsible for these two programs determined that the site designation would not affect either program. The following substantive comments were discussed in the 7 comment letters:

Comment 1: The American Samoa Economic Development Planning Office requested that EPA obtain a consistency determination from the applicant before the issuance of any permit.

Response 1: The applicant, Star-Kist Foods, requested a coastal consistency determination under section 307(c) of the Coastal Zone Management Act from the American Samoa Economic Planning Office. In a letter dated June 2, 1989, Star-Kist Foods provided a copy of the American Samoa Government's letter (May 8, 1989) certifying that the proposed site designation complied with the approved American Samoa Coastal Zone Management Program.

Comment 2: The EPA, the American Samoa Environmental Protection Agency and the U.S. Coast Guard must ensure that the fish wastes are disposed in the designated area through effective surveillance and a frequent monitoring program.

Response 2: To ensure protection of sensitive marine ecosystems and human health, EPA Region IX has taken the most conservative approach to designation of an appropriate site and selected a site 5.45 nautical miles offshore. The center of the 1,500-fathom site is about 2.75 nautical miles farther offshore than the current 900-fathom site. The special ocean dumping permit that will be issued to each applicant contains restrictions on the disposal site operations and strict reporting requirements. There are also provisions for shipriders to accompany the disposal vessel. Surveillance will be conducted by the U.S. Coast Guard (USCG) and the

American Samoa Environmental Protection Agency (ASEPA), when agency personnel are available.

The monitoring program for the permit is contained in the special conditions of the ocean dumping permit. This level of monitoring is required by EPA to allow the regulatory agencies to determine whether unacceptable environmental impacts are occurring as a result of disposal operations at the designated site. Disposal of the wastes, as defined in the special ocean dumping permit, will insure that the disposed fish wastes do not exceed the limiting permissible concentration at the boundary of the disposal site. The disposal vessel captain will be required to note the presence or absence of the previous disposal plume if a second trip is made to the disposal site on the same day. However, this will be accomplished during the vessel's direct transit to the disposal site; the vessel will not be required to search for the plume.

The special permit will have monthly monitoring requirements for the wastes streams from the permittees' processing facilities. A detailed report discussing the results of monitoring conducted pursuant to the previously issued research permits will be required. In addition to the agencies already receiving copies of the permittees' monitoring reports, the Western Pacific Regional Fishery Management Council will also receive a copy.

Comment 3: Disposal of fish wastes at sea are responsible for attracting sharks into Pago Pago Harbor.

Response 3: Fish wastes permitted under the Ocean Dumping Act have been disposed at a site at least 5 nautical miles south of the mouth of Pago Pago Harbor. It is unlikely that shark activity in Pago Pago Harbor can be attributed to disposal of fish wastes at such a distance from the main harbor.

Comment 4: Consider other alternatives to ocean disposal.

Response 4: EPA Region IX has selected the 1,500-fathom site as the preferred alternative because other land based disposal alternatives did not make the most effecient use of American Samoa's limited resources and the impact on human health from land disposal was considered to be too great compared to ocean disposal. When ODBA was signed in November 1988, the canneries in American Samoa were excluded from the ban on disposal of industrial waste in the ocean if EPA approved ocean disposal.

C. FEIS Alternatives Analysis

The action discussed in the FEIS is designation of an acceptable fish processing waste disposal site for continued use. The purpose of the designation is to provide an environmentally acceptable location for ocean disposal as specified in 40 CFR part 228 of EPA's Ocean Dumping Regulations. Use of the site will be regulated through the issuance of MPRSA section 102 special permits in compliance with the criteria defined in 40 CFR part 227. Each special permit will last for a maximum of 3 years. EPA Region IX and the American Samoa Environmental Protection Agency will evaluate permit data to determine whether disposal can continue at the site.

Application for each permit will be evaluated individually to determine whether the permittees have provided adequate information to characterize the waste. All monitoring data will be reviewed to determine whether any environmental impacts have occurred as a result of disposal of fish processing wastes at the designated site. If EPA Region IX determines that significant unacceptable impacts have occurred at the site, then the Regional Administrator will re-evaluate the use of the site.

The FEIS discusses the need for the action and examines ocean disposal sites and alternatives to the proposed action. The following alternatives were evaluated in this FEIS:

1. *No Action*—This alternative would prohibit ocean disposal of fish processing wastes. No action would force the canneries to consider one of the following alternatives: (1) Discharge of the wastes into Pago Pago Harbor, or (2) Disposal on land. The options listed for the No Action alternative were determined to be unacceptable solutions because environmental risks were unacceptable and land disposal has been banned by the American Samoa Government.

2. *Other Technological Alternatives*—These alternatives include: centrifuging, belt presses, vacuum filter presses, anaeobic treatment and digestion, production of animal feed, oil recovery, incineration, pulse jet drying, ultrafiltration, and composting. All of these alternatives were examined in the DEIS and found to be unacceptable for disposal of fish processing wastes because they were technically infeasible given the amount of wastes and the land space required for such alternatives.

3. *Current Disposal Site (900-fathom site)*—This site has been used for ocean disposal of fish processing wastes since a research ocean dumping permit (OD 86–01) was issued in 1987. The center of the site was located 2.25 nautical miles from land (14° 22.18' South latitude by 170° 40.87' West longitude) in 910 fathoms of water. This site has been monitored extensively for two years, during 4 research permits. This site was determined unsuitable because projected increase in waste disposal require a larger site and one that is farther from shore to prevent impacts to nearshore ecosystems.

4. *Shallow Water Site*—This site is located 2.3 nautical miles seaward of the entrance to Pago Pago Harbor (14° 20.00' South latitude by 170° 39.30' West longitude) in 120 fathoms of water. The site is very close to the Taema Bank fishing area. It is not considered as a viable alternative for ocean disposal of fish processing wastes because there may be potentially significant impacts to fishing on the bank.

5. *Deeper Water Site (1,500-fathom site)*—The center of the deeper water site defined in the DEIS was moved 0.5 nautical miles farther offshore in the FEIS. Water depth at the center of the site is 1,502 fathoms. This proposal was made by EPA Region IX as a result of comments received on the DEIS and to eliminate potential impacts to nearshore ecosystems. The center of the 1,500-fathom site in the FEIS (14° 24.00' South latitude by 170° 38.20' West longtidude) is located about 5.45 nautical miles from land. Major consideration include: the area of the disposal site, containment of the dumping plume within the site given the initial mixing calculations, the proximity of the site to American Samoa territorial wasters, the feasibility of monitoring and surveillance, and other specific criteria defined at 40 CFR 228.6(a).

The FEIS presents the information needed to evaluate the suitability of ocean disposal alternatives for final designation which is based on site monitoring studies. The site monitoring studies, waste stream monitoring and final designation are being conducted under MPRSA, the Ocean Dumping Regulations, and other applicable Federal environmental legislation.

This final rulemaking notice fills the same role as the Record of Decision required under regulations promulgated by the Council on Environmental Quality for agencies subject to NEPA.

D. Site Designation

The site designated today by EPA Region IX is the same site selected as the preferred alternative in the February 17, 1989 **Federal Register** notice: The 1,500-fathom site, located about 5.45 nautical miles offshore. The site occupies an area of about 7.07 square nautical miles. Water depths within the area are approximately 1,502 fathoms (2,746 meters). The coordinates of the

site are as follows: 14° 24.00' South latitude by 170° 38.20 'West longitude with a radius of 1.5 nautical miles. If at any time during the monitoring program required by the MPRSA section 102 special permit, EPA Region IX determines that disposal operations at the site are causing unacceptable adverse impacts, further use of the site will be restricted or ended. EPA anticipates that use of the site will not cause significant unacceptable environmental impacts as a result of disposal of fish processing wastes. The environmental impact of the disposal operations will be evaluated on a quarterly basis when the permit monitoring data is provided to EPA Region IX.

E. Regulatory Requirements

Selection and approval of ocean disposal sites for continuing use is evaluated first for compliance with 5 general site selection criteria. A site is selected to minimize interference with other marine activities, to keep any temporary dumping perturbations from causing impacts outside the disposal site, and to permit effective monitoring for detection of any adverse impacts at an early stage. Where feasible, locations off the continental shelf and sites with historical use are chosen. If disposal operations at a site cause unacceptable adverse impacts, the use of that site will be ended as soon as a suitable alternate disposal site can be designated. The 5 general criteria are given in § 228.5 of the EPA Ocean Dumping Regulations, and § 228.6(a) lists 11 specific factors used in evaluating a disposal site to assure that the general criteria are met.

EPA has determined that the site meets the 5 general ocean dumping criteria. Historical use of the 900-fathom site has not resulted in substantially adverse effects to living resources of the ocean or to other uses of the marine environment. The 1,500-fathom site is expected to have similar effects on marine resources about 2.75 nautical miles southeast of the 900-fathom site.

The characteristics of the 1,500-fathom site are reviewed below for compliance with the 11 specific ocean dumping criteria.

1. *Geographical position, depth of water, bottom topography and distance from the coast,* 40 CFR 228.6(a)(1). The 1,500-fathom site is located about 5.45 nautical miles (9.2 kilometers) from shore at a depth of approximately 1,502 fathoms (2,746 meters). The bottom topography of the dump site slopes sharply from 1,200 fathoms in the northwest quadrant to depths more than 1,502 fathoms (NOAA, Chart 83434). Since the fish processing waste disposal plume is buoyant, no sediment samples have been taken because benthic impacts are not expected at the site.

2. *Location in relation to breeding, spawning, nursery, feeding, or passage areas of living resources in adult or juvenile phases,* 40 CFR 228.6(a)(2). There are no known breeding, spawning or nursery uses of the 1,500-fathom site. The species in the vicinity of the site are pelagic fish species that are harvested commercially, and species of marine birds and cetaceans that are seen infrequently near the site.

3. *Location in relation to beaches and other amenity areas,* 40 CFR 228.6(a)(3). The 1,500-fathom site is 5.45 nautical miles from the nearest shoreline. EPA Region IX has determined that visual impacts of plumes, transport of dredged material to any shoreline and alteration of any habitat of special biological significance or marine sanctuary will not occur if this site is designated.

Comments received on the DEIS say that the plume from the 900-fathom site may have moved close to shore on rare occasions. These reports included sightings and detection of odors associated with the waste. As a result of these reports, EPA Region IX has moved the center of the disposal site farther offshore and increased the radius of the site to contain the plume as shown by mathematical model runs in the FEIS.

The special permits that will be issued for the site will require that the disposal vessel captain conduct all disposal operations in the upcurrent quadrant of the site. This will reduce the possibility of the discharge plume moving into sensitive marine habitats or near the shore.

4. *Types and quantities of wastes proposed to be disposed of, and proposed methods of release, including methods of packing the waste if any,* 40 CFR 228.6(a)(4). Actual disposal of DAF sludge has been about 48,000 gallons per day. The average monthly disposal of authorized wastes from both canneries has been about 860,000 gallons since the research permits were issued in 1987. The canneries propose to dispose of the following fish processing wastes at the disposal site: 91,400 gallons/day of dissolved air flotation (DAF) sludge, 113,300 gallons/day of precooker water, and 52,200 gallons/day of presswater. These amounts are proposed for disposal on a daily basis in the event that delays in daily disposal operations occur. If delays in disposal occur, the wastes will be stored until conditions for disposal are acceptable. At that time it is possible that additional disposal trips will be scheduled to empty the storage tanks. Future disposal operations may increase if precooker water and press water must be dumped at sea after National Pollutant Discharge Elimination System (NPDES) permits impose stricter limits on waste discharges in Pago Pago Harbor.

The wastes will be transported via a dumping vessel with 24,000 gallon tanks. After modifications, the vessel could carry up to 100,000 gallons of waste per trip for disposal at the site. The disposal of the wastes will occur at a location 1.2 nautical miles upcurrent from the center of the site at a rate of 140 gallons per minute per knot, not to exceed 1400 gallons per minute at a maximum speed of 10 knots within a 0.2 nautical mile circle.

5. *Feasibility of surveillance and monitoring,* 40 CFR 228.6(a)(5). The EPA, the USCG and the ASEPA may conduct spot surveillance of disposal activities at the site, and they may inspect the disposal vessel for compliance with USCG regulations and the permits. EPA Region IX and ASEPA will assist the USCG within the limits of their jurisdiction.

Waste stream and plume monitoring will be key factors in the site monitoring program. The monitoring program will be established to answer several questions including: composition of wastes disposed at the site during the term of the permit, the area affected by the disposal plume, movement of the disposal plume toward land and areas of special biological significance, disposal model verification, and potential impacts on commercial and recreational fisheries. If significantly adverse impacts are detected at the site, the site management plan will be flexible enough to allow for appropriate action.

6. *Dispersal, horizontal transport and vertical mixing characteristics of the area, including prevailing current direction and velocity, if any,* 40 CFR 228.6(a)(6). Water currents in the vicinity of the 1,500-fathom site are variable but move parallel to shore in a west-southwest direction. Surface current speeds average between 0.16 and 0.67 knots. During storm events, greater surface current speeds occur. Vertical mixing to a depth of approximately 20 meters has been documented at the disposal site; however, the surface waters off American Samoa are strongly stratified and deeper mixing is not expected below the permanent thermocline.

The prevailing winds, oceanic currents, shoaling effects of the reefs and the configuration of the island contribute to a persistent longshore current between Pago Pago Harbor and the southeastern point of the island.

This current minimizes the possibility of the waste plume affecting nearshore reef areas. To further reduce the possibility of nearshore impacts, EPA Region IX has selected the 1,500-fathom site which is 5.45 nautical miles from shore.

7. *Existence and effects of current and previous discharges and dumping in the area (including cumulative effects),* 40 CFR 228.6(a)(7). Disposal of fish processing wastes has been permitted at two locations near the 1,500-fathom site since September 1980. An average of about 860,000 gallons per month has been discharged at these sites since the first research permit was issued. Detailed field monitoring at the 900-fathom site, under 4 research permits, has not shown any unacceptable or cumulative environmental impacts since February 1987. Impacts on the water column during disposal operations are considered to be minimal and temporary. The potential for cumulative effects, also considered to be minimal at the 1,500-fathom site, will be assessed in the monitoring program as a major requirement of the MPRSA section 102 special permits.

8. *Interference with shipping, fishing, recreation, mineral extraction, desalination, fish and shellfish culture, areas of special scientific importance and other legitimate uses of the ocean,* 40 CFR 228.6(a)(8). Interference with shipping and fishing is minimal because vessel traffic in the vicinity of the disposal site is extremely low. To minimize effects on nearshore habitats and fish aggregation devices placed near the island, EPA Region IX has selected the 1,500-fathom site as the preferred alternative. There are no other uses of the ocean that could be affected by disposal of wastes at the 1,500-fathom site.

9. *The existing water quality and ecology of the site as determined by available data or by trend assessment or baseline surveys,* 40 CFR 228.6(a)(9). The oceanic water quality is considered to be excellent with regard to the concentration of nutrients and other compounds at the 1,500-fathom site. The size of the site has been enlarged to a radius of 1.5 nautical miles to contain any discharge plume within the boundaries. Water quality outside the site boundary is not expected to be affected by disposal of fish processing wastes.

The community of pelagic invertebrates in the vicinity of the 1,500-fathom site is dominated by large cephalopod mollusks of the genus *Nautilus.* Recent studies have shown that they may be food for large carnivores. Impacts on these highly motile invertebrates are expected to be very small.

Pelagic fish caught in the vicinity of the 1,500-fathom site include skipjack (*Katsuwonus pelamis*) and yellowfin tuna (*Thunnus albacares*) which are fished commercially throughout the tropical South Pacific Ocean. Other important sport and commercial fish species are marlin (*Makaira* spp.), sailfish (*Istiophorus platyperus*), dolphin fish (*Coryphaena* spp.), wahoo (*Acanthocypium solandri*) and kawakawa (*Euthynnus affinis*). These species are migratory and they avoid areas of turbid water. No impacts are expected on these fish species. No impacts are expected on coastal birds, cetaceans or any endangered species in the vicinity of the 1,500-fathom site.

10. *Potentiality for the development or recruitment of nuisance species in the disposal site,* 40 CFR 228.6(a)(10). Recruitment of nuisance species, such as sharks, in the vicinity of the disposal site is not expected. Sharks have been observed near the fish attractant device south of the island and in Pago Pago Harbor feeding on small fish. If a school of small prey fish were attracted to the waste plume, the sharks may pursue them. However, disposal of fish processing wastes at the current site has not caused an increase in the offshore shark population.

11. *Existence at or in close proximity to the site of any significant natural or cultural feature of historical importance,* 40 CFR 228.6(a)(11). There are no known shipwrecks or any known aboriginal artifacts in the vicinity of the 1,500-fathom site.

F. Action

EPA Region IX has concluded that the 1,500-fathom site, evaluated in the FEIS, may be designated for continued use. The 1,500-fathom site is compatible with the 5 general criteria and 11 specific criteria used by EPA for site evaluation. Designation of the 1,500-fathom site as an approved EPA Ocean Dumping Site is being published as final rulemaking. Management of this site will be the responsibility of the Regional Administrator of EPA Region IX. The monitoring program, required as part of the MPRSA section 102 special permits, will be conducted by the permittees.

Designation of an ocean dumping site by EPA Region 9 does not constitute or imply EPA Region IX's approval of actual ocean disposal of materials. Before ocean dumping of fish processing waste begins, EPA Region IX must evaluate each permit application according to the ocean dumping criteria. EPA Region IX has the right to disapprove the actual dumping, if environmental concerns under MPRSA have not been met.

G. Regulatory Assessments

Under the Regulatory Flexibility Act, EPA is required to perform a Regulatory Flexibility Analysis for all rules which may have a significant impact on a substantial number of small entities. EPA has determined that this action will not have a significant impact on small entities since the site designation will only have the effect of providing a disposal site for fish processing wastes generated in Pago Pago, American Samoa. This action will not result in an annual effect on the economy of $100 million or more or cause any of the other effects which would result in its being classified by the Executive Order as a major rule. Therefore, this proposed rule does not necessitate preparation of a Regulatory Impact Analysis.

The Final Rule does not contain any requirements to collect information that are subject to Office of Management and Budget review under the Paperwork Reduction Act of 1980, 44 U.S.C. sections 3501 *et seq.*

List of Subjects in 40 CFR Part 228

Water pollution control.

Dated: January 25, 1990.

Daniel W. McGovern,

Regional Administrator for Region IX.

In consideration of the foregoing, subchapter H of chapter 1 of title 40 is amended as set forth below.

PART 228—[AMENDED]

1. The authority citation for part 228 continues to read as follows:

Authority: 33 U.S.C. sections 1412 and 1418.

2. Section 228.12 is amended by adding paragraph (b)(74) to read as follows:

§ 228.12 Delegation of management authority for interim ocean dumping sites.

* * * * *

(b) * * *

(74) American Samoa Fish Processing Waste Disposal Site, American Samoa Fish Processing Waste Disposal Site-Region IX.

Location: 14° 24.00' South latitude by 170° 38.20' West longitude (1.5 nautical mile radius).

Size: 7.07 square nautical miles.

Depth: 1,502 fathoms (2,746 meters or 9,012 feet).

Primary Use: Disposal of fish processing wastes.

Period of Use: Continued use.

Restrictions: Disposal shall be limited to dissolved air flotation (DAF) sludge, presswater, and precooker water

produced as a result of fish processing operations at fish canneries generated in American Samoa.

[FR Doc. 90-2440 Filed 2-5-90; 8:45 am]

BILLING CODE 6560-50-M

GENERAL SERVICES ADMINISTRATION

Federal Supply Service

41 CFR Part 101-49

[FPMR Amdt. H-175]

Utilization, Donation, and Disposal of Foreign Gifts and Decorations

AGENCY: Federal Supply Service, GSA.

ACTION: Final rule.

SUMMARY: This amendment redefines "minimal value" for foreign gifts based on the increase in the Department of Labor Consumer Price Index report of September 30, 1989. Public Law 95-105 requires that "minimal value" be redefined at 3-year intervals to reflect changes in the consumer price index for the immediately preceding 3-year period. This final rule redefines "minimal value."

EFFECTIVE DATE: January 1, 1990.

FOR FURTHER INFORMATION CONTACT: Stanley M. Duda, Director, Property Management Division (703-557-1240).

SUPPLEMENTARY INFORMATION: The General Services Administration has determined that this rule is not a major rule for the purposes of Executive Order 12291 of February 17, 1981, because it is not likely to result in an annual effect on the economy of $100 million or more; a major increase in costs to consumers or others; or significant adverse effects. The General Services Administration has based all administrative decisions underlying this rule on adequate information concerning the need for and consequences of this rule; has determined that the potential benefits to society from this rule outweigh the potential costs and has maximized the net benefits; and has chosen the alternative approach involving the least net cost to society.

List of Subjects in 41 CFR Part 101-49

Foreign gifts and decorations, medals, awards, Foreign relations, Government property; Government property management.

Accordingly, 41 CFR part 101-49 is amended as follows:

PART 101-49—UTILIZATION, DONATION, AND DISPOSAL OF FOREIGN GIFTS AND DECORATIONS

1. The authority citation for part 101-49 continues to read as follows:

Authority: Sec. 205(c), 63 Stat. 390 (40 U.S.C. 486(c)); sec. 515, 91 Stat. 862 (5 U.S.C. 7342).

2. Section 101-49.001-5 is amended by revising the introductory statement to read as follows:

§ 101-49.001-5 Minimal value.

"Minimal value" means a retail value in the United States at the time of acceptance of $200 or less, except that:

* * * * *

Dated: January 18, 1990.

Richard G. Austin,

Acting Administrator of General Services.

[FR Doc. 90-2654 Filed 2-5-90; 8:45 am]

BILLING CODE 6820-24-M

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

43 CFR 5450

[AA-230-08-6310-02; Circular No. 2622]

RIN 1004-AB49

Sales of Forest Products

AGENCY: Bureau of Land Management, Interior.

ACTION: Final rulemaking.

SUMMARY: This rulemaking amends provisions of the existing regulations in 43 CFR part 5450, Award of Contract; General, to reduce the risk of default on timber sale contracts. The potential exists for Bureau of Land Management (BLM) timber sale contracts to be defaulted by purchasers who are not able to or choose not to complete the contracts by their expiration dates. Such defaults create forest management problems and reduce timber revenues to the Federal Treasury and local governments. This rulemaking requires additional security from purchasers of new sales where the purchaser has defaulted on a past sale contract and has not paid or bonded for the damages associated with the defaulted sale. The increased security reduces the Government's risk from non-performance by defaulters, increases the likelihood that all purchasers will complete their timber sale contracts on time, and provides an alternative remedy to debarment in cases of default. This rulemaking supplements the existing pre-award qualification rule which requires the authorized officer of the BLM to determine whether the high bidder is qualified or responsible to perform the obligations of the contract. In addition to the authorized officer's existing duty to assess the high bidder's qualification in terms of having contractor status, financial capability, skill, and ability, this rulemaking gives the authorized officer the basis to deal with the high bidder's responsibility as demonstrated by performance on past contracts.

EFFECTIVE DATE: March 8, 1990.

ADDRESSES: Inquiries or suggestions may be sent to: Director (230), Bureau of Land Management, Room 909 Premier Bldg., Department of the Interior, Washington, DC 20240.

FOR FURTHER INFORMATION CONTACT: Richard Bird, (202) 653-8864.

SUPPLEMENTARY INFORMATION: Current regulations at 43 CFR 5450.1(a) authorize the authorized officer to require a high bidder to provide such information as is necessary to determine the ability of the bidder to perform the obligations of the contract. Defaulting on past contracts indicates that the purchaser may not be capable of meeting or may willfully disregard contractual obligations. Regardless of the reason, a likelihood of failure to perform new contractual obligations is unacceptable to the United States, and presents the need for additional security against such failure in appropriate circumstances.

Failure to perform, or default on, Federal sale contracts impairs the land management ability of the Federal Government, reduces local and Federal revenue, and affects other timber purchase companies. Reoffering defaulted timber sales interrupts the orderly offering of timber sales in the same vicinity by requiring the adjustment and repetition of actions already completed. Efficient reforestation is complicated by the uncertain timing associated with potential default and resale. The determination of cumulative environmental impacts is increased because of the passage of time. The collection of receipts shared by the United States and local government is delayed and the actual amount collected may be reduced. The United States is put in the uncertain position of not knowing whether the defaulter is either able or willing to complete other contracts.

Under law, defaulted timber sales sold prior to January 1, 1982, are reoffered for sale as a part of rather than in addition to the normal timber sale program. This results in reduced inventories of timber held by timber

purchasers, possible lower employment in local communities, and less revenue for county government due to reduced timber receipts. Also, due to the potential for the default process to be time consuming, the distribution of damage collection receipts could be delayed, and the actual amounts collected and distributed could be reduced. In addition, defaulting rather than performing an expensive or difficult timber contract could place the defaulter in a better competitive position, compared to a competitor that has met its contractual obligations, when bidding on new timber sales, thus disrupting the bidding process.

BLM published a notice of proposed rulemaking on amending 43 CFR 5450, Award of Contract; General in the Federal Register on August 17, 1988 [53 FR 31055]. A total of 3 comments were received, 1 from a business entity and 2 from attorneys. The Department of the Interior did not find compelling reason to change the regulations. Accordingly, the proposed rulemaking published on August 17, 1988, is published today as the final rulemaking with only editorial amendments to the regulatory language to clarify that the additional bonding used to pay and bond 50 percent of the purchase price of contracts bid after the most recent default (option 3 of the additional security provisions) can be used as an increased performance bond as specified in 5451.2(a) of this title, and to retain the language in 5450.1(b) of the existing regulations by redesignating it as 5450.1(c).

One comment recommended that the proposed rulemaking be withdrawn or significantly modified. The reasons given for this recommendation were that the proposed rulemaking: (1) Makes a purchaser's past defaults the primary indicator of its current responsibility, (2) penalizes companies affiliated with a defaulting purchaser, even though there is no legal requirement that such companies inject capital into affiliates which have defaulted timber sale contracts, (3) raises the prospect of debarment for companies who refuse to provide additional security, thereby creating the prospect of de facto debarment and violating the agency's debarment regulations, (4) fails to consider the cause of past defaults or a purchaser's overall record of contract performance, and (5) fails to limit the duration of sanctions imposed on purchasers found to be irresponsible.

The primary purpose of this rulemaking is to reduce the Government's risk of non-performance by defaulters. Past defaulters are the only available guage by which to project future performance. If the regulation did not apply to affiliates, companies would be able to circumvent its intent by buying timber through an affiliate. Regardless of the cause, a likelihood of failure to perform new contractual obligations is unacceptable to the United States, and presents the need for additional security against such failure to perform.

One comment argued that the proposed rulemaking would create a situation where all bidders were not treated equally or provided with a common basis for bidding on timber sale contracts. Also, the implementation of the proposed rule would result in reducing competition for Federal timber sales because purchasers subject to the increased financial requirements will be unable to bid on timber sales they otherwise might since their cash and/or bonding capacity will be tied up in greater amounts on sales awarded under the proposed rule.

The proposed rulemaking is consonant with the controlling statutes, 43 U.S.C. 1181a–f, known as the O & C Act, and 30 U.S.C. 601–603, the Materials Act, which afford the Secretary broad discretion and rulemaking authority with regard to such sales. All bidders would be bidding on the same contract and therefore would be treated equally. Under § 5451.2(b) of the proposed rulemaking, the payment and bonding of 50 percent of the purchase price of the new contract to provide additional security under new § 5450.1(b) may also be applied to allow cutting timber before payment as provided in § 5451.2(a), thus serving a double purpose.

One industry comment supported requiring additional security from purchasers who have defaulted on Federal timber sale contracts and supported the proposed regulation.

Under the final rulemaking, a purchaser that is high bidder on a Federal timber sale contract, but has defaulted on another Federal timber sale contract, would be required to establish bidder responsibility by paying or bonding or any combination of payment and bonding for any one of the following: (1) The total unpaid balance of the purchase price of all defaulted contracts, (2) the unsettled damages on all previous defaults, or (3) 50 percent of the purchase price of contracts bid after the default. The bonding in excess of the minimum performance bond required by section 5451(a) of this title may be used as an increased performance bond as specified in § 5451.2(a) of this title. Payment of 50 percent would increase the likelihood of performance on the new contract. The regulations of 43 CFR 5424.0–5 state that affiliates of the purchaser may be considered as the purchaser. Therefore, a default by an affiliate of the purchaser of a new timber sale could trigger additional bidder requirements for that purchaser. Additional requirements imposed by this rulemaking on the bidder in response to contract defaults would apply to all subsequent sales in which the bidder participates until he/she either pays or bonds for the payment of the remaining amount due on all defaulted sales, or pays or bonds for the payment of damages created by all defaults.

The principal authors of this final rulemaking are David Estola of the Branch of Forestry, Oregon State Office, and Richard Bird of the Division of Forestry, Washington Office, Bureau of Land Management, assisted by the staff of the Division of Legislation and Regulatory Management, Bureau of Land Management, Washington, DC.

It is hereby determined that this final rulemaking does not constitute a major Federal action affecting the Quality of the human environment, and that no detailed statement pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(a)(C) is required.

The Department of the Interior has determined that this document is not a major rule under Executive Order 12291 and will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). Few timber companies are expected to default, and all members of the timber harvest community are treated equally.

This rule does not contain information collection requirements that require approval by the Office of Management and Budget under 44 U.S.C. 3501 et seq.

List of Subjects in 43 CFR Part 5450

Administrative practice and procedure, Forest and forest products, Public lands, Government contracts.

Under the authority of section 5 of the Act of August 28, 1937 (43 U.S.C. 1181e), and the Act of July 31, 1947, as amended (30 U.S.C. 601 et seq.), part 5450, Group 5400, subchapter E, chapter II of title 43 of the Code of Federal Regulations is amended as set forth below:

PART 5450—AWARD OF CONTRACT

1. The authority citation for part 5450 is revised to read as follows:

Authority: Sec. 5, 50 Stat. 875, 61 Stat. 681, as amended, 69 Stat. 367; 30 U.S.C. 601 *et seq.*, 43 U.S.C. 1181e.

2. Section 5450.1 is amended by redesignating paragraph (b) as paragraph (c) and adding new paragraph (b) to read as follows:

§ 5450.1 Pre-award qualifications of high bidder.

(a) * * *

(b) A purchaser who has defaulted on a timber sale contract under this title by failing to complete payment of its total purchase price by the expiration date of the contract is considered a risk for purposes of being awarded future timber sale contracts. If a purchaser deemed a risk is the high bidder on a new timber sale, the authorized officer shall send a notice by registered mail requiring such purchaser to establish bidder responsibility by paying or bonding, or a combination of payment and bonding, for any one of the following: The total unpaid balance of the purchase price of all defaulted sales, the unsettled damages on all defaults, or 50 percent of the purchase price of contracts bid after the most recent default. Any payment applied toward 50 percent of a contract's bid price after the default(s) will be held as final payment for timber cut and/or removed under terms of the contracts. Acceptable bonding options are listed at § 5451.1 of this title. Payment and bonding are due within time limits stated in § 5450.1(c). Should the purchaser fail to demonstrate responsibility within 30 days of receipt of the notice, the authorized officer shall offer the contract for the amount of the high bid to the highest of the bidders who is qualified, responsible, and willing to accept the contract. Failure to demonstrate responsibility within 30 days of receipt of the notice indicates that the purchaser is not responsible, and debarment proceedings shall be considered under § 5441.1 of this title.

(c) * * *

3. Section 5451.2 is amended by redesignating the existing text as paragraph (a) and adding new paragraph (b) to read as follows:

§ 5451.2 Performance bonds in excess of minimum.

(a) * * *

(b) If payment and bonding for 50 percent of the purchase price of a contract is provided in accordance with § 5450.1(b) of this title, the amount of performance bond in excess of the minimum performance bond required by § 5451.1(a) of this title may be used as an increased performance bond as specified in § 5451.2(a) of this title.

Dated: January 4, 1990.

James M. Hughes,

Acting Assistant Secretary of the Interior.

[FR Doc. 90-2668 Filed 2-5-90; 8:45 am]

BILLING CODE 4310-84-M

FEDERAL EMERGENCY MANAGEMENT AGENCY

44 CFR Part 64

[Docket No. FEMA 6862]

List of Communities Eligible for the Sale of Flood Insurance

AGENCY: Federal Emergency Management Agency.

ACTION: Final rule.

SUMMARY: This rule lists communities participating in the National Flood Insurance Program (NFIP). These communities have applied to the program and have agreed to enact certain floodplain management measures. The communities' participation in the program authorizes the sale of flood insurance to owners of property located in the communities listed.

EFFECTIVE DATES: The dates listed in the third column of the table.

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 National Flood Insurance Program (NFIP) at: Post Office 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, SW, Room 417, Washington, DC 20472

SUPPLEMENTARY INFORMATION: The National Flood Insurance Program (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. Since the communities on the attached list have recently entered the NFIP, subsidized flood insurance is now available for property in the community.

In addition, the Director of the Federal Emergency Management Agency has identified the special flood hazard areas in some of these communities by publishing a Flood Hazard Boundary Map. The date of the flood map, if one has been published, is indicated in the fourth column of the table. 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 "Flood 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 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 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.

In each entry, a complete chronology of effective dates appears for each listed community. The entry reads as follows:

§ 64.6 List of Eligible Communities.

State and location	Community No.	Effective date authorization/cancellation of sale of flood insurance in community	Current effective map date
New Eligibles—Emergency Program			
Nebraska: Platte County, Unincorporated Areas	310467	Jan. 8, 1990	8-16-77

State and location	Community No.	Effective date authorization/cancellation of sale of flood insurance in community	Current effective map date
Indiana: LaGrange County, Unincorporated Areas	180125	Jan. 18, 1990	7-1-77
Michigan: Buchanan, Township of, Berrien County	260555	Jan. 30, 1990	10-8-76
Georgia: Hiltonia, Town of, Screven County	130385	do	4-11-75
Texas:			
Woodson, City of, Throckmorton County	481022	Jan. 31, 1990	10-22-76
Blue Ridge, Town of, Collin County	480754	do	
New Eligibles—Regular Program			
Virginia: Haymarket, Town of, Prince William County	510121	do	1-17-90
Reinstatements—Regular Program			
Maine: Arundel, Town of, York County	230192	Apr. 21, 1976, Emerg.; Apr. 1, 1987, Reg.; Apr. 1, 1987, Susp.; Jan. 9, 1990, Rein.	4-1-87
North Carolina: Swain County, Unincorporated Areas	370227	Feb. 3, 1980, Emerg.; July 17, 1986, Reg.; Dec. 15, 1989, Susp.; Jan. 9, 1990, Rein.	12-15-89
Mississippi:			
Bruce, City, Calhoun County	280026	Feb. 5, 1975, Emerg.; June 18, 1987, Reg.; Jan. 3, 1990, Susp.; Jan. 16, 1990, Rein.	1-3-90
Calhoun County, Unincorporated Areas	280288	Mar. 28, 1975, Emerg.; Jan. 3, 1990, Reg.; Jan. 3, 1990, Susp.; Jan. 16, 1990, Rein.	1-3-90
Minnesota: Stevens County, Unincorporated Areas	270640	May 9, 1974, Emerg.; Sept. 1, 1987, Reg.; Sept. 1, 1987, Susp.; Jan. 18, 1990, Rein.	9-1-87
Pennsylvania: Spangler, Borough of, Cambria County	420240	July 30 1975, Emerg.; Aug. 15, 1989, Reg.; Aug. 15, 1989, Susp.; Jan. 30, 1990, Rein.	8-15-89
Regular Program—Region I			
Connecticut: Warren, Town of, Litchfield County	090175	January 3, 1990, Suspension Withdrawn	1-3-90
Region III			
Pennsylvania: Huston, Township of, Clearfield County	421525	do	1-3-90
Region V			
Wisconsin:			
Endeavor, Village of, Marquette County	550265	do	1-3-90
Menomonie, City of, Dunn County	550123	do	1-3-90
Plum City, Village of, Pierce County	550328	do	1-3-90
Region VI			
Louisiana: Allen Parish, Unincorporated Areas	220009	do	1-3-90
Texas:			
Colorado County, Unincorporated Areas	480144	do	1-3-90
Gregg County, Unincorporated Areas	480261	do	9-6-88
Region I			
Connecticut: Southington, Town of, Hartford County	090037	January 17, 1990, Suspension Withdrawn	1-17-90
Region III			
Pennsylvania			
Factoryville, Borough of, Wyoming County	420912	do	1-17-90
Patton, Borough of, Cambria County	420235	do	1-17-90
West Cameron, Township of, Northumberland County	421946	do	1-17-90
Zerbe, Township of, Northumberland County	421947	do	1-17-90
Region IV			
Alabama: Marengo County, Unincorporated Areas	010156	do	1-17-90
Mississippi: Lowndes County, Unincorporated Areas	280193	do	5-4-89
Region VI			
Texas:			
San Felipe, Town of, Austin County	480705	do	1-17-90
Sealy, City of, Austin County	480017	do	1-17-90

Code for reading third column: Emerg.—Emergency; Reg.—Regular; Susp.—Suspension.

Issued: January 31, 1990.

Harold T. Duryee,

Administrator, Federal Insurance Administration.

[FR Doc. 90-2688 Filed 2-5-90; 8:45 am]

BILLING CODE 6718-21-M

44 CFR Part 64

[Docket No. FEMA 6861]

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 fourth 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 the 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.

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 and community name	County	Community No.	Effective date
Regular Program Communities:			
Missouri:			
Jackson County	Unincorporated Areas	290492	February 16, 1990.
Portage Des Sioux, City of	St. Charles	290317	Do.
Redings Mill, Village of	Newton	290484	Do.
Strasburg, City of	Cass	290071	Do.
St. Francois County	Unincorporated Areas	290832	Do.
Sturgeon, City of	Boone	290039	Do.
Williamsville, City of	Wayne	290452	Do.
South Carolina: Eastover, Town of	Richland	450173	Do.

Issued: January 31, 1990.

Harold T. Duryee,

Administrator, Federal Insurance Administration.

[FR Doc. 90–2687 Filed 2–5–90; 8:45 am]

BILLING CODE 6718–21–M

DEPARTMENT OF TRANSPORTATION

Coast Guard

46 CFR Parts 25 and 184

[CGD 83–013]

RIN 2115–AB35

Carriage and Use of Liquefied and Non-Liquefied Flammable Gas as Cooking Fuels on Vessels Carrying Passengers for Hire

AGENCY: Coast Guard, DOT.

ACTION: Adoption of interim rule as final.

SUMMARY: On February 10, 1989, the Coast Guard published an interim rule in the **Federal Register** (54 FR 6396) allowing the carriage and use of liquefied and non-liquefied flammable gas as cooking fuels on small and uninspected passenger vessels. Standards governing the installation of wood and coal burning stoves on uninspected passenger vessels, which had not previously been addressed in the rulemaking, were included on an interim basis as part of the rule and

comments were requested. This action adopts the interim rule as final with changes.

EFFECTIVE DATE: This rulemaking is effective February 6, 1990. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of February 6, 1990.

FOR FURTHER INFORMATION CONTACT: LCDR Mark G. VanHaverbeke, Project Manager, (202) 267–1181.

SUPPLEMENTARY INFORMATION: In 1982 the Coast Guard received numerous requests from owners and operators of small and uninspected passenger vessels to reevaluate the prohibition of liquefied petroleum gas (LPG) and compressed natural gas (CNG) as cooking fuels on their vessels. As a result of its reevaluation, the Coast Guard published a Notice of Proposed Rulemaking (NPRM) in the Federal Register on March 22, 1984 (49 FR 10685). This NPRM proposed to remove the prohibition of LPG and CNG as fuels for cooking appliances on vessels carrying passengers for hire, except ferries. This proposal also promulgated standards governing the design, installation, and testing of cooking appliances using LPG and CNG, incorporating by reference the American Boat and Yacht Council, Inc. (ABYC) and National Fire Protection Association (NFPA) standards for these systems.

As a result of the comments received, substantive changes were made to the original proposal. The most significant change was the acceptance of the NFPA Standard 302, Pleasure and Commercial Motor Craft (1984 Edition), as an alternative to the ABYC standards. On February 6, 1986, a Supplemental Notice of Proposed Rulemaking (SNPRM) was published in the Federal Register (51 FR 4620) which reflected this change. The comment period for the SNPRM ended on May 7, 1986.

NFPA 302 also provides guidance for the installation of heating and cooking systems using wood or coal. The Coast Guard determined that adopting the appropriate guidance in NFPA 302 would help to minimize the fire risks associated with these systems. Therefore, the Coast Guard included a provision in § 25.45–1(d) to require that these systems, where installed after August 9, 1989, be in accordance with NFPA 302. Since this provision was not included in the SNPRM, an interim rule was published on February 10, 1989, in the Federal Register (54 FR 6396) to provide for a comment period pertaining to § 25.45–1(d). The comment period ended on March 27, 1989. No comments were received.

This rulemaking adopts the provisions for the use of LPG, CNG, wood, or coal on uninspected vessels carrying passengers, and for the use of LPG and CNG on small passenger vessels inspected under title 46 of the Code of Federal Regulations, subchapter T, as published in the interim rule. As more fully discussed below, revision of NFPA 302 necessitates editorial changes in the text of the regulations. However, the substantive effect of the regulations remains the same.

This rulemaking adopts, with only non-substantive changes, an interim rule which is already effective. The intent for the provision of a delayed effective date, usually thirty days, is to give persons affected by the rule time to prepare to comply or take other action. Since the interim rule being adopted is effective, a delayed effective date would not serve its intended purpose. Therefore, the Coast Guard finds good cause to make this rulemaking effective upon publication in the Federal Register.

Discussion

The interim rule, as published, incorporated by reference the 1984 edition of NFPA 302. On January 13, 1989, the Standards Council of NFPA issued a 1989 edition which had an effective date of February 6, 1989, and superseded all previous editions. The 1984 edition is no longer stocked by NFPA and must be special ordered.

The Coast Guard intends for standards adopted by reference to be readily available to the general public at reasonable cost. Therefore, NFPA 302 (1989 Edition) was reviewed for consistency with the 1984 edition as adopted and modified by the interim rule. On the basis of that review, it was determined that NFPA 302 (1989 Edition) could be adopted and the interim rule amended so that the net impact on the public was minimal.

The most significant change to NFPA 302 with respect to the interim rule may be found in paragraph 6-5.12.1.1 which allows the installation of a CNG tank within enclosed spaces under certain circumstances. As discussed extensively during the course of this regulatory project, the Coast Guard is opposed to locating CNG tanks within the hull envelope on small and uninspected passenger vessels. This rulemaking continues the restriction on such installations.

NFPA 302 (1989 Edition) also includes a new paragraph 6-5.4 which, by reference to existing requirements in the chapters on electrical systems, requires that ignition protection be provided for all electrical devices which can function automatically. Except for spaces containing gasoline powered machinery and fuel tanks, NFPA 302 does not require ignition protection for systems with only one LPG or CNG appliance if the gas supply can be shut off at the tank by a control located at the appliance which includes an indicator that the gas supply valve is open. The revised NFPA requirement is essentially the same as the ABYC requirement which was incorporated in the interim rule. The interim rule also requires that a shut-off valve operable from the appliance be located between the regulator and the point where the gas supply line enters the enclosed space, regardless of whether or not a vessel is outfitted with electrical devices which can function automatically. The interim rule does not require a means to indicate when the shut-off valve is open.

The Coast Guard has reviewed the requirement for ignition protection and has determined that the location of the remotely operated gas supply shut-off valve and provision of a means to indicate when the valve is open are not essential. This determination is based on the requirement that the remote shut-off valve be located between the fuel tank and where the fuel supply line enters an enclosed space on the vessel and the rulemaking limitation that only allows LPG or CNG for cooking appliances, which are normally installed as single units and attended while in use. Therefore, the Coast Guard exempts the NFPA 302 requirement for ignition protection. While installations meeting the ABYC standards will differ slightly from those meeting the NFPA standard, as incorporated, this is identical to the situation that existed under the interim rule which incorporated the 1984 edition of NFPA 302. The interim rule requirement that the remotely operated shut-off valve be located on the low pressure side of the regulator has similarly been deleted as non-essential.

NFPA 302 (1989 Edition) includes a new requirement in paragraph 6-5.11.2 which requires cooking stoves with ovens to incorporate a flame failure safety device. The interim rule requires oven installations to be equipped with a flame failure switch. Therefore, the new NFPA 302 standard does not impose any requirements in excess of the interim rule.

The interim rule requires that CNG installations using ABYC A–22 as the standard meet certain requirements found in five paragraphs under paragraph 6-5.11 of NFPA 302 (1984 Edition). These requirements are now

covered in six paragraphs under paragrph 6-5.12 of NFPA 302 (1989 Edition), which includes two requirements also found in ABYC A-22. In this rulemaking, rather than listing only those paragraphs of NFPA 302 (1989 Edition) which must be met when installing CNG using ABYC A-22 as the standard, all of NFPA 302 (1989 Edition) paragraph 6-5.12 is cited. While this in effect causes some duplication between the standards, it simplifies their application by avoiding a piecemeal reading of NFPA 302. Also for clarification, the wording with respect to pilot lights and glow plugs in § 25.45-2(b)(4) and § 184.05-1(d)(4) has been changed to more accurately reflect the restrictions borrowed from NFPA 302.

Drafting Information

The principal persons involved in drafting this document are Lieutenant Commander Mark G. VanHaverbeke, Project Manager, Office of Marine Safety, Security, and Environmental Protection, and Lieutenant Commander Don M. Wrye, Project Attorney, Office of Chief Counsel.

E.O. 12291 and DOT Regulatory Policies and Procedures

This rulemaking is considered to be non-major under Executive Order 12291 and nonsignificant under the DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A final regulatory evaluation has been prepared and placed in the rulemaking docket. It may be inspected or copied at the Marine Safety Council, Room 3600, U.S. Coast Guard, 2100 Second Street, SW., Washington, DC 20593-0001, from 8 a.m. to 3 p.m. Monday through Friday. Copies may also be obtained by contacting the person listed under **FOR FURTHER INFORMATION CONTACT.**

As explained in the final evaluation, these rules are deregulatory with the exception of the installation standard for wood and coal burning stoves. They serve to expand the fuel choices available to vessel owners for cooking and provide simple guidance for the installation of wood or coal burning stoves.

There are relatively minor differences between the cost of electric marine stoves and those with similar features that are fueled either by alcohol, LPG, or CNG. Depending upon the individual features of an electric stove, its purchase price may range from less than $100 to over $400; typically, an equivalent alcohol stove would be priced $10 to $30 more, and an LPG or CNG stove priced $15 to $60 more. There would be little, if any, difference in installation costs. The differences in operating costs would be governed by the relative costs and availability of the fuels.

This rulemaking includes installation requirements for wood and coal burning stoves. The requirements are those of a generally accepted industry standard for boat construction and will help to minimize the fire risks associated with these systems. The cost of meeting this standard is expected to be minimal because it consists largely of requirements to locate, insulate, or shield the stove and its smoke stack from combustible materials. The standard will only apply to new installations so that there will be no burden placed on owners of vessels with existing stoves and owners or builders considering new installations will have the opportunity to consider even the minimal installation cost in their economic decision.

Because the economic impact of these regulations is expected to be so minimal, the Coast Guard finds that no further economic evaluation is necessary.

Environmental Impact

This rulemaking has been thoroughly reviewed by the Coast Guard and it has been determined to be categorically excluded from further environmental documentation in accordance with section 2.B.2.c and 2.B.2.1 of Commandant Instruction (COMDTINST) M16475.1B. A Categorical Exclusion Determination statement has been prepared and has been placed in the rulemaking docket.

Regulatory Flexibility Act

The Coast Guard certifies that these regulations will not have a significant economic impact on a substantial number of small entities. This rulemaking principally affects small and uninspected passenger vessels. This includes both Coast Guard inspected and uninspected vessels, many of which are operated as small businesses. While it has not been possible to quantify the economic impact of this rulemaking, any cost of installing LPG or CNG cooking appliances would be voluntarily assumed by the vessel owner or operator. The regulations are permissive in nature and do not require the installation of systems using these fuels.

Paperwork Reduction Act

The collection of information requirements contained in this rule have been submitted to the Office of Management and Budget (OMB) for review under section 3504(h) of the Paperwork Reduction Act of 1980 (44 U.S.C. chapter 35) and have been approved. The OMB Control Number assigned for §§ 25.45-2 and 184.05-1 is OMB #2115-0549.

Federalism

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

List of Subjects

46 CFR Part 25

Incorporation by reference, Fire prevention, Marine safety.

46 CFR Part 184

Communications equipment, Incorporation by reference, Marine safety, Navigation (water), Passenger vessels.

Accordingly, the interim rule amending chapter I of title 46 of the Code of Federal Regulations which was published at 54 FR 6396 on February 10, 1989, is adopted as a final rule with the following changes:

PART 25—[AMENDED]

1. The authority citation for part 25 continues to read as follows:

Authority: 46 U.S.C. 3306, 4104, 4302; 49 CFR 1.46.

2. Section 25.01-3 is revised to read as follows:

§ 25.01-3 Incorporation by reference.

(a) Certain materials are incorporated by reference into this part with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a). To enforce any edition other than the one listed in paragraph (b) of this section, notice of change must be published in the **Federal Register** and the material made available to the public. All approved material is on file at the Office of the Federal Register, 1100 L. Street NW., Washington, DC, and at the U.S. Coast Guard, Merchant Vessel Inspection and Documentation Division, (G-MVI), 2100 Second Street SW., Washington, DC 20593-0001, and is available from the sources indicated in paragraph (b) of this section.

(b) The materials approved for incorporation by reference in this part, and the sections affected are:

American Boat and Yacht Council (ABYC)

P.O. Box 747, 405 Headquarters Dr., Suite 3, Millersville, MD 21108-0747

A-1-78—Marine LPG-Liquefied Petroleum Gas Systems (December 15, 1978)..... 25.01-3; 25.45-2

A-22-78—Marine CNG-Compressed Natural Gas Systems (December 15, 1978)..... 25.01-3; 25.45-2

National Fire Protection Association (NFPA)

60 Batterymarch Park, Quincy, MA 02260

302-1989—Pleasure and Commercial Motor Craft, Chapter 6 (1989 Edition)..... 25.01-3; 25.45-2

3. Section 25.45-2 is amended by revising paragraph (b) to read as follows:

§ 25.45-2 Cooking systems on vessels carrying passengers for hire.

* * * * *

(b) Cooking systems using LPG or CNG must meet the following requirements:

(1) The design, installation, and testing of each LPG system must meet ABYC A-1-78 or Chapter 6 of NFPA 302.

(2) The design, installation, and testing of each CNG system must meet ABYC A-22-78 or Chapter 6 of NFPA 302.

(3) Cooking systems using Chapter 6 of NFPA 302 as the standard must meet the following additional requirements:

(i) The storage or use of CNG containers within the accommodation area, machinery spaces, bilges, or other enclosed spaces is prohibited.

(ii) LPG or CNG must be odorized in accordance with ABYC A-1.5.d or A-22.5.b, respectively.

(iii) The marking and mounting of LPG cylinders must be in accordance with ABYC A-1.6.b.

(iv) LPG cylinders must be of the vapor withdrawal type as specified in ABYC A-1.5.b.

(4) Continuous pilot lights or automatic glow plugs are prohibited for an LPG or CNG installation using ABYC A-1 or A-22 as the standard.

(5) CNG installations using ABYC A-22 as the standard must meet the following additional requirements:

(i) The stowage or use of CNG containers within the accommodation area, machinery spaces, bilges, or other enclosed spaces is prohibited.

(ii) The CNG cylinders, regulating equipment, and safety equipment must meet the installation, stowage, and testing requirements specified in paragraph 6-5.12 of NFPA 302.

(iii) The use of stowage of stoves with attached CNG cylinders is prohibited as specified in paragraph 6-5.1 of NFPA 302.

(6) If the fuel supply line of an LPG or CNG system enters an enclosed space on the vessel, a remote shut-off valve must be installed that can be operated from a position adjacent to the appliance. The valve must be located between the fuel tank and the point where the fuel supply line enters the enclosed portion of the vessel. A power operated valve installed to meet this requirement must be of a type that will fail closed.

(7) The following variances from ABYC A-1.11.b(1) are allowed for CNG:

(i) The storage locker or housing access opening need not be in the top.

(ii) The locker or housing need not be above the waterline.

(8) The following variances from NFPA 302 are allowed:

(i) The storage locker or housing for CNG tank installations need not be above the waterline as required by paragraph 6-5.12.1.1(a).

(ii) Ignition protection need not be provided as required by paragraph 6-5.4.

PART 184—[AMENDED]

4. The authority citation for part 184 continues to read as follows:

Authority: 46 U.S.C. 3306; 49 CFR 1.46.

5. Section 184.01-3 is revised to read as follows:

§ 184.01-3 Incorporation by reference.

(a) Certain materials are incorporated by reference into this part with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a). To enforce any edition other than the one listed in paragraph (b) of this section, notice of change must be published in the **Federal Register** and the material made available to the public. All approved material is on file at the Office of the Federal Register, 1100 L. Street NW., Washington, DC, and at the U.S. Coast Guard, Merchant Vessel Inspection and Documentation Division, (G-MVI), 2100 Second Street SW., Washington, DC 20593-0001, and is available from the sources indicated in paragraph (b) of this section.

(b) The materials approved for incorporation by reference in this part, and the sections affected are:

American Boat and Yacht Council (ABYC)

P.O. Box 747, 405 Headquarters Dr., Suite 3, Millersville, MD 21108-0747

A-1-78—Marine LPG-Liquefied Petroleum Gas Systems (December 15, 1978)..... 184.05-1

A-22-78—Marine CNG-Compressed Natural Gas Systems (December 15, 1978)..... 184.05-1

National Fire Protection Association (NEPA)

60 Batterymarch Park, Quincy, MA 02260

302-1989—Pleasure and Commercial Motor Craft, Chapter 6 (1989 Edition)..... 184.05-1

6. Section 184.05-1 is amended by revising paragraph (d) to read as follows:

§ 184.05-1 Restrictions.

* * * * *

(d) Cooking systems using liquefied petroleum gas (LPG) and compressed natural gas (CNG) must meet the following requirements:

(1) The design, installation and testing of each LPG system must meet ABYC A-1-78 or Chapter 6 of NFPA 302.

(2) The design, installation and testing of each CNG system must meet ABYC A-22-78 or Chapter 6 of NFPA 302.

(3) Cooking systems using Chapter 6 of NFPA 302 as the standard must meet the following additional requirements:

(i) The storage or use of CNG containers within the accommodation area, machinery spaces, bilges, or other enclosed spaces is prohibited.

(ii) LPG or CNG must be odorized in accordance with ABYC A-1.5.d or A-22.5.b, respectively.

(iii) The marking and mounting of LPG cylinders must be in accordance with ABYC A-1.6.b.

(iv) LPG cylinders must be of the vapor withdrawal type as specified in ABYC A-1.5.b.

(4) Continuous pilot lights or automatic glow plugs are prohibited for an LPG or CNG installation using ABYC A-1 or A-22 as the standard.

(5) CNG installations using ABYC A-22 as the standard must meet the following additional requirements:

(i) The storage or use of CNG containers within the accommodation area, machinery spaces, bilges, or other enclosed spaces is prohibited.

(ii) The CNG cylinders, regulating equipment, and safety equipment must meet the installation, stowage, and testing requirements of paragraph 6-5.12 of NFPA 302.

(iii) The use or stowage of stoves with attached CNG cylinders is prohibited as specified in paragraph 6-5.1 of NFPA 302.

(6) If the fuel supply line of an LPG or CNG system enters an enclosed space on the vessel, a remote shut-off valve must be installed which can be operated from a position adjacent to the appliance. The valve must be located between the fuel tank and the point where the fuel supply line enters the enclosed portion of the vessel. A power operated valve installed to meet this requirement must be of a type that will fail closed.

(7) The following variances from ABYC A-1.11.b(1) are allowed for CNG:

(i) The storage locker or housing access opening need not be in the top.

(ii) The locker or housing need not be above the waterline.

(8) The following variances from NFPA 302 are allowed:

(i) The storage locker or housing for CNG tank installations need not be above the waterline as required by paragraph 6–5.12.1.1(a).

(ii) Ignition protection need not be provided as required by paragraph 6–5.4.

Dated: December 29, 1989.

J.D. Sipes,

Rear Admiral, U.S. Coast Guard Chief, Office of Marine Safety, Security and Environmental Protection.

[FR Doc. 90–2561 Filed 2–5–90; 8:45 am]

BILLING CODE 4910–14–M

Proposed Rules

Federal Register
Vol. 55, No. 25
Tuesday, February 6, 1990

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 54

[No. LS-90-101]

Changes in Fees for Federal Meat Grading and Certification Services

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Proposed rule.

SUMMARY: The Agricultural Marketing Service (AMS) proposes revising the hourly fee rates for voluntary Federal meat grading and certification services. The hourly fees will be adjusted by this proposed revisions to reflect the increased cost of providing service. The proposed revision in the hourly fee rates is necessary to ensure that the Federal meat grading and certification program is operated on a financially self-supporting basis.

DATES: Comments must be received on or before March 8, 1990.

ADDRESSES: Written comments may be mailed to Eugene M. Martin, Chief, Meat Grading and Certification Branch, Livestock and Seed Division, AMS, USDA, Rm. 2683–S, P.O. Box 96456, Washington, DC 20090–6456. (For further information regarding comments, see "Comments" under **SUPPLEMENTARY INFORMATION.**)

FOR FURTHER INFORMATION CONTACT: Eugene M. Martin, 202–382–1113.

SUPPLEMENTARY INFORMATION:

Regulatory Impact Analysis

This action was reviewed under the USDA procedures established to implement E.O. 12291 and was classified as a nonmajor proposed rule pursuant to section 1(b) (1), (2), and (3) of that Order. Accordingly, a regulatory impact analysis is not required. This action was also reviewed under the Regulatory Flexibility Act (Pub. L. 96–354, 5 U.S.C. 601 *et seq.*) The Administrator of the Agricultural Marketing Service has determined that this rule will not have a significant economic impact on a substantial number of small entities. The chances in the hourly fee rates are necessary to recover the costs of providing voluntary Federal meat grading and certification services. The cost per unit of meat grading and certification services to the industry will continue to be approximately $0.0015 per pound.

Comments

Interested persons are invited to submit written comments concerning this proposed rule. Comments must be sent in duplicate to the Washington, DC, Meat Grading and Certification Branch and should bear a reference to the date and page number of this issue of the **Federal Register.** Comments submitted in reference to this document will be made available for public inspection during regular business hours.

Background

The Secretary of Agriculture is authorized by the Agricultural Marketing Act (AMA) of 1946, as amended, 7 U.S.C. 1621 et seq., to provide voluntary Federal meat grading and certification services to facilitate the orderly marketing of meat and meat products and to enable consumers to obtain the quality of meat they desire. The AMA also provides for the collection of fees from users of Federal meat grading and certification services that are approximately equal to the costs of providing these services. The hourly fees for service are established by equitably distributing the projected annual program operating costs over the estimated hours of service—revenue hours—provided to users of the service. Program operating costs include salaries and fringe benefits of meat graders, supervision, travel, training, and all administrative costs of operating the program. Employee salary and benefits account for approximately 80 percent of the total operating budget. Revenue hours include base hours, premium hours, and service performed on Federal legal holidays. As program operating costs and/or revenue hours change, the hourly fees must be adjusted to enable the program to remain financially self-supporting as required by law.

In fiscal year 1989, the program experienced an operating deficit of over $400,000. In fiscal year 1990, the program is faced with the following increases in operating expenses: (1) A congressionally mandated, Governmentwide 3.6-percent salary increase for Federal employees, effective January 14, 1990; (2) a 13.3-percent increase in the Agency's contribution to the Federal Employees Health Benefits Program (applicable to all Government Agencies), effective January 14, 1990; and (3) a projected 4.2-percent inflation for nonsalary costs for fiscal year 1990. In conjunction with an increase in direct operating expenses in fiscal year 1990 due to the aforementioned factors, the program will experience a 2.5-percent reduction in revenue hours. The reduction in revenue hours is due to the ongoing consolidation of the meat industry which continues to result in the more efficient utilization of program personnel. The reduction in revenue hours significantly impacts on the hourly fee rate, since increases in direct operating expenses must be recouped through less revenue hours. In this regard, the Agency has determined that due to the increases in program operating costs and the reduction in revenue hours, the program will have an operating deficit of over $1.06 million in fiscal year 1990, unless the hourly fee rates are appropiately adjusted.

In recent years, the Agency has significantly improved the operating efficiency of the program without adversely affecting the effectiveness, integrity, and credibility of nationwide grading and certification services. However, any further reductions in employee supervision, training, or travel at this time would affect the agency's ability to ensure continued accurate and uniform application of the U.S. grade standards and specifications nationwide. Any reductions in the accuracy or uniformity of service would, most likely, have an adverse impact on the orderly marketing of red meat and on the uniform identification of meat and meat products available to consumers.

In view of the foregoing considerations, the Agency proposes to increase the base hourly rate for commitment applicants for voluntary Federal meat grading and certification services from $28.80 to $30.80. A commitment applicant is a user of the service who agrees, by commitment or agreement memorandum, to the use of meat grading and certification services

for 8 consecutive hours per day, Monday through Friday, between the hours of 6 a.m. and 6 p.m., excluding legal holidays. The base hourly rate for noncommitment applicants for voluntary Federal meat grading and certification services would increase from $31.20 to $33.20 and would be charged to applicants who utilize the services for 8 consecutive hours or less per day, Monday through Friday, between the hours of 6 a.m. and 6 p.m., excluding legal holidays. The premium hourly rate for all applicants would be increased from $36.80 to $38.80 and would be charged to users of the service for hours worked in excess of 8 hours per day between the hours of 6 a.m. and 6 p.m. and for hours worked from 6 p.m. to 6 a.m., Monday through Friday, and for any time worked on Saturday and Sunday, except on legal holidays. The holiday rate for all applicants would be increased from $57.60 to $61.60 and would be charged to users of the service for all hours worked on legal holidays.

Accordingly, the section of the regulations appearing in 7 CFR part 54 relating to hourly fees for Federal meat grading and certification of meats, prepared meats, and meat products is proposed for revision as follows:

List of Subjects in 7 CFR Part 54

Food grades and standards, Food labeling, meat and meat products, grading and certification, beef, veal, lamb, and pork.

PART 54—MEATS, PREPARED MEATS, AND MEAT PRODUCTS (GRADING, CERTIFICATION, AND STANDARDS)

1. The authority citation for part 54 continues to read as follows:

Authority: Agricultural Marketing Act of 1946, secs. 203, 205, as amended; 60 Stat. 1087, 1090, as amended (7 U.S.C. 1622, 1624).

2. 7 CFR part 54 is amended as follows:

§ 54.27 [Amended]

(a) Section 54.27(a), sentence 3, change the following: "$31.20" to "$33.20"; "$36.80" to "$38.80"; and "$57.60" to "$61.60."

(b) Section 54.27(b), sentence 2, change the following: "$28.80" to "$30.80"; "$36.80" to "$38.80"; and "$57.60" to "$61.60."

Done at Washington, DC, on February 1, 1990.

Kenneth C. Clayton,

Acting Administrator.

[FR Doc. 90-2698 Filed 2-5-90; 8:45 am]

BILLING CODE 3410-02-M

7 CFR Parts 55, 56, 59, and 70

[Docket No. PY-90-001]

Increase in Fees and Charges

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Proposed rule.

SUMMARY: This rule proposes to revise charges for Federal voluntary egg products inspection and egg, poultry, and rabbit grading; as well as Federal mandatory egg products inspection overtime, holiday, and appeal services. These charges would be increased to reflect higher costs associated with these programs due to the 3.6-percent increase in salaries of Federal employees, salary increases of State employees cooperatively utilized in administering the programs, and other increased Agency costs.

DATES: Comments must be received on or before March 8, 1990.

ADDRESSES: Written comments may be mailed to Janice L. Lockard, Chief, Standardization Branch, Poultry Division, Agricultural Marketing Service, U.S. Department of Agriculture, Room 3944, South Agriculture Building, Post Office Box 96456, Washington, DC 20090-6456. (For further information regarding comments, see "Comments" under SUPPLEMENTARY INFORMATION.)

FOR FURTHER INFORMATION CONTACT: Larry W. Robinson, Chief, Grading Branch, 202-447-3271.

SUPPLEMENTARY INFORMATION:

Executive Order 12291

This proposed rule has been reviewed in accordance with Executive Order 12291 and Department Regulation 1512-1 and has been determined to be a "non-major" rule because it does not meet the criteria contained therein for major rules. It will not (i) result in an annual effect on the economy of $100 million or more; (ii) result in a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or (iii) have significant effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

Effect on Small Entities

The Administrator of the Agricultural Marketing Service (AMS) has determined that this proposed rule, if promulgated, will not have a significant economic impact on a substantial number of small entities, as defined by the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), because (i) the fees and charges merely reflect, on a cost-per-unit-graded/inspected basis, a minimal increase in the costs currently borne by those entities utilizing the services and (ii) competitive effects are offset under the major voluntary programs (resident shell egg and poultry grading) through administrative charges based on the volume of product handled; i.e., the cost to users increases in proportion to increased volume.

Comments

Interested persons are invited to submit written comments concerning these proposed amendments. Comments must be sent in duplicate to the Standardization Branch and should bear a reference to the date and page of this issue of the **Federal Register.** Comments submitted pursuant to this document will be made available for public inspection in the Washington, DC, Standardization Branch during regular business hours.

Background and Proposed Changes

Each fiscal year, the fees for services rendered by AMS to operators of official poultry, rabbit, shell egg, and egg products plants undergo a cost analysis to determine if they are adequate to recover the cost of providing the services. The fees are determined by the employees' salaries and fringe benefits, cost of supervision, travel, and other overhead and administrative costs.

The Agricultural Marketing Act of 1946, as amended, provides for the collection of fees approximately equal to the cost of providing voluntary egg products inspection and voluntary egg, poultry, and rabbit grading services. These fees were last increased effective June 1, 1989. The Egg Products Inspection Act requires that the Agency recover costs of overtime, holiday, and appeal inspection services. These fees were last increased effective May 1, 1987.

Federal employees' salaries increased by 3.6 percent beginning in January 1990. Also, the cost of health benefits increased by about 18 percent, and salaries of federally licensed State employees increased by about 11 percent. Based on analysis of these increases, resident fees and charges would be increased about 10 percent.

Resident fees reflect Federal and State salaries, health benefits, and workers' compensation costs. Administrative service charges reflect the costs of supervision and other overhead and administrative costs.

These charges are assessed on each case of shell eggs and each pound of poultry handled in plants using resident grading service. In 1989, these rates were established at $0.027 per case of shell eggs and $0.00027 per pound of poultry. These rates would be changed to $0.029 per case of shell eggs and $0.00029 per pound of poultry. Also, these charges were set at a minimum of $135 and maximum of $1,350 per billing period for each official plant. It is proposed to change these amounts to $145 and $1,450, respectively.

In like manner, based upon analysis of applicable cost increases, the hourly rate for nonresident voluntary grading and inspection service would be increased from $24.12 to $27.28. The rate for such services performed on Saturdays, Sundays, or holidays would be increased from $25.92 each to $27.36. The hourly rate for voluntary appeal gradings or inspections would be increased from $20.28 to $23.20. The hourly rates for mandatory egg products inspection services would be increased from $20.52 to $21.68 for overtime inspection, from $14.20 to $14.72 for holiday inspection, and from $20.28 to $23.20 for certain appeal inspections.

Administrative charges for the resident voluntary rabbit grading and voluntary egg products inspection programs and nonresident voluntary continuous poultry and egg grading programs will continue to be based on 25 percent of the grader's or inspector's total salary costs. The minimum charge per billing period for these programs would be increased from $135 to $145 per official plant.

Information Collection Requirements and Recordkeeping

Information collection requirements and recordkeeping provisions contained in 7 CFR parts 55, 56, 59, 70 have previously been approved by the Office of Management and Budget [OMB] under the provisions of 44 U.S.C. chapter 35, and 7 CFR part 55 has been assigned OMB No. 0581-0146; and 7 CFR part 56 has been assigned OMB No. 0581-0128; and 7 CFR part 59 has been assigned OMB No. 0581-0113; and 7 CFR part 70 has been assigned OMB No. 0581-0127.

List of Subjects

7 CFR Part 55

Eggs, Food grades and standards, Food labeling, Reporting and recordkeeping requirements, Voluntary inspection service.

7 CFR Part 56

Eggs, Food grades and standards, Food labeling, Reporting and recordkeeping requirements, Voluntary grading service.

7 CFR Part 59

Eggs, Exports, Food grades and standards, Food labeling, Imports, Mandatory inspection service, Polychlorinated biphenyls (PCB's), Reporting and recordkeeping requirements.

7 CFR Part 70

Food grades and standards, Food labeling, Poultry and poultry products, Rabbits, Reporting and recordkeeping requirements, Voluntary grading service.

For reasons set out in the preamble and under authority contained in the Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1621 *et seq.*), and the Egg Products Inspection Act (21 U.S.C. 1031-1056), it is proposed to amend title 7, parts 55, 56, 59, and 70 of the Code of Federal Regulations, as follows.

PART 55—VOLUNTARY INSPECTION OF EGG PRODUCTS AND GRADING

1. The authority citation for part 55 continues to read as follows:

Authority: Secs. 202-208 of the Agricultural Marketing Act of 1946, as amended, (60 Stat. 1087-1091; 7 U.S.C. 1621-1627).

2. Section 55.510 is amended by revising paragraphs (b) and (c) to read as follows:

§ 55.510 Fees and charges for services other than on a continuous resident basis.

* * * * *

(b) Fees for product inspection and sampling for laboratory analysis will be based on the time required to perform the services. The hourly charge shall be $27.28 and shall include the time actually required to perform the sampling and inspection, waiting time, travel time, and any clerical costs involved in issuing a certificate.

(c) Services rendered on Saturdays, Sundays, or legal holidays shall be charged for at the rate of $27.36 per hour. Information on legal holidays is available from the Supervisor.

* * * * *

3. Section 55.560 is amended by revising paragraph (a)(3) to read as follows:

§ 55.560 Charges for continuous inspection and grading service on a resident basis.

* * * * *

(a) * * *

(3) An administrative service charge equal to 25 percent of the grader's or inspector's total salary costs. A minimum charge of $145 will be made each billing period. The minimum charge also applies where an approved application is in effect and no product is handled.

* * * * *

PART 56—GRADING OF SHELL EGGS AND U.S. STANDARDS, GRADES, AND WEIGHT CLASSES FOR SHELL EGGS

4. The authority citation for part 56 continues to read as follows:

Authority: Secs. 202-208 of the Agricultural Marketing Act of 1946, as amended (60 stat. 1087-1091; 7 U.S.C. 1621-1627).

5. Section 56.46 is amended by revising paragraphs (b) and (c) to read as follows:

§ 56.46 On a fee basis.

* * * * *

(b) Fees for grading services will be based on the time required to perform the services. The hourly charge shall be $27.28 and shall include the time actually required to perform the grading, waiting time, travel time, and any clerical costs involved in issuing a certificate.

(c) Grading services rendered on Saturdays, Sundays, or legal holidays shall be charged for at the rate of $27.36 per hour. Information on legal holidays is available from the Supervisor.

6. Section 56.47 is revised to read as follows:

§ 56.47 Fees for appeal grading or review of a grader's decision.

The cost of an appeal grading or review of a grader's decision shall be borne by the appellant at an hourly rate of $23.20 for the time spent in performing the appeal and travel time to and from the site of the appeal, plus any additional expenses. If the appeal grading or review of a grader's decision discloses that a material error was made in the original determination, no fee or expenses will be charged.

7. Section 56.52 is amended by revising paragraph (a)(4) to read as follows:

§ 56.52 Continuous grading performed on a resident basis.

* * * * *

(a) * * *

(4) An administrative service charge based upon the aggregate number of 30-dozen cases of all shell eggs handled in the plant per billing period multiplied by $0.029, except that the minimum charge per billing period shall be $145 and the maximum charge shall be $1,450. The minimum charge also applied where an approved application is in effect and no product is handled.

* * * * *

8. Section 56.54 is amended by revising paragraph (a)(2) to read as follows:

§ 56.54 Charges for continuous grading performed on a nonresident basis.

* * * * *

(a) * * *

(2) An administrative service charge equal to 25 percent of the grader's total salary costs. A minimum charge of $145 will be made each billing period. The minmum charge also applies where an approved application is in effect and no product is handled.

* * * * *

PART 59—INSPECTION OF EGGS AND EGG PRODUCTS (EGG PRODUCTS INSPECTION ACT)

9. The authority citation for part 59 continues to read as follows:

Authority: Secs. 2–28 of the Egg Products Inspection Act (84 Stat. 1620–1635; 21 U.S.C. 1031–1058).

10. Section 59.126 is revised to read as follows:

§ 59.126 Overtime inspection service.

When operations in an official plant require the services of inspection personnel beyond their regularly assigned tour of duty on any day or on a day outside the established schedule, such services are considered as overtime work. The official plant shall give reasonable advance notice to the inspector of any overtime service necessary and shall pay the Service for such overtime at an hourly rate of $21.68 to cover the cost thereof.

11. Section 59.128 is amended by revising paragraph (a) to read as follows:

§ 59.128 Holiday inspection service.

(a) When an official plant requires inspection service on a holiday or a day designated in lieu of a holiday, such service is considered holiday work. The official plant shall, in advance of such holiday work, request the inspector in charge to furnish inspection service during such period and shall pay the Service therefor at an hourly rate of $14.72 to cover the cost thereof.

* * * * *

12. Section 59.370 is amended by revising paragraph (b) to read as follows:

§ 59.370 Cost of appeals.

* * * * *

(b) The costs of an appeal shall be borne by the appellant at an hourly rate of $23.20, including travel time and expenses if the appeal was frivolous, including but not being limited to the following: The appeal inspection discloses that no material error was made in the original inspection, the condition of the product has undergone a material change since the original inspection, the original lot has changed in some manner, or the Act or these regulations have not been complied with.

PART 70—VOLUNTARY GRADING OF POULTRY PRODUCTS AND RABBIT PRODUCTS AND U.S. CLASSES, STANDARDS, AND GRADES

13. The authority citation for part 70 continues to read as follows:

Authority: Secs. 202–208 of the Agricultural Marketing Act of 1946, as amended (60 Stat. 1087–1091; 7 U.S.C. 1621–1627).

14. Section 70.71 is amended by revising paragraphs (b) and (c) to read as follows:

§ 70.71 On a fee basis.

* * * * *

(b) Fees for grading services will be based on the time required to perform such services for class, quality, quantity (weight test), or condition, whether ready-to-cook poultry, ready-to-cook rabbits, or specified poultry food products are involved. The hourly charge shall be $27.28 and shall include the time actually required to perform the work, waiting time, travel time, and any clerical costs involved in issuing a certificate.

(c) Grading services rendered on Saturdays, Sundays, or legal holidays shall be charged for at the rate of $27.36 per hour. Information on legal holidays is available from the Supervisor.

15. Section 70.72 is revised to read as follows:

§ 70.72 Fees for appeal grading, laboratory analysis, or examination or review of a grader's decision.

The costs of an appeal grading, laboratory analysis, or examination or review of a grader's decision will be borne by the appellant at an hourly rate of $23.20 for the time spent in performing the appeal and travel time to and from the site of the appeal, plus any additional expenses. If the appeal grading, laboratory analysis, or examination or review of a grader's decision discloses that a material error was made in the original determination, no fee or expenses will be charged.

16. Section 70.76 is amended by revising paragraph (a)(2) to read as follows:

§ 70.76 Charges for continuous poultry grading performed on a nonresident basis.

* * * * *

(a) * * *

(2) An administrative service charge equal to 25 percent of the grader's total salary costs. A minimum charge of $145 will be made each billing period. The minimum charge also applies where an approved application is in effect and no product is handled.

* * * * *

17. Section 70.77 is amended by revising paragraphs (a)(4) and (a)(5) to read as follows:

§ 70.77 Charges for continuous poultry or rabbit grading performed on a resident basis.

* * * * *

(a) * * *

(4) For poultry grading: An administrative service charge based upon the aggregate weight of the total volume of all live and ready-to-cook poultry handled in the plant per billing period computed in accordance with the following: Total pounds per billing period multiplied by $0.00029, except that the minimum charge per billing period shall be $145 and the maximum charge shall be $1,450. The minimum charge also applies where an approved application is in effect and no product is handled.

(5) For rabbit grading: An administrative service charge equal to 25 percent of the grader's total salary costs. A minimum charge of $145 will be made each billing period. The minimum charge also applies where an approved application is in effect and no product is handled.

* * * * *

Done at Washington, DC, on: February 1, 1990.

Daniel Haley

Administrator.

[FR Doc. 90–2699 Filed 2–5–90; 8:45 am]

BILLING CODE 3410–02–M

Animal and Plant Health Inspection Service

7 CFR Part 300

[Docket No. 89–164]

Importation of Grapes From Australia

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Proposed rule.

SUMMARY: We are proposing to amend the Plant Protection and Quarantine regulations by adding provisions to allow the importation of grapes from Australia into the United States, and by giving notice that we are adding a fumigation and cold treatment for grapes

from Australia to the plant Protection and Quarantine Treatment Manual. These actions would allow the shipment of grapes from Australia into the United States without significant risk of introducing insect pests ino the United States. The Plant Protection and Quarantine Treatment Manual is incorporated by reference in the regulations at 7 CFR 300.1.

DATES: Consideration will be given only to comments received on or before March 8, 1990.

ADDRESSES: To help ensure that your comments are considered, send an original and three copies to Chief, Regulatory Analysis and Development, PPD, APHIS, USDA, Room 866, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782. Please state that your comments refer to Docket No. 89–164. Comments received may be inspected at USDA, Room 1141, South Building, 14th Street and Independence Avenue, SW, Washington, DC, between 8 a.m. and 4:30 p.m., Monday through Friday, except holidays.

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) 436–8367.

SUPPLEMENTARY INFORMATION:

Background

Chapter III of title 7, Code of Federal Regulations (regulations), contains the regulations of Plant Protection and Quarantine (PPQ) of the Animal and Plant Health Inspection Service (APHIS). The regulations in 7 CFR 319.56 prohibit or restrict the importation of certain fruits and vegetables, as well as plants and portions of plants used as packing materials, into the United States because of the risk that they could introduce insect pests.

Currently, grapes from Australia are prohibited entry into the United States because they may carry two species of fruit flies, the Mediterranean fruit fly (*Ceratitis capitata*) and the Queensland fruit fly (*Dacus tryoni*), as well as the light brown apple moth (*Epiphyas postvittana*). Until now, there has been no effective treatment for grapes from Australia. However, recent research indicates that a methyl bromide fumigation and cold treatment for these grapes will destroy the exotic pests of concern.

We have determined that grapes imported from Australia under the conditions prescribed in our proposed regulations, and in other provisions in Subpart—Fruits and Vegetables (7 CFR 319.56 *et seq.*), would not present a significant risk of introducing insect pests into the United States. The specific requirements contained in our proposed regulations are discussed below.

Importations Allowed

We are proposing that grapes from Australia may be imported into the United States only if they receive an authorized treatment, in Australia, for the following exotic pests: The Mediteranean fruit fly (*Ceratitis capitata*), the Queensland fruit fly (*Dacus tryoni*), and the light brown apple moth (*Epiphyas postvittana*). We would require that the grapes be treated under the supervision of an APHIS inspector. This requirement is necessary because these insect pests are known to attack grapes in Australia and could harm domestic plants if introduced into the United States. We would also require that the grapes be inspected by an APHIS inspector in Australia. If an APHIS inspector finds evidence of any other insect pests, and a treatment is specified in the Plant Protection and Quarantine Treatment Manual for this pest, we propose to allow the grapes to be shipped to the United States only if they are treated for the insect pests in Australia under the supervision of an APHIS inspector. Authorized treatments would destroy the pests of concern. Inspections and treatments in Australia would minimize the risk that grapes from Australia would arrive in the United States contaminated with pests that could harm domestic plants. These procedures would also benefit importers, since time and money would not be wasted in shipping grapes that might not qualify for importation into the United States.

Authorized Treatments

The following treatment schedules for grapes from Australia are proposed as authorized treatments. The first treatment schedule provides for applying methyl bromide fumigation followed by refrigeration. The second treatment schedule provides for refrigeration followed by methyl bromide fumigation. Either treatment schedule could be used.

Part 300 of the regulations would be amended to show that the PPQ Treatment Manual, which is incorporated by reference and on file at the Office of the Federal Register, is revised to include a methyl bromide fumigation and cold treatment for grapes from Australia. Research indicates that a methyl bromide fumigation and cold treatment for these grapes will destroy the exotic pests of concern.[1]

Fumigation Plus Refrigeration for Australian Grapes

Methyl Bromide at Normal Atmospheric Pressure—Chamber or tarpaulin

32 g/m³ (2 lb/100 ft³ for 2 hrs at 4.5°–9.5°C (40°–49°F)
(30 g (oz) minimum concentration at ½ hr)
(25 g (oz) minimum concentration at 2 hrs)
24 g/m³ (1 ½ lb/1000 ft³) for 2 hrs at 10°–15°C (50°–59°F)
(23 g (oz) minimum concentration at ½ hr)
(20 g (oz) minimum concentration at 2 hrs)
Load not to exceed 80% of chamber.

Followed by Refrigeration for 21 days at 0.55°C (35°F), or below. Time lapse between fumigation and start of cooling not to exceed 24 hours.

Refrigeration Plus Fumigation for Australian Grapes

Refrigeration for 21 days at 0.55°C (33°F) or below, followed by:

Methyl Bromide at Normal Atmospheric Pressure—Chamber or tarpaulin

48 g/m³ (3 lb/100 ft³) for 2 hrs at 4.5°C–15°C (40°–59°F)
(44 g (oz) minimum concentration at ½ hr)
(36 g (oz) minimum concentration at 2 hrs)
40 g/m³ (2½ lb/1000 ft³) for 2 hrs at 15.5°–20.5°C (60°–69°F)
(36 g (oz) minimum concentration at ½ hr)
(28 g (oz) minimum concentration at 2 hrs)
32 g/m³ (2 lb/1000 ft³) for 2 hrs at 21°–26°C (70°–79°F)
(30 g (oz) minimum concentration at ½ hr)
(25 g (oz) minimum concentration at 2 hrs)
Load not to exceed 80%.

Trust Fund Agreement

We are proposing that the importation of grapes from Australia be contingent upon the national plant protection service of Australia entering into a trust fund agreement with APHIS. This agreement would require the national plant protection service of Australia to pay in advance all costs that APHIS estimates it will incur in providing services in Australia. These costs would include administrative expenses and all salaries, travel expenses, and other incidental expenses incurred by the inspectors in performing these services. The agreement would require the national plant protection service of Australia to deposit a certified or cashier's check with APHIS for the amount of these costs, as estimated by APHIS. If the deposit is not sufficient to meet all costs incurred by APHIS, the agreement would further require the national plant protection service of Australia to deposit with APHIS a

[1] This research can be obtained by writing to Robert Berninger, Center Director, Methods Development Laboratory, USDA, 209 River Street, Hoboken, NJ 07030.

certified or cashier's check for the amount of the remaining costs, as determined by APHIS, before the grapes may be imported. After a final audit at the conclusion of each shipping season, any overpayment of funds would be returned to the national plant protection service of Australia or held on account until needed.

Requiring the payment of costs in advance is necessary to help defray the cost to APHIS of providing services in Australia.

Department not Responsible for Damage

The proposed regulations would explain that the Department of Agricultrue is not responsible for any damage that might be sustained by the grapes as a result of the prescribed treatments.

Executive Order 12291 and Regulatory Flexibility Act

We are issuing this proposed 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 would have an effect on the economy of less than $100 million; would not cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; and would 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.

We do not anticipate that grape production, importation, or distribution activities in the United States would be significantly affected by the introduction of Austrialian grapes into the U.S. market. Australia exported 17,318 tons of fresh grapes in 1987. We anticipate that considerably fewer tons would reach the United States, largely because Australia currently has established markets for grapes in approximately 45 other countries. By comparison, in 1987 the United States produced 5,263,950 tons of grapes, and imported 340,895 tons of grapes from other countries, primarily Chile and Mexico. Although the exact quantity of grapes that Australia would export to the United States is unknown, we project that Australian grapes would comprise less than one-half of one percent of the total amount of grapes available to U.S. consumers.

Further, Australian grapes would be marketed at the off season for marketing most domestically produced grapes, since the growing season for Australian grapes differs from the United States growing season by 6 months.

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 rule 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 300

Incorporation by reference, Plant diseases, Plant pests.

Accordingly, title 7, chapter III of the Code of Federal Regulations would be amended as follows:

PART 300—INCORPORATION BY REFERENCE

1. The authority citation for part 300 would continue to read as follows:

Authority 7 U.S.C. 150ee, 161.

2. Section 300.1, paragraph (a), would be revised to read as follows:

§ 300.1 Materials incorporated by reference.

(a) The Plant Protection and Quarantine Treatment Manual, which was reprinted May 1985, and includes all revisions through _____, has been approved for incorporation by reference in 7 CFR chapter III by the Director of the Office of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

* * * * *

PART 319—FOREIGN QUARANTINE NOTICES

3. The authority citation for part 319 would continue to read as follows:

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

4. In subpart—Fruits and Vegetables, a new § 319.56–2h would be added to read as follows:

§ 319.56–2h Regulations governing the entry of grapes from Australia.

(a) *Importations allowed.* (1) Grapes from Australia may be imported into the United States only if they are treated in Australia with an authorized treatment under the supervision of an inspector of the Animal and Plant Health Inspection Service (APHIS) for the following pests: the Mediterranean fruit fly (*Ceratitis capitata*), the Queensland fruit fly (*Dacus tryoni*), and the light brown apple moth (*Epiphyas postvittana*).

(2) Grapes from Australia may be imported into the United States only if they are inspected in Australia by an APHIS inspector. If an APHIS inspector finds evidence of any insect pests for which a treatment authorized in the Plant Protection and Quarantine Treatment Manual is available, the grapes will remain eligible for shipment to the United States only if they are treated for the pests in Australia under the supervision of an APHIS inspector.

(b) *Authorized treatments.* Authorized treatments are listed in the Plant Protection and Quarantine Treatment Manual, which is incorporated by reference. For the full identification of this standard, see § 300.1 of this chapter, "Materials incorporated by reference."

(c) *Trust fund agreement.* Grapes from Australia may be imported into the United States only if the national plant protection service of Australia has entered into a trust fund agreement with APHIS. This agreement would require the national plant protection service of Australia to pay in advance all costs that APHIS estimates it will incur in providing services in Australia. These costs would include administrative expenses and all salaries, (including overtime and the Federal share of employee benefits), travel expenses, and other incidental expenses incurred by APHIS inspectors in performing these services. The agreement requires the national plant protection service of Australia to deposit a certified or cashier's check with APHIS for the amount of these costs, as estimated by APHIS. If the deposit is not sufficient to meet all costs incurred by APHIS, the agreement further requires the national plant protection service of Australia to deposit with APHIS a certified or cashier's check for the amount of the remaining costs, as determined by APHIS, before the grapes may be imported. After a final audit at the conclusion of each shipping season, any overpayment of funds would be returned to the national plant protection service of Australia or held on account until needed.

(d) *Department not responsible for damage.* The treatments for grapes from Australia prescribed in the Plant Protection and Quarantine Treatment Manual are judged from experimental tests to be safe. However, the Department assumes no responsibility for any damage sustained through or in the course of such treatment.

Done in Washington, DC, this 1st day of February 1990.

James W. Glosser,

Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 90-2695 Filed 2-5-90; 8:45 am]

BILLING CODE 3410-34-M

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7 CFR Part 322

[Docket No. 89-117]

Honeybees and Honeybee Semen

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Proposed rule.

SUMMARY: We are proposing to amend the honeybees and honebee semen regulations by relieving certain restrictions on honeybees and honeybee semen imported into the United States from New Zealand. This action is warranted based on our determination that New Zeland is free of, and has adequate protection against the introduction of, diseases and parasites of honeybees, and undesirable species or subspecies of honeybees and their semen.

DATE: Consideration will be given only to comments received on or before February 21, 1990.

ADDRESSES: To help ensure that your comments are considered, send an original and three copies to Chief, Regulatory Analysis and Development, PPD, APHIS, USDA, Room 866, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782. Please state that your comments refer to Docket Number 89-117. Comments received may be inspected at Room 1141 of the South Building, 14th Street and Independence Avenue SW., Washington, DC, between 8 a.m. and 4:30 p.m., Monday through Friday, except holidays.

FOR FURTHER INFORMATION CONTACT: Philip J. Lima, Staff Specialist, Biological Assessment and Taxonomic Service, PPQ, APHIS, USDA, Room 624, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, (301) 436-8677.

SUPPLEMENTARY INFORMATION:

Background

The regulations in 7 CFR part 322 (referred to below as the regulations) govern the importation into the United States of honeybees and honeybee semen. These regulations were established pursuant to the Honeybee Act (7 U.S.C. 281 *et seq.*).

The Honeybee Act was designed to prevent the movement into the United States of diseases harmful to honeybees, such as diseases caused by Kashmir virus, and species of *Aspergillus, Bacillus, Ascosphaera, and Saccharomyces,* and to prevent the movement into the United States of parasites harmful to honeybees, such as *Euvarroa sinhai,* and *Tropilaelaps clareae.* In addition, the Honeybee Act was designed to prevent the movement into the United States of undesirable species or subspecies of honeybees, such as *Apis mellifera capensis,* commonly known as the Cape honeybee, and *Apis mellifera scutellata,* commonly known in the United States as the African honeybee.

In this regard, 7 U.S.C. 281 provides, in relevant part, that:

> (a) In order to prevent the introduction and spread of diseases and parasites harmful to honeybees, and the introduction of genetically undesirable germ plasm of honeybees, the importation into the United States of all honeybees is prohibited, except that honeybees may be imported into the United States—
>
> (1) By the United States Department of Agriculture for experimental or scientific purposes, or
>
> (2) From countries determined by the Secretary of Agriculture—
>
> (A) To be free of diseases or parasites harmful to honeybees, and undesirable species or subspecies of honebees; and
>
> (B) To have in operation precautions adequate to prevent the importation of honeybees from other countries where harmful diseases or parasites, or undesirable species, of honeybees exist.
>
> (b) Honeybee semen may be imported into the United States only from countries determined by the Secretary of Agriculture to be free of undesirable species or subspecies of honeybees, and which have in operation precautions adequate to prevent the importation of such undesirable honeybees and their semen.

These provisions are set forth at § 322.1 as criteria for determining which countries may be listed in the regulations as countries from which honeybees or honeybee semen may be imported into the United States.

It has been determined that New Zealand meets these criteria, based on a United States Department of Agriculture (USDA) review of the scientific literature; an ongoing sampling program of New Zealand honeybees by the USDA; an ongoing exchange of information between New Zealand and the United States relating to bee diseases and parasites, and undesirable species and subspecies of bees; and a review by USDA of the bee enforcement program in New Zealand.[1]

Under the current regulations, honeybees may be imported into the United States from New Zealand only by the USDA for experimental or scientific purposes. Honeybee semen may be imported from New Zealand only after issuance of a permit by Plant Protection and Quarantine, Animal and Plant Health Inspection Service. These restrictions no longer appear necessary. However, it is possible that shipments of honeybees or honeybee semen from New Zealand could, during transit through countries from which honeybees and honeybee semen may not be imported into the United States, come in contact with foreign honeybees that may be diseased. We therefore proposed to allow honeybees or honeybee semen to be imported from New Zealand into the United Zealand into the United States if they are shipped to the United States nonstop and if they are accompanied by a certificate issued by the New Zealand Department of Agriculture certifying that the honeybees semen are of New Zealand origin. We would also amend § 322.2 to add a definition for "certificate of origin." Public Comment Period.

James W. Glosser, Administrator of the Animal and Plant Health Inspection Service, has determined that this rulemaking proceeding should be expedited by allowing a 15-day comment period on this proposal. The shipping season for package bees and honey bees from New Zealand is February through April. The availability of these package and queen bees would give U.S. beekeepers the opportunity to obtain production because of increased pollination and provide for greater success in breeding mite-free stock. The change in the status of New Zealand should be made promptly so that interested U.S. producers can benefit from the reduced restrictions during this year's shipping season.

Executive Order 12291 and Regulatory Flexibility Act

We are issuing this proposed rule in conformance with Exeuctive 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 would have an effect on the economy of less than $100

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[1] Additional information may be obtained by writing to the Administrator, c/o Biological Assessment and Taxonomic Support, PPQ, APHIS, USDA, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782.

million; would not cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; and would 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.

This proposed rule would affect the package bee and queen bee industry in the United States. There are 125–150 businesses that produce package bees and queen bees for sale; of these, approximately 95 percent would be considered small entities. Many other beekeeping operations produce queen bees, nucleus colonies, or splits for their own use but not for sale. Sales from all queen and package producers are approximately $25 million annually.

The potential impact on U.S. producers from competition in the U.S. market is limited because of the seasonal constraints on producing queen bees and the fact that the seasons in the Northern and Southern hemispheres are reversed. New Zealand producers can produce queens from late October through January. Queens produced in New Zealand after January are lower in quality and more difficult to produce. The New Zealand producers' shipping season ends about late April. Producers in the United States begin shipping in late March/early April to satisfy U.S. beekeepers needs for package bees and queen bees from early to late spring, and continue shipping through July, although most of the production is sold by the end of May. Although there is some overlap between the shipping seasons of the United States and New Zealand producers, the overlap occurs during the period in which New Zealand bees are at their lowest quality and are most difficult to produce.

Queen bees in New Zealand currently sell for about $5 each; with freight, the price would increase to at least $6.20 in the United States to be marginally worthwhile for a New Zealand exporter. Domestically produced queens are selling in the United States for between $4.50 and $6.60. It seems unlikely that freight and exchange rates will change sufficiently in the near future for New Zealand producers to profitably place queens or bulk bees in the U.S. market at prices below those being charged by U.S. producers. Additionally, United States package bees are generally available at about one-half the price of New Zealand package bees.

Therefore, the economic impact of allowing the importation of honeybees from New Zealand would be negligible. The bees would not be available during much of the beekeeping season in the United States and would be more expensive than most honeybees produced in the United States.

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

Paperwork Reduction Act

In accordance with section 3507 of the Paperwork Reduction Act of 1980 (44 U.S.C. chapter 35) the information collection provisions that are included in this proposed rule will be submitted for approval to the Office of Management and Budget (OMB). Your written comments will be considered if you submit them to the Office of Information and Regulatory Affairs, OMB, attention: Desk Officer 4, APHIS, Washington, DC 20503. You should submit a duplicate copy of your comments to Chief, Regulatory Analysis and Development, PPD, APHIS, USDA, Room 866, Federal Building, 6505 Belcrest Road, Hyattsville, Maryland 20782.

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 322

Bees, Honey, Imports, Quarantine, Transportation.

Accordingly, 7 CFR part 322 would be amended as follows:

PART 322—HONEYBEES AND HONEYBEE SEMEN

1. The authority citation for part 322 would be revised to read as follows:

Authority: 7 U.S.C. 281; 7 CFR 2.17, 2.51 and 371.2(c).

2. In § 322.1, paragraph (c) would be amended by removing "New Zealand".

3. In § 322.1, paragraph (e) would be redesignated as paragraph (f) and a new paragraph (e) would be added to read as follows:

§ 322.1 Importation of honeybees and honeybee semen.[1]

* * * * *

(e) Honeybees and honeybee semen from New Zealand may be imported into the United States if they are accompanied by a certificate of origin issued by the New Zealand Department of Agriculture and if they are shipped nonstop to the United States.

§ 322.2 [Amended]

4. Section 322.2 would be amended by adding in alphabetical order a definition for "Certificate of origin" to read as follows: *Certificate of origin.* A document certifying the country of origin of a shipment of honeybees or honeybee semen to be moved under this part.

Done in Washington, DC this 1st day of February 1990.

James W. Glosser,

Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 90–2697 Filed 2–5–90; 8:45 am]

BILLING CODE 3410–34–M

[1] The criteria for determining which countries may be listed in this part as countries from which honeybees or honeybee semen may be imported into the United States are set forth in 7 U.S.C. 281. In this regard, 7 U.S.C. 281 provides, in relevant part, that:

(a) In order to prevent the introduction and spread of diseases and parasites harmful to honeybees, and the introduction of genetically undesirable germ plasm of honeybees, the importation into the Untied States of all honeybees is prohibited, except that honeybees may be imported into the United States—

(1) By the United States Department of Agriculture for experimental or scientific purposes, or

(2) From countries determined by the Secretary of Agriculture—

(A) To be free of diseases or parasites harmful to honeybees, and undesirable species or subspecies of honeybees; and

(B) To have in operation precautions adequate to prevent the importation of honeybees from other countries where harmful diseases or parasites, or undesirable species or subspecies, of honeybees exist.

(b) Honeybee semen may be imported into the United States only from countries determined by the Secretary of Agriculture to be free of undesirable species or subspecies of honeybees, and which have in operation precautions adequate to prevent the importation of such undesirable honeybees and their semen.

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9 CFR Part 92

[Docket No. 89–177]

Limited Ports; Fairbanks, AK

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Proposed rule.

SUMMARY: We are proposing to amend the animal importation regulations by adding Fairbanks, Alaska, to the list of limited ports of entry for animals and animal products (such as animal semen, animal test specimens, hatching eggs, and day old chicks) that do not appear to require restraint and holding

inspection facilities. A request has been made for the addition of this port, and Animal and Plant Health Inspection Service facilities and personnel are available to provide limited port service for this location. This proposed action would provide importers with an additional port through which to import animals and animal products that do not appear to require restraint and holding inspection facilities.

DATES: Consideration will be given only to comments received on or before April 9, 1990.

ADDRESSES: To help ensure that your written comments are considered, send an original and three copies to Chief, Regulatory Analysis and Development, PPD, APHIS, USDA, Room 866, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782. Please state that your comments refer to Docket 89–177. Comments received may be inspected at USDA, Room 1141, South Building, 14th Street and Independence Avenue, SW., Washington, DC, between 8 a.m. and 4:30 p.m., Monday through Friday, except holidays.

FOR FURTHER INFORMATION CONTACT: Dr. Mark Teachman, Staff Veterinarian, Import-Export Animals Staff, VS, APHIS, USDA, Room 764, Federal Building, 6505 Belcrest Road, Hyattsville, Maryland 20782, 301–436–8144.

SUPPLEMENTARY INFORMATION:

Background

The animal importation regulations (contained in 9 CFR part 92 and referred to below as the regulations) list ports with inspection stations or quarantine stations maintained by the Animal and Plant Health Inspection Service (APHIS) for the importation of animals and animal products. In addition to air and ocean ports and several other types of ports, § 92.3 lists certain limited ports for the importation of animals and animal products (such as animal semen, animal test specimens, hatching eggs, and day old chicks) that do not appear to require restraint and holding inspection facilities.

Fairbanks International Airport and the State of Alaska Department of Transportation and Public Facilities have requested that limited port services be provided at Fairbanks, Alaska. We have determined that APHIS inspection facilities and personnel are available to provide limited port services at Fairbanks, Alaska. Therefore, we are proposing to amend § 92.3(e) of the regulations by adding Fairbanks, Alaska, as a limited port. This would allow importers to make arrangements for the entry of certain animals and animal products.

Executive Order 12291 and Regulatory Flexibility Act

We are issuing this proposed 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 would have an effect on the economy of less than $100 million; would not cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; and would 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.

We anticipate that the addition of Fairbanks, Alaska, to the list of limited ports for the importation of animals and animal products that do not appear to require restraint and holding inspection facilities would not cause a substantial change in the number of such animals and animal products entering the United States or in the number of persons importing these animals and animal products.

The entities affected by this proposed action would be those air transporters and importers who would wish to use the new port. We believe that most of these entities could be considered small entities, but we do not know how many of them would opt to use a new limited port if one were to become available. Alaska already has a limited port in Anchorage; the addition of a limited port at Fairbanks would provide air transporters and importers with an alternate and, in some cases, more conveniently located limited port, thereby making importations easier. While the logistics of some importations would become easier for certain air transporters and importers, we do not anticipate that there will be a significant economic impact on any small entities as a result of our proposed action.

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

Paperwork Reduction Act

This rule contains no new 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 9 CFR Part 92

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

Accordingly, 9 CFR part 92 would be amended as follows:

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

1. The authority citation for part 92 would continue to read as follows:

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).

§ 92.3 [Amended]

2. Paragraph (e) of § 92.3 would be amended by removing the comma immediately following "Anchorage" and adding "and Fairbanks," immediately before "Alaska;".

Done in Washington, DC, this 1st day of February 1990.

James W. Glosser,

Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 90–2696 Filed 2–5–90; 8:45 am]

BILLING CODE 3410-34-M

NUCLEAR REGULATORY COMMISSION

10 CFR Part 40

RIN 3150–AC56

Custody and Long-Term Care of Uranium Mill Tailings Sites

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is proposing to issue general licenses that would permit NRC to license the custody and long-term care of reclaimed or closed uranium or thorium mill tailings sites after remedial action or closure under the Uranium Mill Tailings Radiation Control Act have

been completed. The intended effect of this action is to provide a surveillance procedure to ensure continued protection of the public health and safety and the environment. This action is necessary to meet the requirements of Titles I and II of the Uranium Mill Tailings Radiation Control Act. An Advance Notice of Proposed Rulemaking was issued on August 25, 1988.

DATES: Comment period expires April 23, 1990. Comments received after this date will be considered if it is practical to do so, but the Commission is able to assure consideration only for comments received on or before this date.

ADDRESSES: Send comments to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch. Deliver comments to: One White Flint North, 11555 Rockville Pike, Rockville, Maryland, between 7:45 am and 4:15 pm Federal workdays.

Comments received, the environemtal assessment and finding of no significant impact, and the regulatory analysis can be examined at: The NRC Public Document Room, 2120 L Street NW. (Lower Level), Washington, DC.

FOR FURTHER INFORMATION CONTACT: Mark Haisfield, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Mail Stop NLS–260. Telephone (301) 492–3877.

SUPPLEMENTARY INFORMATION:

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I. Background

In the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) the Congress recognized that uranium mill tailings may pose a potentially significant radiation health hazard to the public. One of the measures enacted by Congress to control this hazard is to place the long-term care of the uranium or thorium mill tailings disposal site, after completion of all remedial actions or closure, in the hands of State or Federal government.

Title I of UMTRCA defines the statutory authority and roles of the Department of Energy (DOE) and the NRC with regard to the remedial action program for inactive uranium mill tailings sites. Title I requires that, upon completion of the remedial action program by DOE, these sites be cared for by the DOE or other Federal agency designated by the President, under a license issued by the Commission. Title II of UMTRCA contains similar requirements for NRC licensing of presently active uranium or thorium mill tailings sites following their closure and license termination. These sites would be licensed by the Commission upon their transfer to the Federal Government or the State in which they are located, at the option of the State. These proposed regulations will complement other UMTRCA required regulations which have been completed and cover activities through closure.

An Advance Notice of Proposed Rulemaking was issued on August 25, 1988 (53 FR 32396) in which the NRC requested comments on this proposed rulemaking and three specific topics. No comments were received specifically addressing these topics.

II. Proposed Action

The proposed regulatory additions to part 40 will provide for two new general licenses. The general licenses in § 40.27 and § 40.28 will correspond to title I and title II of UMTRCA, respectively. The provisions in § 40.27 would apply to inactive sites and the provisions in §40.28 would apply to active sites. Although the requirements in § 40.27 and § 40.28 will differ somewhat due to the differences in title I and title II of the Act, the goals to be achieved by the long-term care licensee are the same.

These proposed regulations deal only with uranium or thorium mill tailings sites after remedial actions (for title I) or closure activities (for title II) have been completed to meet applicable closure standards. UMTRCA stipulates the Federal government (normally DOE) as the long-term care licensee, and thereby the owner, except in the case of a title II site where the State may elect to be the long-term care licensee. In lieu of any such State election, the Federal government will become the long-term care licensee. The NRC will receive a detailed Long-Term Surveillance Plan (LTSP) from DOE or an appropriate State which will discuss ownership (whether Federal or State), site conditions, the surveillance program, required follow-up inspections, and how and when emergency repairs and, if necessary planned maintenance, will be accomplished. Unless the Commission is formally notified by the appropriate State, the DOE will submit the LTSP and will be the long-term care licensee. (See the section entitled "The Long-Term Surveillance Plan.") The general license will become effective for each individual title I or title II site upon NRC receipt of an LTSP that meets the requirements of the general license and either NRC concurrence in completion of remedial actions (title I site) or termination of the title II site license.

For sites governed by the provisions of § 40.27 (title I sites), the general license applies only to the DOE or another Federal agency designated by the President. For sites governed under the provisions of § 40.28 (title II sites), DOE, or another Federal agency, will prepare and submit the LTSP, unless the State, at its option, decides to take custody of the site and be included in the general license. In the latter case the State would prepare and submit the LTSP. The authority to grant a long-term care license is reserved to the NRC. States may be the long-term care agency, but are not authorized to grant this type of license. (See section 83 b(1)(A) of the Atomic Energy Act of 1954, as amended, and 10 CFR 150.15a.)

The general licensees for long-term care are exempted from 10 CFR parts 19, 20, and 21. These parts cover notices, instructions, notifications to workers, and inspection in part 19, standards for protection against radiation in part 20, and reporting of defects and noncompliance in part 21. These parts deal with operational activities. A general license for long-term care covers activities after the operation and clean-up of the site has been completed. Under normal circumstances the long-term care licensee will spend a day or two at each site each year to confirm that the site's conditions are as expected. The site will comply with 40 CFR part 192, subparts A, B, and C (for title I sites) and 10 CFR part 40 appendix A criteria (for title II sites), which essentially eliminate direct radiation and air particulates and control radon releases within specified limits. Sites closure will, therefore, eliminate the need for specific radiation controls as specified in parts 19, 20, and 21 under normal conditions.

If damage to the site requires significant repairs, then the long-term care licensee must notify NRC and describe the necessary repairs. Since worker radiation protection and occupational exposure reporting may be necessary during such repair efforts, the long-term care licensee will identify the

appropriate requirements of 10 CFR parts 19, 20, and 21 to be applied. NRC may then impose appropriate portions of the above parts or regulations by order or a site specific basis depending upon the damage and the type of repairs necessary.

A minor administrative change is being made to 10 CFR part 40 appendix A Criterion 12 to a allow for a more efficient reporting program. Criterion 12 states that inspection results must be reported to the Commission within 60 days following each inspection. Because each long-term care licensee, primarily the Department of Energy, will most likely have multiple sites, we are proposing to allow annual reports which will cover all sites under their jurisdiction. Any site where unusual damage or disruption is discovered during the inspection, however, would require a preliminary site inspection report to be submitted within 60 days. The timing for submittal of the annual report will be based on when the long-term care licensee will be doing the inspections and will be submitted within 90 days of the date of the annual inspection of the last site inspected.

Criterion 12 only deals with title II licensees. The long-term care licensee for title I should have comparable reporting requirements, which will be specified in the Long-Term Surveillance Plan.

There are some differences in requirements for sites located on Indian lands. For title I sites, the ownership of that site will remain with the tribe. The NRC and DOE have generally agreed that sites on Indian lands should be handled in the same manner as other title I sites, including conduct of surveillance under proposed § 40.27. We also understand that DOE and the appropriate Indian tribes have agreed that DOE would provide for long-term care. Four of the 24 title I sites are on Indian lands.

For title II sites on Indian lands it is not clear who will be responsible for monitoring, maintenance, and emergency measures at the site. Currently the Western Nuclear Sherwood Uranium Mill located in the State of Washington is the only site that falls into this category. UMTRCA provides that long-term surveillance will be done by the Federal government and that the licensee will be required to enter into arrangements with the Commission to ensure this surveillance. However, UMTRCA was not explicit as to which Federal agency is responsible for the site, and should this site ever require emergency measures, additional authorizations may be required. The basic obligations for this site have already been codified in 10 CFR part 40, appendix A, Criterion 11F, and are not part of this rulemaking. NRC is providing flexibility in this area and will work out long-term care arrangements for these sites or a case-by-case basis.

Both § 40.27 and § 40.28 allow for potential future uses of the sites. As provided in UMTRCA, any future use would require a separate Commission license to assure that the site remains or is restored to a safe and environmentally sound condition. See the, "Future Uses of the Disposal Site" section.

The proposed rulemaking would provide for a general license to governmental bodies for custody and long-term care of uranium or thorium mill tailings sites after closure, pursuant to statute. Therefore, this rulemaking has no significant impact upon the private sector. However, the staff recognizes that there may be cases where communication and sharing of information between the current licensee and the future long-term care licensee may be appropriate. Such communication will allow the long-term care licensee to better prepare the Long-Term Surveillance Plan by having more knowledge of how site closure was accomplished.

III. Uranium Mill Tailings Remedial Action Amendments Act of 1988

This Act was signed by the President on November 5, 1988, and provides among other things an extension of the UMTRCA title I program. It allows the Department of Energy until September 30, 1994 (previously 1990) to perform remedial actions at designated uranium mill tailings sites and vicinity properties. There is one major exception to the 1994 date. The authority to perform ground water restoration activities is extended without limitation. However, to meet the current proposed EPA ground water standard, compliance with the ground water protection provisions at the disposal site would need to be accomplished by the 1994 date.

The reason for the extension to 1994 is to allow DOE enough time to complete remedial actions at all designated sites. The ground water restoration extension was provided due to the potential that EPA ground water standards may take DOE decades to complete for some sites. EPA is currently issuing new ground water standards in response to a September 3, 1985, decision by the 10th Circuit Court of Appeals in which the ground water provisions of the EPA uranium mill tailings cleanup standards (40 CFR 192.20(a)(2-3)) for title I sites were set aside and remanded to EPA. Based on the proposed EPA standards (52 FR 36000; September 24, 1987), the DOE believes that ground water restoration activities will take significantly more time than originally planned. The new standards have not yet been made final. Until final ground water standards are promulgated, UMTRCA requires that implementing agencies use the available proposed standards.

As a result of this Act, the NRC is planning to allow licensing of title I sites to occur in two phases, if needed. The first phase would allow DOE, if necessary, to do all remedial actions, which include complying with the ground water protection standards addressing the design and performance at the disposal site for closure and licensing. The Act requires this to be completed prior to September 1994. The second phase, which can go on for many more years, would deal with existing ground water restoration. When ground water restoration is completed, the Long-Term Surveillance Plan would be appropriately amended. Until the EPA standards are finalized, and DOE and NRC evaluate the sites based on these standards, we will not know how many sites would likely be involved in this two-step licensing process.

The Act itself did not address the potential delay of licensing title I sites due to the ground water provisions in EPA's proposed standards requiring mandatory post-closure performance monitoring. NRC's options ranged from a case-by-case use of EPA's supplemental standards provisions to exempt such sites entirely from performance monitoring to the inflexible consequence of delaying all such licensing until completion of the ground water performance monitoring program. Such a delay could extend for up to 30 years or more. Based on interaction with other Federal agencies and the Congressional legislative history, the NRC staff has selected the two-phased approach discussed above to optimize flexibility.

NRC comments to EPA on their proposed standards suggested ways to remedy the situation. The final EPA standards may resolve this issue, but could also introduce new uncertainties. Since the proposed EPA standards are legally binding until final rules are issued, this rule is designed to have flexibility to address various situations.

IV. The Stabilization and Long-Term Care Program (Title I and Title II)

Although the end result for long-term care licensing for title I or title II sites is similar, the processes leading up to closure of title I or title II sites are different. The following provides

background on these processes, as well as some of the differences between title I and title II licensing.

Title I (24 sites)

UMTRCA charged the EPA with the responsibility for promulgating remedial action standards for inactive uranium mill sites. The purpose of these standards is to protect the public health and safety and the environment from radiological and non-radiological hazards associated with radioactive materials at the sites. The final standards were promulgated with an effective date of March 7, 1983 (48 FR 602, January 5, 1983). See 40 CFR part 192—Health and Environmental Protection for Uranium Mill Tailings, subparts A, B, and C.

The Department of Energy (DOE) will select and execute a plan of remedial action that will satisfy the EPA standards and other applicable laws and regulations. All remedial actions must be selected and performed with the concurrence of the NRC. The required NRC concurrence with the selection and performance of proposed remedial actions and the licensing of long-term care of disposal sites will be for the purpose of ensuring compliance with UMTRCA.

The portion of the EPA standards dealing with ground water requirements has been remanded by court action, and are currently being finalized by EPA (see the previous section for more details). DOE continues to perform remedial action at the inactive sites in accordance with NRC's concurrence with the remedial action approach. Delaying implementation of the remedial action program would be inconsistent with Congress' intent of timely completion of the program. Modifications of disposal sites after completion of the remedial action to comply with EPA's final ground water protection standards may be unnecessarily complicated and expensive and may not yield commensurate benefits in terms of human and environmental protection. Therefore, the Commission believes that sites where remedial action has been essentially completed prior to EPA's promulgation of final ground water standards will not be impacted by the final ground water standards. Although additional effort may be appropriate to assess and cleanup contaminated ground water at these sites, the existing designs of the disposal sites should be considered sufficient to provide long-term protection against future ground water contamination. NRC does not view UMTRCA as requiring the reopening of those sites that have been substantially completed when NRC concurred with the selection of remedial action in accordance with applicable EPA standards, proposed or otherwise in place at the time such NRC concurrence was given.

The stabilization and long-term care program for each site has four distinct phases. In the first phase DOE selects a disposal site and design. This phase includes preparation of an Environmental Assessment or an Environmental Impact Statement, and a Remedial Action Plan. The Remedial Action Plan is structured to provide a comprehensive understanding of the remedial actions proposed at that site and contains specific design and construction requirements. NRC and State/Indian tribe concur in the Remedial Action Plan to complete the first phase.

The second phase is the performance phase. In this phase the actual decontamination, decommissioning, and reclamation at the site is done in accordance with the Remedial Action Plan. The NRC and the State/Indian tribe, as applicable, must concur in any changes to this plan. At the completion of reclamation activities at the site, NRC concurs in DOE's determination that the activities at the site have been completed in accordance with the approved plan. Prior to licensing, the next phase, title to the disposed tailings and contaminated materials and the land upon which they are disposed must be in Federal custody (except for sites on Indian lands) to provide for long-term Federal control, at Federal expense.

NRC concurrence in the DOE determination that reclamation of the site has been accomplished in accordance with the approved plan may be accomplished in two phases. The Uranium Mill Tailings Remedial Action Amendments Act of 1988 allows for a two phased approach for title I sites. The Act will allow DOE to do all remedial actions, other than ground water restoration, for the first phase of closure and licensing. The second phase, which can go on for many years, will deal with existing ground water restoration. When ground water restoration is completed, the LTSP will be appropriately amended. See the earlier discussion on this law for more details.

The third phase is the licensing phase. The general license is effective following (1) NRC concurrence in the DOE determination that the site has been properly reclaimed and (2) the formal receipt by NRC of an acceptable Long-Term Surveillance Plan. NRC concurrence with completion indicates that the site has been stabilizied in accordance with EPA standards. This NRC concurrence may be completed in two phases as discussed above and in the section on the Act. There is no termination date for the general license.

In the Advance Notice of Proposed Rulemaking issued on August 25, 1988, the NRC indicated the intent to publish a Federal Register notice upon receipt of the LTSP and provide a public meeting to inform the local public of the future plans for the site and to provide an opportunity for public comments. The NRC has further evaluated this procedure and recognized that opportunity for public involvement will be more effective at an earlier stage. Public involvement has been and will continue to be provided through DOE's overall remedial action program for title I sites and NRC's licensing program for title II sites. The local public will have an opportunity to comment on the remedial action or closure plans proposed and implemented by DOE or the title II licensee and to raise concerns regarding final stabilization and the degree of protection achieved. NRC fully endorses State and public input in all stages of the program, especially in the planning stages of remedial action when such input can be most effective in identifying and resolving issues affecting long-term care. At the time the LTSP is submitted, the NRC will consider the need for a public meeting in response to requests and public concerns. Therefore, NRC encourages State and public participating early in the remedial action and closure process and will provide additional opportunities, as needed, late in the process.

The final phase of the program is surveillance and monitoring and begins after NRC receives the LTSP. In this phase DOE and NRC periodically inspect the site to ensure its integrity. The Long-Term Surveillance Plan will require the DOE to make repairs, if needed.

One of the requirements in the EPA standards is that control of the tailings should be designed to be effective for up to 1000 years without active maintenance. Although the design of the stabilized pile is such that reliance on active maintenance should be minimized or eliminated, the NRC license will require emergency repairs as necessary. In the event that significant repairs are necessary, a determination will be made on a site specific basis regarding the need for additional National Environmental Policy Act (NEPA) actions, and health

and safety considerations from parts 19, 20, and 21.

Title II

UMTRCA also charged EPA with the responsibility for promulgating standards for active uranium or thorium sites. EPA completed this in subpart D and E of 40 CFR part 192 on October 7, 1983 (48 FR 45946).

Title II sites have active NRC or Agreement State licenses. Each licensee is responsible for having a closure plan that is approved by the NRC or an Agreement State. This plan describes how the licensee will close the site to meet all applicable standards after completion of operations.

Before the NRC, or an Agreement State, terminates a license the site must be closed in a manner which meets applicable standards. These include the requirements contained within 10 CFR part 40—Domestic Licensing of Source Material, or similar Agreement State requirements. In addition, 10 CFR 150.15a requires that prior to the termination of any Agreement State license for byproduct material, the Commission shall have made a determination that all applicable standards and requirements have been met. Once the future long-term care licensee has submitted a suitable LTSP, the general license takes effect when either NRC terminates the current specific license or when NRC concurs with an Agreement State's termination of the current specific license. This rulemaking provides the Commission with two options to maintain control over sites in the unexpected situation when: (1) An applicable LTSP has not been submitted; (2) the current specific license is ready to be terminated; (3) NRC had determined that the site has been closed in accordance with applicable standards; and (4) site custody has been transferred to the long-term care licensee. The Commission could delay termination of the specific license until an acceptable LTSP is submitted or issue an order requiring surveillance by the custodian of the site, who will become the long-term care licensee under the general license. The Commission considers either of these actions to be sufficient to ensure that the site will be under surveillance and control during the transition period from the specific to the general license.

The general license approach for title II sites is similar to the process used for title I sites. The most significant differences are:

1. A State, at its option, may take over long-term care of a title II site instead of the DOE.

2. In some rare cases, such as may occur with deep burial where no ongoing site surveillance will be required, surface land ownership transfer requirements may be waived for a title II site.

3. Potential future uses of a title I site are limited to subsurface rights, whereas, a title II site could also potentially allow the usage of surface rights. (See the section entitled "Future Uses of the Disposal Site.")

4. Title II licensees are required to pay a minimum charge of $250,000 (1978 dollars) to cover the costs of long-term surveillance. This charge must be paid to the general treasury of the United States or to an appropriate State agency prior to the termination of a uranium or thorium mill license. The minimum charge may be adjusted based on site specific requirements in excess of those specified in Criterion 12 of appendix A.

5. The determination that title I sites have been reclaimed may be done in two phases, whereas the determination for title II sites will be done only once before license termination.

6. There is an additional title II requirement when a license in an Agreement State is terminated and the site transferred to the United States for long-term care. All funds collected by the State for long-term surveillance will be transferred to the United States. This requirement has already been codified in part 150 and is not part of this rulemaking.

7. Title I covers designated inactive uranium mill tailings sites. Title II covers sites licensed as of January 1, 1978 and new uranium and thorium mill tailings sites.

Ten of the 19 conventional mills licensed by NRC have made corporate decisions to no longer use the sites or keep them in standby condition. They plan to decommission them and are seeking license termination. Activities at these 10 sites are in various stages of design, planning and decommissioning.

V. The Long-Term Surveillance Plan (Title I and Title II)

DOE, or the appropriate State, will submit a site Long-Term Surveillance Plan to the NRC to coincide with completion of remedial actions (title I) or license termination (title II). DOE, or the appropriate State, will be responsible for preparing the LTSP since this document will clearly define their responsibilities under the general license. As discussed previously, the LTSP for title I sites will allow a two-phased approach as provided in the Uranium Mill Tailings Remedial Action Amendments Act of 1988. The Act will allow DOE to do all remedial actions, other than ground water restoration, for the first phase of closure and licensing. The first phase includes any performance or design features necessary to satisy ground water protection standards, except for ground water restoration. The second phase, which can go on for many years, will deal with existing ground water restoration. When ground water restoration is completed, the LTSP will be appropriately modified.

Title I

The DOE has developed a "Guidance for UMTRA Project Surveillance and Maintenance" document issued in January 1986. Copies of this document are available from the U.S. Department of Energy, UMTRA Project Office, Albuquerque Operations Office, P.O. Box 5400, Albuquerque, New Mexico, 87115. This document, which was developed with NRC staff coordination, provides detailed generic guidance for what information should be considered in designing a site LTSP for title I sites.

The DOE guidance document addresses five primary activities. These activities, which are discussed in the following paragraphs are:

1. Definition and characterization of final site conditions.

2. Site inspections.

3. Ground water monitoring, if necessary.

4. Aerial photography.

5. Contingency (or emergency) repair, and planned maintenance if necessary.

DOE indicated that final site conditions should be defined and characterized prior to the completion of remedial actions at a site. As-built drawings should be compiled, a final topographic survey should be performed, a vicinity map should be prepared, and ground and aerial photographs should be taken. Survey monuments, site markers, and signs should be established. If the site LTSP specifies that ground water monitoring is required, then a network of monitoring wells should be identified and new wells established if needed.

DOE describes three types of inspections: Phase I, Phase II (not to be confused with the two phases of remedial action when ground water restoration is required), and contingency inspections. Annually scheduled 1 to 2-day phase I inspections would be conducted by a small team to identify any changes in conditions that may affect design integrity. Phase II inspections would be unscheduled and dependent upon potential problems identified during a Phase I inspection. Team members of a Phase II inspection

should be specialists in the potential problem areas (e.g., geotechnical engineer for settlement). Contingency inspections would also be unscheduled and occur when information has been received that indicates that site integrity has been, or may be, threatened by natural events (e.g., severe earthquake) or other means.

The need to monitor ground water conditions should be determined on a site specific basis. If it is determined that ground water monitoring is required for the long-term care at the site, then it should be conducted in two phases, screening monitoring and evaluative monitoring. Screening monitoring would be designed to detect changes in ground water quality attributable to tailings. If a significant change is apparent, evaluative monitoring should be initiated. Evaluative monitoring will be more extensive and will quantify the rate and magnitude of the change of conditions. When EPA finalizes the ground water protection standards, modifications may be necessary. See the discussion on the Uranium Mill Tailings Remedial Action Amendments Act of 1988 for more details.

Initial surveillances should include the acquisition and interpretation of aerial photography. The principal purposes of aerial photography are to aid inspectors in the field and to provide a permanent, visual record of site conditions. Color infrared stereo photos, high oblique prints, and low oblique, natural color photographs should be taken at the completion of remedial action. Follow-up aerial photography would only be done if the Phase I or Phase II photography identify a need for this.

The LTSP should also describe the procedures the long-term licensee would follow if contingency or emergency repairs were needed at the site due to extreme natural events or purposeful intrusion.

The conduct of custodial activities such as grass mowing or fence repair are not precluded. If the long-term care licensee desires to conduct such custodial activities (termed "planned maintenance" in the DOE guidance document), such activities should be described in the LTSP. However, it should be noted that such planned maintenance cannot be relied upon to ensure compliance with the EPA standards.

Title II

Much of the above guidance can be applied to the title II sites. However, the DOE guidance document includes additional information and recommendations for which the applicability must be evaluated on a site specific basis for title II sites. Specific requirements for title II sites are addressed in appendix A of 10 CFR part 40. For title II sites, criterion 10 of appendix A requires the existing licensee to pay a minimum charge of $250,000 (1978 dollars) to cover the costs of long-term surveillance. The minimum charge was based on an annual inspection by the governmental agency retaining custody of the site to confirm the integrity of the stabilized tailings and to determine the need, if any, for maintenance and/or monitoring. The actual amount of this charge will be set based on a site specific evaluation, which should be included as part of the existing licensee's reclamation plan for the site. This charge is not intended to cover the cost of contingency (emergency) repairs. Because the tailings and wastes should be disposed of without the need for any active maintenance, the annual inspection should be completed in 1 to 2 days per site. Post-closure maintenance activities that are relied upon to comply with appendix A closure standards can only be authorized by considerations of alternatives under Section 84(c) of the Atomic Energy Act of 1954, as amended. In such cases, the minimum charge for long-term surveilance to the existing licensee will be increased accordingly to provide for this maintenance. The basis for the minimum charge and the annual inspection is discussed in detail in the Final Generic Environmental Impact Statement on uranium milling (NUREG–0706) [1].

The custodial agency will prepare an LTSP for each site using input from the existing licensee's reclamation plan, including the evaluation of long-term surveillance needs. Thus, important site information will be transferred from the existing licensee to the custodial agency. The existing licensee, however, will not be required to prepare the LTSP. In addition the LTSP will not affect the long-term surveillance charge paid by the existing licensee (the LTSP may reflect site-specific additional items, but will not affect the charge to the existing licensee).

[1] Copies of NUREG–0706 may be purchased from the Superintendant of Documents, U.S. Government Printing Office, P.O. Box 37082, Washington, DC 20013–7082. Copies are also available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. A copy is also available for public inspection and/or copying at the NRC Public Document Room, 2120 L Street NW., Lower Level of the Gelman Building, Washington, DC.

VI. Futures Uses of the Disposal Site

UMTRCA provides for potential future uses of the disposal site. For a title I site, it provides that the Secretary of the Interior, with the concurrence of both the Secretary of Energy and the NRC will issue a specific license to the Secretary of the Interior to assure that the tailings are not disturbed, or if disturbed are restored to a safe and environmentally sound condition.

For title II site the same provisions as above apply with the following two differences. First, surface as well as subsurface estates may be available for us. Second, although the request to use these rights may be received from any person, if permission is granted, the person who transferred the land to the Federal or State Government shall receive the right of first refusal with respect to this use of the land.

Environmental impacts would be evaluated prior to any action granting the use of surface or subsurface estates.

VII. Response to Issues for Comment

The Advance Notice of Proposed Rulemaking identified several areas of uncertainty and requested comments on the following topics:

1. DOE's ability to complete the title I program considering the 1990 legal limit.
2. EPA's proposed amendments of 40 CFR part 192 concerning ground water protection for title I sites.
3. Institutional matters associated with reclaimed sites on Indian land.

The NRC did not receive any comments specifically addressing these topics. However, the uncertainty associated with the first issue was resolved with the passage of the Uranium Mill Tailings Remedial Action Amendments Act of 1988. See the earlier discussion on this law for more details.

VIII. Comments on the Advance Notice of Proposed Rulemaking

The Commission received six (6) letters commenting on the advance notice. Copies of these letters and an analysis of the comments are available for public inspection and copying for a fee at the NRC Public Document Room at 2120 L St. NW., Washington, DC. Comments were received from an environmental group, an industry representative, the Department of Energy, and from three States. From the six letters 15 individual comments have been analyzed. The most significant are summarized below.

There seemed to be some misunderstanding by one commenter that the long-term care licensee might, in essence, require the existing licensee to prepare the LTSP during site closure

activities, thereby impacting the private sector. NRC agrees with the commentor that consultation between the existing licensee and the long-term care licensee is appropriate during site closure activities. However, the Commission does not intend for the existing licensee to prepare the LTSP. Instead, the LTSP should be prepared by the custodial agency which becomes the long-term care licensee once NRC accepts the LTSP, the specific license is terminated, and site custody has been transferred. The custodial agency should prepare the LTSP based on input from the existing licensee's reclamation plan for the site, including the evaluation of long-term surveillance needs. This approach provides a mechanism to integrate the reclamation program with long-term surveillance and transfers important site information to the custodial agency. NRC encourages consultation between the existing licensee and the custodial agency about post-closure surveillance. Accordingly, NRC has changed the phrase "no impact" to "no significant impact" because such consultation is appropriate and desirable and requires some level of effort on the part of the existing licensee. NRC does not consider this effort to be significant, however, because it is a part of other licensee activities required to reclaim the site and terminate the existing license in accordance with existing NRC requirements in appendix A to 10 CFR part 40.

One commenter noted that the term "remedial action plan" may not be appropriate for title II sites since 10 CFR part 40 refers to a "closure plan." We agree and have made appropriate changes. Remedial action plans refer to title I sites only.

Two commenters wanted to know about potential uses of a disposal site after reclamation or closure is completed. The NRC is not aware of any disposal sites where a future use is specifically planned. One of the commenters listed several potential uses, such as agricultural, recreational, or deep subsurface mining. Because of the site specific nature of such uses and their potential impacts any proposed use will be reviewed on a case-by-case basis.

The Department of Energy expressed concern that the proposed rule would require an LTSP at sites where contaminated material has been removed and, if applicable, ground water cleanup achieved. We agree that an LTSP (or a license) for these sites is not appropriate and never intended for this to be the case. We have added clarifying language. It should be noted, however, that the NRC would in no case concur with completion of remedial action unless the DOE had complied with the EPA cleanup standards at the processing site, even if the tailings were disposed elsewhere.

IX. Petition for Rulemaking

On December 5, 1980, the NRC received a petition for rulemaking submitted by the Sierra Club (PRM–40–23). An amendment to this petition was received by the NRC on March 21, 1983. The original petition requested that the NRC amend its regulations to license the possession of byproduct material at inactive tailings sites (title I). The petitioner proposed that the NRC take the following regulatory action to ensure that public health and safety and the environment is adequately protected from the hazards associated with byproduct material:

1. Repeal the licensing exemption for inactive mill tailings sites subject to the Department of Energy's remedial program.

2. Require a license for the possession of byproduct material on any other property in the vicinity of an inactive mill tailings site if the byproduct materials are derived from the inactive mill tailings site.

3. Or alternatively, conduct a rulemaking to determine whether a licensing exemption of these sites or the byproduct material derived from the sites constitutes an unreasonable risk to public health and safety.

In the 1983 amendment, the petitioner requested that, in the event that NRC denied the petitioner's earlier request that NRC repeal the licensing exemption for inactive sites or conduct the requested rulemaking, the NRC take further action. Specifically, the petitioner requested that the NRC ensure that the management of byproduct material located on or derived from inactive uranium processing sites is conducted in a manner that protects the public health and safety and the environment from the radiological and nonradiological hazards associated with uranium mill tailings.

Whether the original petition is granted or not, the petitioner also requested that the NRC establish requirements to govern the management of byproduct material, not subject to licensing under section 81 of the Atomic Energy Act (42 U.S.C. 2111), comparable to the requirements applicable to similar materials under the Solid Waste Disposal Act, as amended (42 U.S.C. 6901 *et seq.*). In the alternative, the petitioner suggested that NRC extend the coverage of the requirements in 10 CFR part 40, appendix A, which are now applicable only to licensed byproduct material, to byproduct material not subject to licensing. In addition, the petitioner requested that NRC issue regulations that would require a person exempt from licensing to conduct monitoring activities, perform remedial work, or take any other action necessary to protect health and safety and the environment.

One of the purposes of this proposed rulemaking is to provide a licensing procedure for long-term care of inactive sites. Although this is not what the petitioner requested, the end result directly addresses the petitioner's concerns. Inactive sites will be licensed and will be managed to ensure their long-term integrity to protect public health and the environment.

Another concern of the petitioner is that until DOE completes remedial action, the residual radioactive material will be unregulated. While it is true that the sites are not regulated by NRC prior to completion of remedial action, the sites are managed by DOE under a comprehensive environmental, health, and safety program similar to the types of programs required by NRC under 10 CFR part 20. This program includes the types of activities requested by petitioner, including monitoring and other actions necessary to protect public health and safety and the environment. In addition, the remedial action program operates under a series of State laws and regulatory programs intended to protect human health and the environment. Although the Commission does not have the authority to approve DOE's environmental, health, and safety program for these sites, NRC has reviewed and commented on the adequacy of the program and DOE has considered these comments in the design and implementation of its program.

The Commission intends to respond more fully to the petitioner's request by the time the rulemaking described in today's notice is final.

X. EPA Clean Air Act Activities

EPA has published new air effluent regulations for radon and other radioactive effluents from uranium mill tailings as part of the voluntary remand of standards developed under section 112 of the Clean Air Act (CAA) (54 FR 51654, December 15, 1989). The EPA regulations include a radon emission standard that would apply to both title I and title II sites after closure that must be confirmed by measurement. Other NRC and EPA regulations are design standards. Once measurements confirm

that the site meets CAA standards and long-term stabilization has been completed, the tailings are no longer subject to EPA regulations under the CAA standards. Prior to closure, it is entirely possible that the CAA standards could result in EPA ordered modifications to sites that already meet current design standards. The potential for conflicting EPA and NRC/Agreement State regulatory programs prior to the long-term care period, will require close coordination between the two agencies, and with States depending on CAA delegations.

Because of the potential uncertainties of implementation, compliance agreements between EPA and States, DOE, or licensees, and potential regulatory changes, the NRC has added to the proposed rule a proposed requirement to report governmentally directed activities to NRC prior to taking any actions under the general license.

XI. Finding of No Significant Environmental Impact: Availability

The Commission has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in subpart A of 10 CFR part 51, that this rule, if adopted, would not be a major Federal action significantly affecting the quality of the human environment and therefore an environmental impact statement is not required. The proposed rulemaking will establish general licenses for long-term care of uranium or thorium mill tailings sites by another Federal agency or State. The licensing action will be done after remedial action or site closure is completed, and would ensure that sites remain in good condition. If unexpected repairs are ever required, the long-term care licensee will be responsible to make the necessary repairs. The Commission will evaluate at the time such action is deemed necessary whether there is a need to prepare a separate environmental assessment.

The environmental assessment and finding of no significant impact on which this determination is based are available for inspection at the NRC Public Document Room, 2120 L Street NW. (Lower Level), Washington, DC. Single copies of the environmental assessment and finding of no significant impact are available from Mark Haisfield, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Mail Stop NLS–260. Telephone (301) 492–3877.

XII. Paperwork Reduction Act Statement

This proposed rule does not contain a new or amended information collection requirement subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). Existing requirements were approved by the Office of Management and Budget approval number 3150–0020.

XIII. Regulatory Analysis

The Commission has prepared a draft regulatory analysis on this proposed regulation. The analysis examines the costs and benefits of the alternatives considered by the Commission. The draft analysis is available for inspection in the NRC Public Document Room, 2120 L Street NW. (Lower Level), Washington, DC. Single copies of the draft analysis may be obtained from Mark Haisfield, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Mail Stop NLS–260.

The Commission requests public comment on the draft regulatory analysis. Comments on the draft analysis may be submitted to the NRC as indicated under the ADDRESSES heading.

XIV. Regulatory Flexibility Certification Statement

As required by the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission certifies that this rule, if adopted, will not have a significant economic impact upon a substantial number of small entities. This rule will apply only to a Federal agency or an appropriate State. Although small entities may be requested to consult with government agencies in developing LTSPs effort associated with such consultation is required under the criteria in appendix A to 10 CFR part 40, which were previously promulgated by the Commission. Therefore, a Regulatory Flexibility Analysis is not required and has not been prepared.

XV. Backfit Analysis

The NRC has determined that the backfit rule, 10 CFR 50.109, does not apply to this proposed rule, and therefore, that a backfit analysis is not required for this proposed rule, because these amendments do not involve any provisions which would impose backfits as defined in 10 CFR 50.109(a)(1).

List of Subjects in 10 CFR Part 40

Government contracts, Hazardous materials-transportation, Nuclear materials, Penalty, Reporting and recordkeeping requirements, Source material, and Uranium.

Under the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, 5 U.S.C. 553, and the Uranium Mill Tailings Radiation Control Act of 1978, as amended, the NRC is proposing the following amendments to 10 CFR part 40.

PART 40—DOMESTIC LICENSING OF SOURCE MATERIAL

1. The authority citation for part 40 continues to read as follows:

Authority: Secs. 62, 63, 64, 65, 81, 161, 182, 183, 186, 68 Stat. 932, 933, 935, 948, 953, 954, 955, as amended, secs. 11e(2), 83, 84, Pub. L. 95–604, 92 Stat. 3033, as amended, 3039, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2014(e)(2), 2092, 2093, 2094, 2095, 2111, 2113, 2114, 2201, 2232, 2236, 2282); secs. 274, Pub. L. 86–373, 73 Stat. 688 (42 U.S.C. 2021); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846). Sec. 275, 92 Stat. 3021, as amended by Pub. L. 97–415, 96 Stat. 2067 (42 U.S.C. 2022).

Section 40.7 also issued under Pub. L. 95–601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 40.31(g) also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Section 40.46 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 40.71 also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 40.3, 40.25(d)(1)–(3), 40.35 (a)–(d), 40.41 (b) and (c), 40.46, 40.51 (a) and (c), and 40.63 are issued under sec. 161b, 68 Stat. 948, as amended, (42 U.S.C. 2201(b)); and §§ 40.5, 40.9, 40.25 (c) and (d) (3) and (4), 40.26(c)(2), 40.35(e), 40.42, 40.61, 40.62, 40.64, and 40.65 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

2. Section 40.1 is revised to read as follows:

§ 40.1 Purpose.

(a) The regulations in this part establish procedures and criteria for the issuance of licenses to receive title to, receive, possess, use, transfer, or deliver source and byproduct materials, as defined in this part, and establish and provide for the terms and conditions upon which the Commission will issue these licenses. These regulations also provide for disposal and long-term care of byproduct and residual radioactive material. The regulations in this part also establish certain requirements for the physical protection of import, export, and transient shipments of natural uranium. (Additional requirements applicable to the import and export of natural uranium are set forth in part 110 of this chapter).

(b) The regulations contained in this part are issued under the Atomic Energy Act of 1954, as amended (68 Stat. 919), title II of the Energy Reorganization Act of 1974, as amended (88 Stat. 1242), and titles I and II of the Uranium Mill

Tailings Radiation Control Act of 1978, as amended (42 U.S.C. 7901).

3. In § 40.2a, paragraph (a) is revised to read as follows:

§ 40.2a Coverage of inactive tailings sites.

(a) Prior to the completion of the remedial action, the Commission will not require a license pursuant to 10 CFR chapter I for possession of residual radioactive materials as defined in this part that are located at a site where milling operations are no longer active, if the site is covered by the remedial action program of title I of the Uranium Mill Tailings Radiation Control Act of 1978. The Commission will exert its regulatory role in remedial actions primarily through concurrence and consultation in the execution of the remedial action pursuant to title I of the Uranium Mill Tailings Radiation Control Act of 1978, as amended. After remedial actions are completed, the Commission will license the long-term care of sites, where residual radioactive materials are disposed, under the requirements set out in § 40.27.

* * * * *

4. Section 40.3 is revised to read as follows:

§ 40.3 License requirements.

A person subject to the regulations in this part may not receive title to, own, receive, possess, use, transfer, provide for long-term care, deliver or dispose of byproduct material or residual radioactive material as defined in this part or any source material after removal from its place of deposit in nature, unless authorized in a specific or general license issued by the Commission under the regulations in this part.

5. In § 40.4, a definition for "residual radioactive material" is added alphabetically to read as follows:

§ 40.4 Definitions.

* * * * *

"Residual radioactive material" means: (1) Waste (which the Secretary of Energy determines to be radioactive) in the form of tailings resulting from the processing of ores for the extraction of uranium and other valuable constituents of the ores; and (2) other waste (which the Secretary of Energy determines to be radioactive) at a processing site which relates to such processing, including any residual stock of unprocessed ores or low-grade materials. This term is used only with respect to materials at sites subject to remediation under Title I of the Uranium Mill Tailings Radiation Control Act of 1978.

* * * * *

6. In § 40.7, paragraph (f) is revised to read as follows:

§ 40.7 Employee protection.

* * * * *

(f) The general licenses provided in §§ 40.21, 40.22, 40.25, 40.27, and 40.28 are exempt from paragraph (e) of this section.

7. Section 40.20 is revised to read as follows:

§ 40.20 Types of licenses.

(a) Licenses for source material, byproduct material, and residual radioactive material are of two types: general and specific. The general licenses provided in this part are effective without the filing of applications with the Commission or the issuance of licensing documents to particular persons. Specific licenses are issued to named persons upon applications filed pursuant to the regulations in this part.

(b) Section 40.27 contains a general license applicable for custody and long-term care of residual radioactive material at uranium mill tailings disposal sites remediated under title I of the Uranium Mill Tailings Radiation Control Act of 1978.

(c) Section 40.28 contains a general license applicable for custody and long-term care of byproduct material at uranium or thorium mill tailings disposal sites under title II of the Uranium Mill Tailings Radiation Control Act of 1978.

8. New §§ 40.27 and 40.28 are added to read as follows:

§ 40.27 General license for long-term care of DOE remedial action sites.

(a) A general license is issued for the long-term care, including monitoring, maintenance, and emergency measures necessary to protect public health and safety and other actions necessary to comply with the standards promulgated under section 275(a) of the Atomic Energy Act of 1954, for remediated uranium mill tailings sites under title I of the Uranium Mill Tailings Radiation Control Act of 1978, as amended. The license is available only to the Department of Energy, or another Federal agency designated by the President to provide long-term care. The purpose of this general license is to ensure that uranium mill tailings sites will be cared for in such a manner as to protect the public health, safety, and the environment after remedial action has been completed.

(b) The general license in paragraph (a) of this section becomes effective when the Commission accepts a site Long-Term Surveillance Plan (LTSP) that meets the requirements of this section, and when the Commission concurs with the Department of Energy's determination of completion of remedial action at each site. The LTSP may incorporate by reference information contained in documents previously submitted to the Commission if the references to the individual incorporated documents are clear and specific. Each LTSP must include—

(1) A legal description of the site to be licensed, including documentation on whether land and interests are owned by the United States or an Indian tribe. If the site is on Indian land, then, as specified in the Uranium Mill Tailings Radiation Control Act of 1978, the Indian tribe and any person holding any interest in the land shall execute a waiver releasing the United States of any liability of claim by the Tribe or person concerning or arising from the remedial action and holding the United States harmless against any claim arising out of the performance of the remedial action;

(2) A detailed description, which can be in the form of a reference, of the final site conditions, including existing ground water characterization. This description must be detailed enough so that future inspectors will have a baseline to determine changes to the site and when these changes are serious enough to require maintenance or repairs. If the site has continuing aquifer restoration requirements, then the licensing process will be completed in two phases. The first phase includes all items other than ground water restoration. Ground water monitoring may still be required in this first phase to assess performance of the tailings disposal units. When the Commission concurs with the completion of ground water restoration, the licensee shall assess the need to modify the LTSP and report results to the Commission. If the proposed modifications meet the requirements of this section, the LTSP will be considered suitable to accommodate the second phase.

(3) A description of the long-term surveillance program, including proposed inspection frequency and reporting to the Commission, frequency and extent of ground water monitoring if required, appropriate constituent concentration limits for ground water, inspection personnel qualifications, inspection procedures, recordkeeping and quality assurance procedures;

(4) The criteria for follow-up inspections in response to observations from routine inspections or extreme natural events; and

(5) The criteria for instituting maintenance or emergency measures.

(c) The long-term care agency under the general license established by paragraph (a) of this section shall—

(1) implement the LTSP as described in paragraph (b) of this section;

(2) Care for the site in accordance with the provisions of the LTSP;

(3) Notify the Commission of any changes to the LTSP; any such changes must not conflict with the requirements of this section;

(4) Guarantee permanent right-of-entry to Commission representatives for the purpose of periodic site inspections; and

(5) Notify the Commission prior to undertaking any significant construction, actions, or repairs related to the site, even if the action is required by another State or Federal agency.

(d) As specified in the Uranium Mill Tailings Radiation Control Act of 1978, the Secretary of the Interior, with the concurrence of the Secretary of Energy and the Commission, may sell or lease any subsurface mineral rights associated with land on which residual radioactive materials are disposed. In such cases, the Commission shall grant a license permitting use of the land if it finds that such use will not disturb the residual radioactive materials or that such materials will be restored to a safe and environmentally sound condition if they are disturbed by such use.

(e) The general license in paragraph (a) of this section is exempt from parts 19, 20, and 21 of this Chapter, unless significant construction, actions, or repairs are required. If such actions are to be undertaken, the licensee shall justify to the Commission which requirements from these Parts apply for such actions and comply with the appropriate requirements.

§ 40.28 General license for long-term care of uranium or thorium byproduct materials sites.

(a) A general license is issued for the long-term care, including monitoring, maintenance, and emergency measures necessary to protect the public health and safety and other actions necessary to comply with the standards in this part for uranium or thorium mill tailings sites closed under title II of the Uranium Mill Tailings Radiation Control Act of 1978, as amended. The licensee will be the Department of Energy, another Federal agency designated by the President, or a State where the site is located. The purpose of this general license is to ensure that uranium and thorium mill tailings sites will be cared for in such a manner as to protect the public health, safety, and the environment after closure.

(b) The general license in paragraph (a) of this section becomes effective when the Commission terminates, or concurs in an Agreement State's termination of, the current specific license and a site Long-Term Surveillance Plan (LTSP) meeting the requirements of this section has been accepted by the Commission. If the LTSP has not been formally received by the NRC prior to termination of the current specific license, the Commission may issue a specific order to the intended custodial agency to ensure continued control and surveillance of the site to protect the public health, safety, and the environment. The LTSP may incorporate by reference information contained in documents previously submitted to the Commission if the references to the individual incorporated documents are clear and specific. Each LTSP must include—

(1) A legal description of the site to be transferred and licensed;

(2) A detailed description, which can be in the form of a reference, of the final site conditions, including existing ground water characterization. This description must be detailed enough so that future inspectors will have a baseline to determine changes to the site and when these changes are serious enough to require maintenance or repairs;

(3) A description of the long-term surveillance program, including proposed inspection frequency and reporting to the Commission (see appendix A, Criterion 12 of this part for more details on inspections and reporting), frequency and extent of ground water monitoring if required, appropriate constituent concentration limits for ground water, inspection personnel qualifications, inspection procedures, recordkeeping and quality assurance procedures;

(4) The criteria for follow-up inspections in response to observations from routine inspections or extreme natural events; and

(5) The criteria for instituting maintenance or emergency measures.

(c) The long-term care agency who has a general license established by paragraph (a) of this section shall—

(1) Implement the LTSP as described in paragraph (b) of this section;

(2) Care for the site in accordance with the provisions of the LTSP;

(3) Notify the Commission of any changes to the LTSP; any such changes must not conflict with the requirements of this section;

(4) Guarantee permanent right-of-entry to Commission representatives for the purpose of periodic site inspections; and

(5) Notify the Commission prior to undertaking any significant construction, actions, or repairs related to the site, even if the action is required by another State or Federal agency.

(d) Upon application, the Commission may issue a specific license, as specified in the Uranium Mill Tailings Radiation Control Act of 1978, permitting the use of surface and/or subsurface estates transferred to the United States or a State. Although an application may be received from any person, if permission is granted, the person who transferred the land to DOE or the State shall receive the right of first refusal with respect to this use of the land. The application must demonstrate that—

(1) The proposed action does not endanger the public health, safety, welfare, or the environment;

(2) Whether the proposed action is of a temporary or permanent nature, the site would be maintained and/or restored to meet requirements in appendix A of this part for closed sites; and

(3) Adequate financial arrangement are in place to ensure that the byproduct materials will not be disturbed, or if disturbed that the applicant is able to restore the site to a safe and environmentally sound condition.

(e) The general license in paragraph (a) of this section is exempt from parts 19, 20, and 21 of this chapter, unless significant construction, actions, or repairs are required. If such actions are to be undertaken, the licensee shall justify to the Commission which requirements from these parts apply for such actions and comply with the appropriate requirements.

(f) In cases where the Commission determines that transfer of title of land used for disposal of any byproduct materials to the United States or any appropriate State is not necessary to protect the public health, safety or welfare or to minimize or eliminate danger to life or property (Atomic Energy Act, 83(b)(2) and (4)), the Commission will execute its licensing responsibilities on a case-by-case basis.

9. In appendix A to part 40, criterion 12 is revised to read as follows:

Appendix A to Part 40—Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material From Ores Processed Primarily for Their Source Material Content

* * * * *

Criterion 12—The final disposition of tailings or wastes at milling sites should be such that ongoing active maintenance is not

necessary to preserve isolation. As a minimum, annual site inspections must be conducted by the government agency retaining ultimate custody of the site where tailings, or wastes, are stored to confirm the integrity of the stabilized tailings or wastes systems and to determine the need, if any, for maintenance and/or monitoring. Results of the inspections for all the sites under the licensee's jurisdiction will be reported to the Commission annually within 90 days of the last site inspected in that calendar year. Any site where unusual damage or disruption is discovered during the inspection, however, will require a preliminary site inspection report to be submitted within 60 days. On the basis of a site specific evaluation the Commission may require more frequent site inspections if necessary due to the features of a particular tailings or waste disposal system. In this case, a preliminary inspection report is required to be submitted within 60 days following each inspection.

* * * * *

Dated at Rockville, Maryland this 30th day of January, 1990.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

[FR Doc. 90-2590 Filed 2-5-90; 8:45 am]

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DEPARTMENT OF THE TREASURY

Bureau of Alcohol, Tobacco and Firearms

27 CFR Parts 4 and 5

[Notice No. 696; Ref: Notice Nos. 633 and 636]

RIN 1512-AA77

Standards of Fill for Wine and Distilled Spirits (86F-290P)

AGENCY: Bureau of Alcohol, Tobacco and Firearms (ATF), Treasury.

ACTION: Withdrawal of advance notice of proposed rulemaking.

SUMMARY: ATF is withdrawing from further consideration the advance notice of proposed rulemaking regarding the amendment of the standards of fill regulations for wine and distilled spirits. The majority of commenters believe that ATF should retain the existing metric standards of fill for wine and distilled spirits,and not allow the gray market (parallel) importation of distilled spirits in nonstandard containers as proposed by the petition submitted by the Washington State Liquor Control Board (WSLCB).

ATF adheres to its long-standing position that standards of fill are necessary for wine and distilled spirits, and that without such standards there would be a proliferation of bottle sizes which would result in a number of bottle sizes that are similar in size and shape, thereby resulting in consumer confusing and deception.

EFFECTIVE DATE: February 6, 1990.

FOR FURTHER INFORMATION CONTACT: Edward A. Reisman (202-566-7531) or James P. Facaretta (202-566-7626), Revenue Programs Division, Bureau of Alcohol, Tobacco and Firearms, Ariel Rios Federal Building, 1200 Pennsylvania Avenue NW., Washington, DC 20226.

SUPPLEMENTARY INFORMATION:

Background

Section 105(e) of the Federal Alcohol Administration Act (FAA Act), 27 U.S.C. 205(e), authorizes the Secretary of the Treasury to prescribe regulations relating to the "size and fill" of alcohol beverage containers, "as will prohibit deception of the consumer with respect to such products or the quantity thereof * * *." Regulations issued pursuant to the FAA Act, relating to standards of fill for distilled spirits and wine, date back over 40 years to 1936 and 1943, respectively. Subsequently, ATF established the authorized metric standards of fill for wine (T.D. ATF-12, 1975-1 ATF C.B. 1; December 31, 1974, 39 FR 45216), and distilled spirits (T.D. ATF-25, 1976-1 ATF C.B. 2; March 10, 1976, 41 FR 10217). On September 10, 1986, the Washington State Liquor Control Board (WSLCB) petitioned ATF to amend the standard of fill requirements in 27 CFR 5.47a for imported distilled spirits. Their proposed amendments would permit the gray market (parallel) importation of distilled spirits not bottled in an authorized metric standard of fill, provided:

1. The brand of distilled spirits in the nonstandard size is currently being imported into the U.S. in an authorized metric standard to fill, such as 375 ml or 750 ml;

2. The distilled spirits in the nonstandard size qualify for importation into the U.S. by meeting all other requirements (e.g., safety for ingredients), and;

3. The distilled spirits in the nonstandard size and have a strip label prominently displayed indicating:

(a) The net contents in milliliters, and;

(b) The following statement—

This product is a parallel import, having been intended by the manufacturer for sale in a country other than the United States, and is packaged in a size not normally marketed in the United States. To compare the per liter cost of this product with any other size container, divide the price of each container by its size in milliliters and multiply by one thousand. The resulting figure in each case is the cost per liter for each container.

Subsequent to filing their petition, the WSLCB submitted additional amendments proposing, among other things, a waiver of the "design" and (eight percent) "headspace" requirements prescribed in 27 CFR 5.46 for those distilled spirits that have qualified as parallel imports. As background, a gray market (parallel) importation occurs when an importer imports authentic foreign wines, distilled spirits, or malt beverages, depsite the existence of an exclusive distribution agreement between the foreign trademark owner (producer) and its authorized U.S. importer (distributor). According to the petitioner, some foreign producers have started bottling their distilled spirits products in sizes not authorized under ATF regulations (*e.g.*, 740 ml, 800 ml, *etc.*). Thus, while these products could be shipped into other countries, they could not be imported into the U.S. This action prompted the WSLCB to file its petition with the Bureau.

Notice No. 633

Although the WSLCB petition requested an amendment of the standards of fill requirements for distilled spirits only, ATF believed it appropriate to also address the larger issue of retaining or eliminating the standards of fill requirements for wine in 27 CFR 4.73. Under current ATF regulations, there are no standards of fill prescribed for malt beverages. Unlike wine and distilled spirits, malt beverage containers have been fairly well standardized and, consequently, there appears to be little likelihood of consumer confusion or deception in this area. On June 24, 1987, ATF published an advance notice of proposed rulemaking (Notice No. 633, 52 FR 23685), "Standards of Fill for Wine and Distilled Spirits," soliciting comments on the following questions:

(1) Should the existing standards of fill for wine and distilled spirits be retained and, if so, why?

(2) If the existing standards of fill were to be retained, would you be in favor of, or opposed to, the amendments proposed in the Washington State petition, which would permit the parallel importation of distilled spirits not bottled in an authorized metric standard of fill? We would also note that parallel importers are subject to Customs regulations relating to parallel importations. See 19 CFR 133.21 which, in certain instances, may preclude entry regardless of the standard of fill.

(3) What is your opinion on ATF eliminating the existing standards of fill for wine and distilled spirits, provided the net contents of the container are prominently displayed on the label?

(4) Regarding Nos. 2 and 3 above, is there any additional labeling requirement that could be used to negate consumer confusion as a result of the possible proliferation of bottle sizes?

The comment period for Notice No. 633 closed on August 24, 1987, but was subsequently extended until October 23, 1987, (Notice No. 636, August 14, 1987; 52 FR 30390).

Analysis of Comments

In response to Notice Nos. 633 and 636, the Bureau received 1,502 comments, representing 2,561 signatures. A breakdown of the comments is as follows:

Consumers—966 comments representing 1,300 signatures
Industry (U.S.&For.)—520 comments representing 1,245 signatures
Foreign Govt.—1 comment
Congressional—3 comments
State/Local Govt.—2 comments
State Agencies—10 comments

The majority of commenters favored retention of standards of fill for wine and distilled spirits. Of the 756 commenters who addressed this issue, 741 commenters (98 percent) said they favored retention of standards of fill.

The majority of commenters also favored retention of the existing metric standards of fill sizes for wine and distilled spirits. Of the 1,309 commenters who addressed this issue, 1,283 commenters (98 percent) favored retention of the metric standards of fill.

Finally, of the 376 commenters who addressed the WSLCB proposal, which would allow the gray market (parallel) importation of distilled spirits not bottled in an authorized metric standard of fill, 359 commenters (95 percent) opposed the WSLCB amendments.

The small percentage of commenters who favored the elimination of standards of fill for wine and distilled spirits, generally supported requiring net content statements prominently displayed on bottle labels as a preferable alternative to existing standard of fill requirements.

However, most commenters supported the Bureau's position concerning metric standards of fill for wine and distilled spirits, namely, that those standards are necessary, and that without such standards there would be a proliferation of bottle sizes, which would result in a number of bottle sizes that are similar in size and shape, thereby resulting in consumer confusion and deception.

Many commenters suggested that the proliferation of bottle sizes in several European countries had resulted in consumer confusion. For example, The Scotch Whisky Association provided information which lent support for the Bureau's position regarding the need for authorized metric standards of fill:

> Experience in Europe has shown that, in markets where no mandatory prescribed range exists, there is a proliferation of closely similar bottles which, although appearing to the consumer at first glance to be identical in size, prove on closer inspection to vary considerably in volume. In the United Kingdom, for example, spirits are sold—often side by side in the same retail outlet—in 667 ml, 680 ml, 690 ml, 700 ml, and 750 ml sizes while 'half' bottles of spirits can be found containing 320 ml, 325 ml, 326 ml, 340 ml, 350 ml, 375 ml or 378 ml.

The Gin Rectifiers and Vodka Trade Association (London, England) stated that because of the proliferation of bottle sizes in Europe, "There is no doubt that competition has been distorted and the consumer has been confused and misled." For those reasons, they believe that standards of fill are essential in the U.S. The Federation des Exportateurs de Vins et Spiritueux de France states that "The U.S. consumer has, over the years, developed a customary 'use pattern' in his or her purchase of wines and distilled spirits. The consumer mentally relies on or identifies with certain bottle sizes for purchase. This U.S. consumer, should these standards of fill change, would become confused and often deceived, or manipulated, into purchasing bottles skillfully manufactured to look larger but actually containing less liquid content."

Several commenters stated that, if the existing standards of fill for wine and distilled spirits were eliminated, the prominent display of the contents on the label would not be sufficient to negate consumer confusion. For example, the Michigan Beer and Wine Wholesalers Association stated that permitting further variation in bottle sizes "is guaranteed to cause confusion no matter how the volume would be indicated on the label." No evidence was presented that any additional labeling requirement would provide an adequate method of negating consumer confusion, as an alternative to the current standards of fill for wine and distilled spirits.

Finally, with regard to the WSLCB proposal to permit the gray market (parallel) importation of distilled spirits in nonstandard sizes, several commenters stated that allowing gray market (parallel) importation of distilled spirits in nonstandard sizes in addition to the authorized metric standards of fill would give imports an unfair competitive edge over domestic products. For example, the Glass Packaging Institute stated that approval of the WSLCB amendments would "place parallel importers in an undue competitive advantage in relation to authorized importers and U.S. producers, who will remain subject to the 'standard of fill' rule." ATF's position has always been that, in compliance with the mandates of the FAA Act, and in order to insure product integrity and authenticity, ATF will hold all importers of alcoholic beverages to the same standard of compliance with all U.S. laws and regulations. *See* Industry Circular 86–5, dated February 14, 1986. ATF can find no basis to exempt parallel importations from the regulatory requirements relating to standards of fill for distilled spirits products.

Decision

After carefully studying the issues and analyzing the comments, ATF has found no basis to eliminate the existing metric standard of fill requirements for wine and distilled spirits or to allow the gray market (parallel) importation of nonstandard size distilled spirits containers. The information submitted by the commenters provided further support of ATF's long-standing position that without such standards of fill there would be a proliferation of bottle sizes that are similar in size and shape, thereby resulting in consumer confusion and deception. For these reasons, ATF is withdrawing Notice No. 633.

Drafting Information

The author of this document is Edward A. Reisman, Distilled Spirits and Tobacco Branch, Bureau of Alcohol, Tobacco and Firearms.

Authority and Issuance

This document is issued under the authority in 27 U.S.C. 205.

Signed: December 26, 1989.

Stephen E. Higgins,
Director.

Approved: January 16, 1990.

John P. Simpson,
Acting Assistant Secretary (Enforcement).

[FR Doc. 90–2512 Filed 2–5–90; 8:45 am]
BILLING CODE 4810–31–M

DEPARTMENT OF THE INTERIOR

Office of Surface Mining Reclamation and Enforcement

30 CFR Parts 736, 740 and 750

Surface Coal Mining and Reclamation Operations; Application Fee for Permit To Conduct Surface Coal Mining and Reclamation Operations; Application Fee for Coal Exploration Permit; Fee for Processing Permit Revisions, Transfers and Renewals

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

ACTION: Notice of reopening of public comment period.

SUMMARY: The Office of Surface Mining Reclamation and Enforcement (OSM) of the U.S. Department of the Interior is reopening the public comment period on the proposed rule concerning fees for OSM permitting actions, for a period of 30 days. The comment period is reopened to solicit comments on a proposal for a reduced fee for small operators.

DATES: The comment period is reopened until March 8, 1990. Comments will be accepted until 5:00 p.m. Eastern time on that date.

ADDRESSES: Written comments: hand deliver to the Office of Surface Mining Reclamation and Enforcement, Administrative Record, Room 5131, 1100 L Street NW., Washington, DC; or mail to the Office of Surface Mining Reclamation and Enforcement, Administrative Record, Room 5131 L, 1951 Constitution Ave. NW., Washington, DC 20240.

FOR FURTHER INFORMATION CONTACT: Adele Merchant, Office of Surface Mining Reclamation and Enforcement, U.S. Department of the Interior, 1951 Constitution Avenue, NW., Washington, DC 20240; Telephone (202) 343–1864 (Commercial or FTS).

SUPPLEMENTARY INFORMATION: On May 17, 1988, OSM published in the **Federal Register** a proposed rule to establish a system of fees to be paid to OSM by applicants to obtain processing and issuance of surface coal mining and reclamation permits and coal exploration permits, and renewals, revisions and transfers of existing permits, in Federal program States, on Federal lands where OSM issues the permit, and on Indian lands (53 FR 17568). The proposed regulations would establish a system of fees to implement the requirement at section 507(a) of the Surface Mining Control and Reclamation Act of 977 (SMCRA or the Act) and 30 CFR 777.17 that permit fees shall accompany an application for a permit.

The comment period on the proposal closed July 18, 1988, but was reopened on July 20, 1988, for a period of 60 days ending September 19, 1988. Public hearings on the proposed rule were held July 11, 1988, in Washington, DC and July 13, 1988, in Denver, Colorado.

In a meeting with Congressman James H. Quillen on November 14, 1989, OSM Director Harry Snyder agreed to consider inclusion of a reduced permit fee for small operators in the final rule establishing fees for new permits to conduct surface coal mining operations where OSM issues the permit. See Administrative Record #45 for a summary of that meeting. Subsequently, the Director decided to again reopen the permit fees rulemaking for public comment, to consider a proposal for a flat $1000 new permit fee for small operators. The fee would be charged as follows: where an applicant demonstrates eligibility as a small operator under 30 CFR 795.6(a), and the regulatory authority confirms the applicant's eligibility, new permit fees are $250 for the administrative completeness review; $500 for the technical review; and, $250 for preparation of the decision document. The proposal also addresses recuperation of fees where the regulatory authority subsequently determines that the applicant has exceeded the small operator eligibility requirements. Finally, the proposal includes provisions for notice of additional fees owed and of interest charges payable, under applicable Federal statutes, for late payments.

Comments received in response to this reopening notice will be considered only as they pertain to the proposal for a reduced fee for small operators. OSM is not requesting and will not address comments received relating to aspects of the permit fees other than the proposed reduced fee for small operators.

The reduced new permit fee for small operators would be added to applicable sections establishing new permit fees. The proposed rule language follows:

(i) *Small operator fee.* Where an applicant demonstrates eligibility as a small operator under § 795.6(a) of this chapter, and the regulatory authority confirms the applicant's eligibility, the fee schedule is as follows:

Administrative completeness review	$250.00
Technical review	$500.00
Decision document	$250.00

(ii) Upon a determination by the regulatory authority following permit issuance, that the applicant or any successor in interest has exceeded the eligibility requirements demonstrated under § 795.6(a), the applicant or successor in interest shall owe an additional permit fee equal to the difference between the amount paid under paragraph (i) above and the fee that would have been charged had the applicant not qualified for the reduced fee.

(iii) The regulatory authority shall give written notice to an applicant or any successor in interest, of additional fees owned under paragraph (ii) above. Any person who fails to submit additional fees required within 30 days of receipt of the notice, shall pay interest on the unpaid balance beginning on the 31st day, at the rate established quarterly by the U.S. Department of the Treasury for use in applying late charges on late payments on the Federal government, pursuant to Treasury Fiscal Requirements Manual 6–8020.20.

Dated: January 30, 1990.

Harry M. Snyder,

Director, Office of Surface Mining Reclamation and Enforcement.

[FR Doc. 90–2490 Filed 2–5–90; 8:45 am]

BILLING CODE 4310–05–M

DEPARTMENT OF DEFENSE

Office of the Secretary

32 CFR Part 199

[DOD Regulation 6010.8–R]

Civilian Health and Medical Program of the Uniformed Services (CHAMPUS); Revision to Secondary Payment Calculations for Claims Paid Under the CHAMPUS DRG-Based Payment System

AGENCY: Office of the Secretary, DoD.

ACTION: Proposed amendment of rule.

SUMMARY: This proposed amendment revises the comprehensive CHAMPUS regulation, DoD 6010.8–R (32 CFR 199), pertaining to payment for inpatient hospital services. This proposed amendment revises the secondary payment calculations for claims paid under the CHAMPUS DRG-based payment system. This change is being made to conform to recent changes affecting the Medicare Prospective Payment System (PPS) upon which the CHAMPUS DRG-based payment system is modeled. The Medicare PPS changes were published in the **Federal Register** on October 11, 1989 (54 FR 41716).

DATES: Written public comments must be received on or before March 8, 1990.

ADDRESSES: Send comments to the Office of the Civilian Health and Medical Program of the Uniformed Services (OCHAMPUS), Office of Program Development, Aurora, CO 80045-6900.

For copies of the Federal Register containing this final rule, contact the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 783-3238.

The charge for the Federal Register is $1.50 for each issue payable by check or money order to the Superintendent of Documents.

FOR FURTHER INFORMATION CONTACT: Stephen E. Isaacson, Office of Program Development, OCHAMPUS, telephone (303) 361-4005.

To obtain copies of this document, see the "**ADDRESS**" section above. Questions regarding payment of specific claims under the CHAMPUS DRG-based payment system should be addressed to the appropriate CHAMPUS contractor.

SUPPLEMENTARY INFORMATION:

I. Background

By law CHAMPUS is secondary payer to all other insurance plans and programs except: Plans administered under title XIX of the Social Security Act (Medicaid); coverage specifically designed to supplement CHAMPUS benefits; and certain Federal government programs as prescribed by the Director, OCHAMPUS, which are designed to provide benefits to a distinct beneficiary population and for which entitlement does not derive from either premium payment or monetary contribution (e.g., the Indian Health Service).

In calculating CHAMPUS' secondary payment for services subject to the CHAMPUS DRG-based payment system, the secondary payment is computed on the basis of the CHAMPUS payment rate, which could be more than the billed charges. For example if a hospital's billed charges are $6,000, the CHAMPUS DRG-based allowable amount is $8,000, and the primary payer has paid the hospital $5,000, CHAMPUS would reimburse the hospital $3,000—the difference between the DRG-based amount and the primary insurance payment.

The above payment policy duplicated the policy followed by the Health Care Financing Administration (HCFA) for the Medicare PPS. The October 11, 1989, HCFA final rule changes this policy (54 FR 41728). Under the new policy Medicare pays the lowest of: the gross amount payable by Medicare (that is, the amount payable without considering the effect of the Medicare deductible and coinsurance or the payment by the third party payer), minus the applicable Medicare deductible and coinsurance amounts; the gross amount payable by Medicare, minus the amount paid by the third party payer; the provider's charges (or the amount the provider is obligated to accept as payment in full, if that is less than the charges), minus the amount payable by the third party payer; or the provider's charges (or the amount the provider is obligated to accept as payment in full if that is less than the charges), minus the applicable Medicare deductible and coinsurance amounts. Thus, in the above example, Medicare would pay only $1,000. We propose to change the CHAMPUS calculations in double coverage situations to duplicate this Medicare change.

In their June 15, 1988, proposed rule (53 FR 22340), HCFA stated that they were making the above calculation change because they believed "the intent of the law is for Medicare to supplement the amount paid by the primary payer only in an amount that, combined with the primary payment, equals the charges for the services, or the amount the provider or supplier is obligated to accept as full payment." The Medicare statute provides for secondary payments only when the primary payer pays less than the charges.

The CHAMPUS statute has no provision which expressly prohibits secondary payments when the primary payer pays the charges in full. However, according to section 779 of Public Law 97-377, CHAMPUS is secondary payer to all other insurance, medical service, or health plans except Medicaid. This was effective December 21, 1982, and it was implemented by a final rule published on June 22, 1983 (48 FR 28438).

We believe the statutory intent for CHAMPUS is comparable to that for Medicare—that is, CHAMPUS is to be a supplement to any other coverage and should not result in greater total payment in these cases than would be made in the absence of CHAMPUS coverage. In addition, as we have noted in all previous proposed and final rules regarding the CHAMPUS DRG-based payment system, our DRG-based payment system is modeled on the Medicare PPS, and it is our intent that our system duplicate the Medicare PPS wherever possible. Our current policy regarding payment calculations in double coverage situations was based on the Medicare policy, and this change is being made to conform to the change made for the Medicare PPS.

II. Regulatory Procedures

Executive Order 12291 requires that a regulatory impact analysis be performed on any major rule. A "major rule" is defined as one which would result in an annual effect on the national economy of $100 million or more or have other substantial impacts.

The Regulatory Flexibility Act (RFA) requires that each federal agency prepare, and make available for public comment, a regulatory flexibility analysis when the agency issues regulations which would have a significant impact on a substantial number of small entities. For purposes of the RFA, we consider small entities to include all hospitals and third-party payers.

This proposed rule is not a major rule under Executive Order 12291. The changes set forth in this proposed rule are minor revisions to previously published final rules. In addition, this proposed rule will have a very minor impact and will not significantly affect a substantial number of small entities. Its only effect will be on those few cases where the DRG-based amount exceeds the hospital's billed charge and the beneficiary has other primary insurance. In those cases, the impact will equal the difference between the DRG-based amount and the billed charge. In light of the above, no regulatory impact analysis is required.

III. Other Required Information

A. Effective Date

The changes in this proposed rule will be effective for admissions occurring on or after the effect date of the final rule published pursuant to this proposed rule.

B. Paperwork Reduction Act

This notice does not impose information collection requirements. Therefore, it does not need to be reviewed by the Executive Office of Management and Budget under the authority of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501-3511).

List of Subjects in 32 CFR Part 199

Claims, Handicapped, Health insurance, Military personnel.

Accordingly, 32 CFR part 199 is amended as follows:

PART 199—[AMENDED]

1. The authority citation for part 199 continues to read as follows:

Authority: 10 U.S.C. 1079, 1086. 5 U.S.C. 301.

2. Section 199.4 is amended by revising paragraph (g)(11) to read as follows:

§ 199.4 Basic program benefits.

* * * * *

(g) * * *

(11) *No legal obligation to pay, no charge would be made.* Services or supplies for which the beneficiary or sponsor has no legal obligation to pay; or for which no charge would be made if the beneficiary or sponsor was not eligible under CHAMPUS.

* * * * *

Dated: January 3, 1990.

L.M. Bynum,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 90-2638 Filed 2-5-90; 8:45 am]

BILLING CODE 3810-01-M

DEPARTMENT OF TRANSPORTATION

Coast Guard

33 CFR Part 165

[COTP Guam Regulation 89-001]

Safety and Security Zone Regulations; Pacific Ocean and Apra Harbor, Guam, Marianas Islands

AGENCY: Coast Guard, DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Coast Guard is considering a proposal to establish a new safety zone and to revise the existing security zone regulations in Apra Outer Harbor, Guam. The U.S. Navy has requested that a safety zone be established around the newly constructed Orote Point Ammunition Wharf in Apra Outer Harbor. The safety zone is needed to safeguard vessels, personnel and property against high explosive handling hazards. Establishing a new safety zone requires revising the existing security zones to accurately reflect expected uses of Apra Harbor and ensure public safety.

DATES: Comments must be received on or before March 23, 1990.

ADDRESSES: Comments should be mailed to U.S. Coast Guard Marine Safety Office, 1026 Cabras Hwy., Suite 102, Piti, Guam 96925-4610. The comments will be available for inspection and copying at the Marine Safety Office, Guam. Normal office hours are between 7 a.m. and 3:30 p.m., Monday through Friday, except holidays. Comments may also be hand delivered to the Marine Safety Office, Guam.

FOR FURTHER INFORMATION CONTACT: Lt. Kenneth Parris at (671) 477-3340 or FTS: 550-7314.

SUPPLEMENTARY INFORMATION: Interested persons are invited to participate in this rulemaking by submitting written views, data or arguments. Persons submitting comments should include their names and addresses, identify this notice (COTP Guam Regulation 89-001) and the specific section of the proposal to which the comments apply, and give reasons for each comment. The regulations may be changed in light of comments received. All comments recieved before the end of the expiration of the comment period will be considered before final action is taken on this proposal. No public hearing is planned, but one may be held if written requests for a hearing are received and it is determined that the opportunity to make oral presentations will aid in the rulemaking process.

Drafting Information

The drafters of this notice are Lieutenant Kenneth Parris, project officer for the Captain of the Port, and Lieutenant Commander Brian Durham, Project Attorney, Fourteenth Coast Guard District Legal Office, Honolulu, Hawaii.

Discussion of Proposed Regulation

The U.S. Navy has requested that a safety zone be established around the newly constructed Naval Wharf Kilo in Apra Outer Harbor, Guam. This wharf will replace Navy Wharf H as the primary site for loading military explosives in the port of Guam. The safety zone is needed to safeguard vessels, personnel and property against high explosive handling hazards. Navy wharf H will be owned and operated by the Port Authority of Guam (PAG) and renamed Wharf H. The Port Authority will continue the certification of Wharf H as a Facility of Particular Hazard (FOPH) for commercial explosive loading operations. The Captain of the Port Guam is redesignating Security Zone A as Safety Zone A to safeguard personnel and property during commercial explosive loading oprations at Wharf H. These safety zones are in effect only when the wharves encompassed by Safety Zone A or B, or vessels berthed thereto, are displaying a red (Bravo) flag by day, or, a red light by night. This regulation is issued pursuant to 33 U.S.C. 1225 and 1231 as set out in the authority citation for all of part 165. Security Zone B is to be eliminated as unnecessary due to the change in ownership of Wharf H and the change in the type of explosives handled. The title of § 165.1401 is being changed to reflect the new content. All lattitudes and longitudes listed in this regulation are based on the World Geodetic System 1984 Datum.

The regulations will be changed as follows:

a. Designate Security Zone A, Navy Wharf H as described in 33 CFR 165.140(a) as Safety Zone A, Wharf H.

b. Eliminate Security Zone B as described in 33 CFR 165.1401(b).

c. Establish Safety Zone B, 33 CFR 165.1401(b), around the U.S. Navy Ammunition Wharf, Orote Point, designated as Wharf Kilo, whose center is located at 13°26'43" N, 144°37'46.7" E in Apra Outer Harbor, Guam, Marianas Islands. The safety zone will encompass the waters of Apra Outer Harbor within an arc of 680 yards radius from the center of the Navy Ammunition Wharf, Orote Point; the northwest junction of the arc with Orote Point is at 13°26'49.8" N, 144°37'27.1" E; the southeast junction of the arc with Orote Point is at 13°26'32.1" N, 144°38'04.1" E.

d. Rename 33 CFR 165.1401 to read "Apra Harbor, Guam-Safety Zones." vice "Apra Harbor, Guam-security zone."

e. Delete Security Zone C from 33 CFR 165.1401(d) and create a new part, 33 CFR 165.1404 to read "Apra Harbor, Guam—Security Zone".

Economic Assessment and Certification

These proposed regulations are considered to be non-major under Executive Order 12291 on Federal Regulation and nonsignificant under Department of Transportation regulatory policies and Procedures (44 FR 11034; February 26, 1979). The economic impact of this proposal is expected to be so minimal that a full regulatory evaluation is unnecessary. The users of the port of Guam fall into six main categories; Naval Combatants, Deep Draft Commercial Shipping, Commercial Fishing Vessels, Small Passenger Boats, Dive Boats and Pleasure Boats. Since these two zones will neither extend into a shipping channel, or encompass commerical fishing grounds, regular commercial diving areas, tour locations, or pleasure boat areas, there should be no adverse impact on harbor use. Since the impact of this proposal is expected to be minimal, the Coast Guard certifies that, if adopted, it will not have a significant economic impact on a substantial number of small entities.

Federalism:

This action has been analyzed in accordance with the principles and criteria contained in Executive Order

12612, and it has been determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

List of Subjects in 33 CFR Part 165

Harbors, Marine safety, Navigation (water), Security measures, Vessels, Waterways.

Proposed Regulation

In consideration of the foregoing, part 165 of title 33, Code of Federal Regulations, is amended as follows:

PART 165—[AMENDED]

1. The authority citation for part 165 continues to read as follows:

Authority: 33 U.S.C. 1225 and 1231; 50 U.S.C. 191; 49 CFR 1.46 and 33 CFR 1.05–1(g), 6.04, 6.04–6 and 160.5.

2. Section 165.1401 is revised to read as follows:

§ 165.1401 Apra Harbor, Guam—safety zones.

(a) The following is designated as Safety Zone A—The waters of the Pacific Ocean and Apra Outer Harbor encompassed within an arc of 725 yards radius centered at the center of Wharf H. (Located at 13°27′47″N, 144°39′01.9″E. Based on World Geodetic System 1984 Datum)

(b) The following is designated Safety Zone B—The waters of Apra Outer Harbor encompassed within an arc of 680 yards radius centered at the center of Naval Wharf Kilo (Located at 13°26′43″N, 144°37′46.7″E. Based on World Geodetic system 1984 Datum)

(c) *Special regulations.* (1) Section 165.23 does not apply to Safety Zone A and/or Safety Zone B, except when Wharf H and/or Naval Wharf Kilo, or a vessel berthed at Wharf H and/or Naval Wharf Kilo, is displaying a red (BRAVO) flag by day or a red light by night.

(2) In accordance with the general regulations in § 165.23 of this part, entry into these zones is prohibited unless authorized by the Captain of the Port, Guam.

3. A new § 165.1404 is added to read as follows:

§ 165.1404 Apra Harbor, Guam—security zone.

(a) The following is designated as Security Zone C—The waters of Apra Outer Harbor, Guam surrounding Naval Mooring Buoy No. 702 (Located at 13°27′30.1″N, and 144°38′12.9″E. Based on World Geodetic System 1984 Datum) and the Maritime Prepositioning ships moored thereto. The security zone will extend 100 yards in all directions around the vessel and its' mooring. Additionally, a 50 yard security zone will remain in effect in all directions around buoy No. 702 when no vessel is moored thereto.

(b) In accordance with the general regulations in § 165.33 of this part, entry into Security Zone C is prohibited unless authorized by the Captain of the Port, Guam.

Dated: January 11, 1990.

V.O. Eschenburg,

Captain, U.S. Coast Guard, Captain of the Port, Guam.

[FR Doc. 90–2615 Filed 2–5–90; 8:45 am]

BILLING CODE 4910–14–M

POSTAL SERVICE

39 CFR Part 111

Forwarding/Return Regulations for Third-Class Mail

AGENCY: Postal Service.

ACTION: Proposed rule.

SUMMARY: Based on a recent special field survey, the Postal Service proposes to change the factor used in calculating the charge assessed by the Postal Service for the return of a third-class mail piece bearing the endorsement "Forwarding and Return Postage Guaranteed" or "Forwarding and Return Postage Guaranteed, Address Correction Requested".

DATES: Comments must be received on or before March 8, 1990.

ADDRESSES: Written comments should be directed to the Director, Office of Rates, Rates and Classification Department, U.S. Postal Service, Washington, DC 20260–5350. Copies of all written comments will be available for public inspection and photocopying between 9 a.m. and 4 p.m., Monday through Friday in room 1100.

FOR FURTHER INFORMATION CONTACT: Virginia J. Mayes (202) 268–2661.

SUPPLEMENTARY INFORMATION:

I. Background

As part of its Request initiating the fifth omnibus rate case, Docket No. R84–1, the Postal Service proposed a method, subsequently recommended by the Postal Rate Commission and approved by the Governors of the Postal Service, by which the responsibility for paying the postage for forwarding third-class mail was shifted from the addressee to the mailer. Under the method implemented at the conclusion of Docket No. R84–1, third-class mail endorsed by the mailer "Forwarding and Return Postage Guaranteed" or "Forwarding and Return Postage Guaranteed, Address Correction Requested" is forwarded at no charge to the addressee. The expense to the Postal Service for forwarding this mail is covered by charges assesed to the mailer only on those pieces which cannot be successfully delivered or forwarded and are returned to the sender. This is accomplished by charging the appropriate single-piece third-class rate for the returned piece plus that rate multiplied by a factor representing the number of pieces of endorsed third-class mail nationwide that are successfully forwarded for each one returned.

The pertinent Domestic Mail Classification Schedule (DMCS) language, recommended by the Postal Rate Commission and approved by the Governors of the Postal Service, reads as follows:

> Charges for forwarding-and-return service are assessed only on those pieces which cannot be forwarded and are returned. The charge for those returned pieces is the appropriate single-piece third-class rate for the piece plus that rate multiplied by a factor equal to the number of third-class pieces nationwide that are successfully forwarded for every one piece that cannot be forwarded and must be returned.

DMCS § 300.07. The actual number that is applied to the third-class single piece rate in order to calculate postage on returned pieces, 2.733, currently set forth in Domestic Mail Manual (DMM) section 691.5 and exhibits 159.151 c-e, was implemented by rulemaking (50 FR 7049 (1985)). The factor used to determine postage for returned pieces meets the description outlined in section 300.07 of the DMCS, and reflects third-class forwarded and returned volumes surveyed by the Postal Service in a special study in 1981.

II. Proposed Change

In 1988, the Postal Service initiated a review of the forwarding/return ratio, referred to in DMCS § 300.07 as the "factor", used to calculate return postage. The Postal Service conducted a special field survey in which data were collected from a sample of 2,303 representative delivery units distributed throughout all five postal regions, for six days spread over a test period of a month. Undeliverable-as-addressed third-class mail pieces endorsed "Forwarding and Return Postage Guaranteed" or "Forwarding and Return Postage Guaranteed, Address Correction Requested" were counted at carrier cases, box sections or general delivery sections, and at sampled CAG K and L post offices. The reasons for

nondelivery were noted, and piece counts were done separately for forwarded pieces and for returned pieces. The raw data were then weighted by factors based on the number of similar delivery units each sampled unit represented. The inflated data yield a forwarding/return factor of 1.472. Thus, the postage charged a returned piece of endorsed third-class mail will be the applicable single-piece rate multiplied by 2.472 (one plus the new forwarding return factor of 1.472).

Based on this new data, the Postal Service is proposing to change DMM section 691.5 and footnote 1 of exhibits 159.151 c–e so that the charge for return postage would be calculated by multiplying the third-class single-piece rate applicable to the returned piece by 2.472, which is the single piece rate plus that rate times 1.472, the new ratio of forwarded to returned pieces.

Although exempt from the notice and comment requirements of the Administrative Procedure Act (5 U.S.C. 553(b)(c)) regarding proposed rulemaking by 39 U.S.C. 410(a), the Postal Service invites comments on the following proposed revision of the Domestic Mail Manual, incorporated by reference in the Code of Federal Regulations. See 39 CFR 111.1.

List of Subjects in 39 CFR Part 111

Postal service.

PART 111—[AMENDED]

1. The authority citation for 39 CFR part 111 continues to read as follows:

Authority: 5 U.S.C. 552(a); 39 U.S.C. 101, 401, 403, 404, 3001–3011, 3201–3219, 3403–3406, 3621, 5001.

Exhibits 159.151 c–e [Amended]

2. The first sentence of footnote 1 in Exhibits 159.151c, 159.151d, and 159.151(e) is revised to read as follows: "The weighted fee is the appropriate single-piece third-class rate multiplied by a factor of 2.472."

691 [Forwarding and Return

* * * * *

691.5 [Amended]

3. In 691.5, remove "2.733" and insert in its place "2.472.".

An appropriate amendment to 39 CFR 111.3 to reflect these changes will be published if the proposal is adopted.

Fred Eggleston,

Assistant General Counsel, Legislative Division.

[FR Doc. 90–2661 Filed 2–5–90; 8:45 am]

BILLING CODE 7710–12–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of the Secretary

42 CFR Part 1003

RIN 0091–AA54

Medicare and Social Security: Fraud and Abuse; Civil Money Penalties for Misuse of Certain Terms, Symbols and Emblems

AGENCY: Office of Inspector General (OIG), Office of the Secretary, HHS.

ACTION: Proposed rule.

SUMMARY: This proposed rule would implement section 428(a) of Public Law 100–360, the Medicare Catastrophic Coverage Act of 1988, which authorizes the imposition of civil money penalties for the misuse—in advertising, solicitation or literature—of certain words, letters, symbols, or emblems associated with the Department or its Social Security and Medicare programs in a manner that could convey an impression that (1) an item or service was approved, endorsed or otherwise authorized by the Department of Health and Human Services, or (2) the responsible person or organization has some connection with, or authorization from, the Department or these programs. This rulemaking is designed to assist in protecting citizens from misrepresentations concerning the services offered and programs administered by the Social Security Administration and the Health Care Financing Administration.

DATES: To assure consideration, comments must be mailed and delivered to the address provided below by March 23, 1990.

ADDRESSES: Address comments in writing to: Office of Inspector General, Department of Health and Human Services, Attention: LRR–25–P, Room 5246, 330 Independence Avenue, SW., Washington, DC 20201.

If you prefer, you may deliver your comments to Room 5551, 330 Independence Avenue SW., Washington, DC. In commenting, please refer to file code LRR–25–P. Comments will be available for public inspection beginning approximately two weeks after publication in Room 5551, 330 Independence Avenue SW., Washington, DC on Monday through Friday of each week from 9:00 a.m. to 5:00 p.m. (2028) 472–5270.

FOR FURTHER INFORMATION CONTACT: Joel J. Schaer, Legislation, Regulations and Public Affairs Staff, (202) 472–5270.

SUPPLEMENTARY INFORMATION:

I. Background

Over the past several years, numerous complaints have come to the Department's attention regarding mail solicitations and other advertising claims and offerings that tend to make use of certain program terms, program acronyms, or agency symbols and emblems in such a way as to mislead or falsely represent the fact that such items or services being offered have been approved, endorsed or authorized by the Department, the Social Security Administration (SSA), or the Health Care Financing Administration (HCFA). Prior to the passage of Public Law 100–360, the Medicare Catastrophic Coverage Act of 1988, the Department had no statutory or regulatory authority to take action against such advertisers; the only recourse against such misleading or deceptive advertisements or solicitations was to seek voluntary cooperation in changing such communications. When the mails were being used to obtain money through misrepresentation or deception, or where a business was using particularly egregious acts in commerce, the Department could refer the communications to the United States Postal Service or to the Federal Trade Commission, for action.

Use of Specific Department Terms and Symbols in Solicitation

Recently, private organizations and businesses have begun using the words "Social Security" or "Medicare," or the acronyms "SSA" or "HCFA," in their title, or have made use of program symbols or emblems in their solicitations. Many individuals have been misled into thinking, through the use of such terms and acronyms, that the commercial business is in fact associated directly with the Department, HCFA or SSA. When the public has questioned commercial use of terms, acronyms or emblems, the Department has attempted to contact the business that is allegedly misleading the public with respect to a Governmental association, and has requested that it not use such terms, acronyms or symbols at all, or at least that its advertising and stationery carry the notation that the organization is not associated with the Federal Government, the Department or any of its programs. This attempt to have business and organizations remove such references has met with varying degrees of success.

Commercial offers for items and services or fund-raising appeals that mislead the public into believing that

there is a Governmental relationship, may appear in newspapers and magazines, on radio or television, or may be distributed by direct mail or telephone solicitation.

II. Provisions of the Proposed Regulations

In an effort to protect citizens from misrepresentations concerning the services offered and programs administered by SSA and HCFA, section 428(a) of the Medicare Catastrophic Coverage Act of 1988 now specifically prohibits the use of certain words, symbols or emblems in a manner which a person or organization either knew, or should have known, would convey the false impression that (1) an advertisement or other item was authorized or endorsed by the Department, SSA or HCFA, or (2) the person or organization has some connection with, or authorization from, the Department, SSA or HCFA.

These proposed regulations would amend 42 CFR part 1003 by specifically establishing civil money penalties (CMPs) for violations of these prohibitions. The regulations and CMPs would be applicable to use of:

- The words "Social Security," "Social Security Account," "Social Security Administration," "Social Security System," "Medicare," and "Health Care Financing Administration;"
- The letters "SSA" or "HFCA," or any acronym, combination or variation of such words; and
- Any symbols or emblems of the Department or such agencies.

This provision is not intended to make illegal the mere utterance or use of these terms in print or broadcast, but rather its applicability would be limited to those instances where such words or symbols are used directly in an advertisement or solicitation to give a false or misleading impression that an item or service has been approved, endorsed or otherwise authorized by the Department, SSA or HCFA.

Civil money penalties

Under these proposed regulations, the Office of Inspector General (OIG) may impose a CMP of up to $5,000 for each violation of this prohibition relating to printed media, and up to $25,000 per violation in the case of a misleading broadcast or telecast. With respect to multiple violations consisting of substantially identical communications or productions, total penalties may not exceed $100,000 per year.

Public Law 100–360 did not specify a definition for the term "violation" under this provision for purposes of imposing civil money penalties. As a result, the mailing of an identical solicitation letter by an organization to 100 individuals, for example, could be defined as a single incidence or violation, or as 100 separate violations. Therefore, for purpsoes of levying a CMP, we are proposing to define a single violaiton as:

- In the case of a direct mailing solicitation, each group mailing of an identical letter or solicitation sent at the same time. The audience and scope of such a mailing would be specific factors in determining the amount of CMP to be levied. Specific and unqiue letters mailed to individuals at varying times would be considered as multiple occurences each of which would be subject to separate CMP impositions.
- In the case of an advertisement appearing in a magazine or other publication, each advertisement or solicitation in each publication or issue of a publication in which it appears regardless of its circulation. Multipe or separate ads would be treated as separate violations.
- In the case of a broadcast or telecast, the airing of a single commercial or solicitation regardless of the audience reached. Each airing would be a separate violation.

We are specifically requesting comments in this area on how best to define the occurrence of a violation in the regulations.

In assessing penalties against violators of this prohibition, the OIG would be required to coordinate its activities with the Department of Justice. Those individuals or organizations assessed CMPs would be permitted to request a hearing before an Administrative Law Judge in accordance with the procedures set forth in 42 CFR part 1003.

Factors To Be Considered in Levying CMPs

We are proposing to establish in 42 CFR 1003.106 the following five specific criteria and one general criterion in determining civil money penalty amounts for violation of this prohibition–

- The nature of the solicitation and the degree to which the organization has attempted to mislead or deceive the public through its advertising or offering;
- The frequency and scope of the violation;
- Any efforts made by the organziation to include a clear, prominent and conspicuously-placed disclaimer of Government association on the mailing envelope, the first page, or in the beginning of its solicitation or offering;
- The prior history of the organziation in its willingness or failure to comply with informal requests to correct violations;
- Actual harm to the public, or the likelihood of harm to the public, in terms of expenses incurred as a result of relying on such offering or solicitation; and
- Other matters required by justice.

We welcome comment on the application of these criteria and on the inclusion of other speicifc aggravating and mitigating factors to be considered in the levying of CMPs under this provision.

Action Prior to CMPs

Where feasible, the OIG would attempt to use informal methods prior to initiating a CMP action. Such methods might include direct contact with an organization believed to be in violation of this provision to advise them of their potential liability and their need to display in their solicitation a clear, prominent and conspicuously-placed disclaimer of any affiliation with the Department or its programs.

Examples of what may be deemed acceptable disclaimers are those that appear on the face of a solicitation, and on the envelope in the case of a mailed solicitation, in conspicuous and legible type that would be in contrast by typography, layout and color with other printing on its face. A disclaimer should clearly state words to the effect that the offering entity is a private corporation of entity not affiliated with any Federal agency, that the product or service offered through the solicitation or advertisement has not been approved, authorized or endorsed by the Department, and that the offering is not being made by the Department or its programs. The disclaimer should also indicate, when appropriate, that all or some of the products or services offered in the solicitation may also be provided either free of charge or at a lower price by the Department. If mailed, the envelope or outside cover or wrapping of the solicitation should also bear on its face in capital letters and in conspicuous and legible type notice that the solicitation is not a Federal document. In a broadcast or telecast, a verbal disclaimer may be necessary. Comments on the content of acceptable disclaimers are welcomed.

We are also particularly interested in receiving comments on how best we can evaluate (1) an organization's intent to deceive the public, and (2) the actual harm incurred by the public as a result of the misleading solicitation.

This new CMP authority to address the misuse of program words and symbols is intended to supplement and not substitute for existing authorities, such as that of the United States Postal Service, to take action against misleading and fraudulent references in materials that are mailed.

III. Regulatory Impact Statement

Introduction

Executive order 12291 requires us to prepare and publish an initial regulatory impact analysis for any proposed regulation that meets one of the Executive Order criteria for a "major rule," that is, that would be likely to result in (1) an annual effect on the economy of $100 million or more; (2) a major increase in costs or prices for consumers, individuals, industries, Federal, State, or local government agencies or geographic regions; or, (3) significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

In addition, we generally prepare a regulatory flexibility analysis that is consistent with the Regulatory Flexibility Act (5 U.S.C. 601 through 612), unless the Secretary certifies that a proposed regulation would not have a significant economic impact on a substantial number of small entities. The analysis is intended to explain what effect the regulatory action by the agency will have on small businesses and other small entities, and to develop lower cost or burden alternatives.

Impact on Organizations and Businesses

We have determined that this rule is not a "major rule" under Executive Order 12291 as it is not likely to meet the criteria for having a significant economic impact. As indicated above, the provisions contained in this rulemaking provide new authorities to the OIG to levy civil money penalties against persons or entities engaged in the prohibited activity or practice of misusing certain Departmental terms, symbols and emblems, as proscribed by statute. These provisions are a result of statutory changes and serve to clarify departmental policy with respect to the imposition of CMPs upon persons and entities who violate the statute. We believe that the great majority of providers and practitioners do not engage in such prohibited activities and practices discussed in these regulations, and that the aggregate economic impact of these provisions should, in effect, be minimal, affecting only those who have engaged in prohibited behavior in violation of statutory intent. As such, this rule should have no direct effect on the economy or on Federal or State expenditures.

Conclusion

For the reasons set forth above, we have determined that no regulatory impact analysis is required for these proposed regulations. In addition, while some penalties the Department could impose as a result of these regulations might have an impact on small entities, we do not anticipate that a substantial number of these small entities will be significantly affected by this rulemaking. Therefore, since we have determined, and the Secretary certifies, that this proposed rule would not have a significant economic impact on a number of small business entities, we have not prepared a regulatory flexibility analysis.

List of Subjects in 42 CFR Part 1003

Administrative practice and procedure, Fraud, Grant programs—health, Health facilities, Health professions, Maternal and child health, Medicaid, Medicare, Penalties.

42 CFR part 1003 would be amended as set forth below:

PART 1003—CIVIL MONEY PENALTIES AND ASSESSMENTS

1. The authority citation for part 1003 would be revised to read as follows:

Authority: Secs. 1102, 1128, 1128A, 1140, 1842(j) and 1842(k) of the Social Security Act (42 U.S.C. 1302, 1320a–7, 1320a–7a, 1320b–10, 1395u(j) and 1395u(k)).

2. Section 1003.100 would be revised to read as follows:

§ 1003.100 Basis and purpose.

(a) *Basis.* This part implements sections 1128(c), 1128A, 1140, 1842(j) and 1842(k) of the Social Security Act (42 U.S.C. 1320a–7(c), 1320a–7a, 1320b–10, 1395u(j) and 1395u(k).

(b) *Purpose.* This part establishes procedures for (1) Imposing:

(i) Civil money penalties and assessments against persons who have submitted certain prohibited claims under the Medicare, Medicaid, or the Maternal and Child Health Services Block Grant programs, and

(ii) Civil money penalties against an individual or organization that misuses certain Departmental and program terms, words, symbols and emblems;

(2) Suspending from the Medicare and Medicaid programs, persons against whom a civil money penalty or assessment has been imposed; and

(3) Specifying the appeal rights of persons subject to a penalty or assessment.

3. Section 1003.102 would be amended by republishing paragraph (b) introductory text and adding paragraph (b)(4) read as follows:

§ 1003.102 Basis for civil money penalties and assessments.

* * * * *

(b) The OIG may impose a penalty against any person or organization who it determines in accordance with this part:

* * * * *

(4) Has made use of certain words, letters, symbols or emblems in such a manner that they knew, or should have known, would convey the false impression that an advertisement or other item was authorized, approved, or otherwise endorsed by the Department, the Social Security Administration or the Health Care Financing Administration, or that the responsible person or organization has some connection with, or authorization from, the Department, SSA or HCFA. Civil money penalties may be imposed for misuse of (i) the words "Social Security," "Social Security Account," "Social Security Administration," "Social Security System," "Medicare," and "Health Care Financing Administration;" (ii) the letters "SSA" or "HCFA," or any acronym, combination or variation of such words; and (iii) any symbols or emblems of the Department or such agencies.

* * * * *

4. Section 1003.103 would be revised to read as follows:

§ 1003.103 Amount of penalty.

(a) The OIG may impose a penalty of not more than $2,000 for each item or service that is subject to a determination under § 1003.102(a) and (b)(1)—(b)(3).

(b)(1) The OIG may impose a penalty of not more than $5,000 for each violation resulting from the misuse of Departmental or program words, symbols, or emblems relating to printed media, and penalty of not more than $25,000 in the case of such misuse relating to a broadcast or telecast, that is subject to a determination under § 1003.102(b)(4). With respect to multiple violations consisting of substantially identical communications or productions, total penalties may not exceed $100,000 per year.

(2) For pruposes of this subparagraph, a violation if defined as—

(i) In the case of a direct mailing solicitation, each group mailing of an identical letter or solicitation sent at the same time. Specific or unique letters mailed to individuals at varying times will be treated as separate violations;

(ii) In the case of a printed advertisement, each advertisement or solicitation in each publication or issue of a publication in which it appears. Multiple or separate advertisements will be treated as separate violations; and

(iii) In the case of a broadcast or telecast, the airing of a single commercial or solicitation. Each airing will be a separate violation.

5. Section 1003.106 would be amended by revising paragraph (a) to read as follows:

§ 1003.106 Determinations regarding the amount of the penalty and assessment.

(a)(1) In determining the amount of any penalty in accordance with § 1003.102(a) and (b)(1)—(b)(3), the OIG will take into account:

(i) The nature of the claim or request for payment and the circumstances under which it was presented,

(ii) The degree of culpability of the person submitting the claim or request for payment,

(iii) The history of prior offenses of the person submitting the claim or request for payment,

(iv) The financial condition of the person presenting the claim or request for payment, and

(v) Such other matters as justice may require.

(2) In determining the amount of any penalty in accordance with § 1003.102(b)(4), the OIG will take into account:

(i) The nature and objective of the solicitation, and the degree to which the organization has attempted to mislead or deceive the public through its advertising, offering or message conveyed to the public concerning the Department;

(ii) The frequency and scope of the violation, and whether a specific segment of the population was targeted;

(iii) Any efforts made by the organization to include a clear, prominent and conspicuously-placed disclaimer statement of association with the Federal government in its offering or solicitation, and mailing envelope;

(iv) The prior history of the organization in its willingness or refusal to comply with informal requests to correct violations;

(v) Actual harm to the public, or likelihood of harm to the public, in terms of expenses incurred in relying on such solicitations, communications or offerings; and

(vi) Such other matters as justice may require.

* * * * *

Dated: June 5, 1989.

Richard P. Kusserow,

Inspector General, Department of Health and Human Services.

Approved: July 5, 1989.

Louis W. Sullivan,

Secretary.

Editorial Note: This document was received at the Office of the **Federal Register** on January 30, 1990.

[FR Doc. 90-2504 Filed 2-5-90; 8:45 am]

BILLING CODE 4120-03-M

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

43 CFR Part 4700

[AA-250-09-4370-02]

RIN 1004-AB63

Protection, Management, and Control of Wild Free-Roaming Horses and Burros; Private Maintenance; Supporting Information and Certification for Private Maintenance of More Than 4 Wild Horses or Burros

AGENCY: Bureau of Land Management, Interior.

ACTION: Proposed rulemaking.

SUMMARY: This proposed rulemaking would prohibit the use of power of attorney to adopt wild horses or burros when the adoption would result in the maintenance in one location of more than 4 wild horses or burros whose title has not been conveyed by the United States. Public Law 92-195, as amended, commonly referred to as the Wild Free-Roaming Horse and Burro Act, limits the number of animals that may be adopted by any individual to not more than 4 per year unless "the Secretary determines in writing that such individual is capable of humanely caring for more than four animals * * *" Section 4750.3-3 regulates approval of adoption applications where the applicant requests to adopt more than 4 animals per year or where more than 4 untitled adopted wild horses or burros are to be maintained in one location. The purpose of the proposed amendment to this section is to prohibit an individual from gaining control of more than 4 wild horses or burros by using one or more powers of attorney. The rule would allow the use of power of attorney for purposes of transporting wild horses or burros on behalf of an adopter.

DATES: Comments on the proposed amendment must be received by March 8, 1990.

ADDRESSES: Comments should be sent to: Director (140), Bureau of Land Management, U.S. Department of the Interior, room 5555, 18th and C Streets, NW., Washington, DC 20240.

Comments will be available for public review in Room 5555 of the above address during regular business hours (7:45 a.m. to 4:15 p.m.), Monday through Friday.

FOR FURTHER INFORMATION CONTACT: John S. Boyles, Chief, Division of Wild Horses and Burros, at the Bureau of Land Management (250), Premier Building, Room 901, U.S. Department of the Interior, 18th and C Streets, NW., Washington, DC 20240; telephone (202) 653-9215.

SUPPLEMENTARY INFORMATION: A 1987 court ruling enjoined the Bureau of Land Management from transferring title to adopted animals in cases where the adopter has at any time expressed an intent to use the animal for commercial purposes after the passage of title (*Animal Protection Institute* v. *Hodel*, 671 F. Supp. 695 (D.Nev. 1987), Aff'd 860 F.2d 920 (9th Cir. 1988)). In light of the court's emphasis on the adopter's intent, the regulations are proposed to be amended to prevent individuals or groups from using powers of attorney to circumvent the 4-animal limit and gain control of more than 4 horses or burros in a year.

Under existing regulations, some individuals have used powers of attorney to accumulate large numbers of excess wild horses. The procedure used was as follows: Individual adopters, each of whom executed agreements to adopt the maximum four horses, granted powers of attorney to one person. This person would take possession of the horses and maintain them for the adopters. After 1 year of proper care, the adopters would apply for and receive titles to the animals. Upon passage of title, the protections of the Wild Free-Roaming Horse and Burro Act no longer apply. Thus, after title passed, the person holding powers of attorney could, with the consent of the adopters, put the animals to commercial use.

The principal author of this proposed rulemaking is John S. Boyles, Chief, Division of Wild Horses and Burros, assisted by the staff of the Office of Legislation and Regulatory Management, Bureau of Land Management.

It has been determined that this rulemaking does not constitute a major Federal action significantly affecting the quality of the human environment and that no detailed statement pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)(C)) is required.

The Department of the Interior has determined under Executive Order 12291 that this document is not a major rule, and under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) that it will not have a significant economic impact on a substantial number of small entities. Additionally, as required by Executive Order 12630, the Department has determined that the rulemaking would not cause a taking of private property.

The information collection requirements contained in § 4750.3–3 have been approved by the Office of Management and Budget under 44 U.S.C. 3501 et seq. and assigned clearance number 1004–0042.

List of Subjects in 43 CFR Part 4700

Advisory committees; Aircraft; Intergovernmental relations; Penalties; Public lands; Range management; Wild horses and burros; Wildlife.

Under the authority of the Act of September 8, 1959 (18 U.S.C. 47), the Act of December 15, 1971, as amended (16 U.S.C. 1331–1340), the Act of October 21, 1976 (43 U.S.C. 1701 *et seq.*) and the Act of June 28, 1934, as amended (43 U.S.C. 315), part 4700, subchapter D, chapter II, title 43 of the Code of Federal Regulations (Wild Free-Roaming Horse and Burro Management) is amended as set forth below.

PART 4700—[AMENDED]

1. The authority citation for part 4700 continues to read as follows:

Authority: Act of Dec. 15, 1971, as amended (16 U.S.C. 1331–1340), Act of Oct. 21, 1976 (43 U.S.C. 1701 *et seq.*), Act of Sept. 8, 1959 (18 U.S.C. 47, Act of June 28, 1934 (43 U.S.C. 315).

2. Section 4750.3–3 is amended by removing the word "for" the first time it appears in the introductory text of paragraph (a) and replacing it with the words "to adopt", removing paragraph (b)(7), redesignating paragraph (b) as paragraph (c), by adding a new paragraph (b) and revising newly designated paragraphs (c) introductory text, (c)(3), (c)(5), and (c)(6) to read as follows:

§ 4750.3–3 Supporting information and certification for private maintenance of more than 4 wild horses or burros.

* * * * *

(b) The Authorized Officer will not approve an adoption in which the Private Maintenance and Care Agreement will be signed by an individual holding the power of attorney of the adopter where the adopted animals will be maintained in groups of more than 4 untitled wild horses or burros in one location.

(c) Any individual holding one or more powers of attorney to sign the Private Maintenance and Care Agreement(s) and who will transport more than 4 wild horses or burros on behalf of adoption applicants shall provide the following:

* * * * *

(3) Names, addresses, and telephone numbers of all applicants represented by a power of attorney submitted with the request;

* * * * *

(5) A distribution plan for delivering the animals to their assigned adopters; and

(6) Names, addresses, and a concise summary of the experience of the individuals who will handle the adopted animals during transportation and distribution.

Dated: December 27, 1989.

James M. Hughes,

Acting Assistant Secretary of the Interior.

[FR Doc. 90–2667 Filed 2–5–90; 8:45 am]

BILLING CODE 4310–84–M

Notices

Federal Register
Vol. 55, No. 25
Tuesday, February 6, 1990

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 COMMERCE

National Institute of Standards and Technology

National Fire Codes; Request for Comments on NFPA Technical Committee Reports

AGENCY: National Institute of Standards and Technology, Commerce.

ACTION: Notice of request for comments.

SUMMARY: The National Fire Protection Association (NFPA) revises existing standards and adopts new standards twice a year. At it Fall Meeting in November or its Annual Meeting in May, the NFPA acts on recommendations made by its technical committees.

The purpose of this notice is to request comments on the technical reports which will be presented at NFPA's 1990 Fall Meeting. The publication of this notice by the National Institute of Standards and Technology (NIST) on behalf of NFPA is being undertaken as a public service; NIST does not necessarily endorse, approve, or recommend any of the standards referenced in the notice.

DATES: The Technical Committee Reports are available for distribution on January 26, 1990. Comments received on or before April 6, 1990 will be considered by the respective NFPA Committees before final action is taken on the proposals.

ADDRESSES: The 1990 Annual Technical Committee Reports are available from NFPA, Publications Department, Batterymarch Park, Quincy, Massachusetts 0226. Comments on the reports should be submitted to Arthur E. Cote, P.E., Secretary, Standards Council, NFPA, 1 Batterymarch Park, Quincy, Massachusetts 02269–9101.

FOR FURTHER INFORMATION CONTACT: Arthur E. Cote, P.E., Scretary, Standards Council, at above address (617) 770–3000.

SUPPLEMENTARY INFORMATION:

Background

Standards developed by the technical committees of the National Fire Protection Association (NFPA) have been used by various Federal Agencies as the basis for Federal regulations concerning fire safety. The NFPA standards are known collectively as the National Fire Codes. Often, the Office of the Federal Register approves the incorporation by reference of these standards under 5 U.S.C. 552(a) and 1 CFR part 51.

Revisions of existing standards and adoption of new standards are reported by the technical committees at the NFPA's Fall Meeting in November or at the Annual Meeting in May of each year. The NFPA invites public comment on its Technical Committee Reports.

Requests for Comments

Interested persons may participate in these revisions by submitting written data, views, or arguments to Arthur E. Cote, P.E., Secretary Standards Council, NFPA, Batterymarch Park, Quincy, Massachusetts 02269. Commenters may use the forms provided for comments in the Technical Committee Reports. Each person submitting a comment should include his or her name and address, identify the notice, and give reasons for any recommendations. Comments received on or before April 6, 1990, will be considered by the NFPA before final action is taken on the proposals.

Copies of all written comments and the disposition of those comments by the NFPA committees will be published as the Technical Committee Documentation by September 21, 1990, prior to the Fall Meeting.

A copy of the Technical Committee Documentation will be sent automatically to each commenter. Action on the Technical Committee reports (adoption or rejection) will be taken at the Fall Meeting, November 12–14, 1990, in Miami, Florida by NFPA members.

Dated: January 31, 1990.

Raymond G. Kammer,

Acting Director.

1990 Fall Meeting Technical Committee Reports

[P=Partial revision; W=Withdrawal; R=Reconfirmation; N=New; C=Complete Revision]

NFPA No.	Title	Action
10H	Home Portable Fire Extinguishing Equipment.	N
12A	Halogenated Fire Extinguishing Agent Systems-Halon 1301.	P
16	Foam-Water Sprinkler & Spray Systems.	P
49	Hazardous Chemicals Data	C
92B	Smoke Control Systems in Artria, Covered Malls, & Large Areas.	N
96	Removal of Smoke & Grease-Laden Vapors from Commercial Cooking Equipment.	P
101	Life Safety Code	P
150	Racetrack Stables	P
170	Fire Safety Symbols (Incorporates NFPA 171, NFPA 172, NFPA 174, NFPA 178).	C
204M	Smoke and Heat Venting	R
231C	Rack Storage	P
232	Protection of Records	P
232AM	Fire Protection for Archives and Records Centers.	P
321	Classification of Flammable and Combustible Liquids.	P
325	Fire Hazard Properties of Flammable Liquids, Gases, & Volating Solids.	P
491M	Hazardous Chemical Reactions	R
497B	Classification II Hazard Locations for Electrical Installations in Chemical Processing Plants.	N
497M	Gases, Vapors & Dusts for Electrical Equipment in Hazardous Locations.	P
801	Facilities Handling Radioactive Materials.	C
1004	Fire Fighter Medical Technicians Professional Qualifications.	W
1461	Criteria for Accreditation of Fire Protection Education Programs.	W
1901	Pumper Fire Apparatus	C
1902	Initial Attack Fire Apparatus	N
1903	Mobile Water Supplies	N
1904	Aerial Ladder Fire Apparatus	N
1911	Testing Fire Department Pumpers.	C

[FR Doc. 90–2691 Filed 2–5–90; 8:45 am]
BILLING CODE 3510–13–M

National Fire Codes; Request for Proposals for Revision of Standards

AGENCY: National Institute of Standards and Technology, Commerce.

ACTION: Notice of request for proposals.

SUMMARY: The National Fire Protection Association (NFPA) proposes to revise some of its fire safety standards and request proposals from the public to amend existing NFPA fire safety standards. The purpose of this request is to increase public participation in the system used by NFPA to develop its standards. The publication of this notice of request for proposals by the National Institute of Standards and Technology (NIST) on behalf of NFPA is being undertaken as a public service; NIST does not necessarily endorse, approve, or recommend any of the standards referenced in the notice.

DATES: Interested persons may submit proposals on or before the dates listed with the standards.

ADDRESSES: Arthur E. Cote, P.E., Secretary, Standards Council, NFPA, 1 Batterymarch Park, Quincy, Massachusetts 02269–9101.

FOR FURTHER INFORMATION CONTACT: Arthur E. Cote, P.E., Secretary, Standards Council, at above address, (617) 770–3000.

SUPPLEMENTARY INFORMATION:

Background

The National Fire Protection Association (NFPA) develops fire safety standards which are known collectively as the National Fire Codes. Federal agencies frequently use these standards as the basis for developing Federal regulations concerning fire satety. Often, The Office of the Federal Register approves the incorporation by reference of these standards under 5 U.S.C. 552(a) and 1 CFR part 51.

Request for Proposals

Interested persons may submit amendments, supported by written data, views, or arguments to Arthur E. Cote, P.E., Secretary, Standards Council, NFPA, 1 Batterymarch Park, Quincy, Massachusetts 02269–9101. Proposals should be submitted on forms available from the NFPA Standards Administration Office.

Each person must include his or her name and address, identify the document and give reasons for the proposal. Proposals received before or by 5 P.M. local time on the closing date indicated will be acted on by the Committee. The NFPA will consider any proposal that it receives on or receives on or before the date listed with the standard.

At a later date, each NFPA Technical Committee will issue a Technical Committee Report that include a copy of written proposals that have been received and an account of their disposition by the Committee. Each person who has submitted a written proposal will receive a copy of the report.

Dated: January 31, 1990.

Raymond G. Kammer,

Acting Director.

NFPA No. and Title	Prop. closing date
NFPA 31–1987, Oil Burning Equipment.	July 20, 1990.
NFPA 32–1990, Drycleaning Plants.	Open.
NFPA 33–1989, Spray Application Using Flammable and Combustible Materials.	Open.
NFPA 34–1989, Dipping & Coating Processes Using Flammable or Combustible Liquids.	Open.
NFPA 36–1988, Solvent Extraction Plants.	Open.
NFPA 51–1987, Oxygen-Fuel Gas Welding, Cutting & Allied Processes.	May 11, 1990.
NFPA 70–1990, National Electrical Code.	Nov. 9, 1990
NFPA 75–1989, Protection of Electronic Computer/Data Processing Equipment.	Jan. 18, 1991.
NFPA 81–1986, Fur Storage, Fumigation & Cleaning.	July 20, 1990.
NFPA 101M–1988, System Approaches to Life Safety.	Mar. 1, 1990.
NFPA 102–1986, Assembly Seating, Tents, & Membrane Structures.	Mar. 1, 1990.
NFPA 266–Proposed, Fire Test Upholstered Furniture, Subjected to Open Flame Ignition, Using a Large-Scale Oxygen Consumption Calorimeter.	Mar. 30, 1990.
NFPA 267–Proposed, Fire Test for Mattresses, Subjected to Open Flame Large-Scale Oxygen Consumption Calorimeter.	Mar. 30, 1990.
NFPA 327–1987, Cleaning or Safeguarding Small Tanks and Containers.	Jan. 18, 1991.
NFPA 328–1987, Control of Flammable & Combustible Liquids and Gases in Manholes & Sewers.	Jan. 18, 1991.
NFPA 329–1987, Underground Leakage of Flammable & Combustible Liquids.	Jan. 18, 1991.
NFPA 385–1990, Tank Vehicles for Flammable and Combustible Liquids.	Open.
NFPA 386–1990, Portable Shipping Tanks for Flammable and Combustible Liquids.	Open.
NFPA 395–1988, Storage of Flammable & Combustible Liquids on Farms and Isolated Construction Projects.	Open.
NFPA 471–1989, Responding to Hazardous Materials Incidents.	July 20, 1990.
NFPA 472–1989, Professionial Competence of Responders to Hazardous Materials Incidents.	July 20, 1990.
NFPA 473–Proposed, EMS Operations at Hazardous Materials Incidents.	July 20, 1990.
NFPA 496–1989, Purged and Pressurized Enclosures for Electrical Equipment.	July 20, 1990.
NFPA 497A–1986, Classification of Class 1 Hazardous Locations for Electrical Installations in Chemical Plants.	July 20, 1990.
NFPA 820–1990, Wastewater Treatment Plants.	July 20, 1990.
NFPA 903M–1986, Fire Reporting Property Survey Manual.	Jan. 18, 1991.
NFPA 904M–1986, Incident Follow-Up Report Manual.	Jan. 18, 1991.
NFPA 1035–1987, Public Fire Educator Professional Qualifications.	July 20, 1990.
NFPA 1402–1985, Building Training Centers.	July 20, 1990.
NFPA 1501–1987, Fire Department Safety Officer.	Oct. 26, 1990.
NFPA 1961–1987, Fire Hose	July 20, 1990.
NFPA 1972–1987, Helmets for Structural Fire Fighting.	Jan. 18, 1991.
NFPA 1974–1987, Protective Footwear for Structural Fire Fighting.	Jan. 18, 1991.
NFPA 1976–Proposed, Crash/Fire/Rescue Protective Clothing.	Aug. 31, 1990.

[FR Doc. 90–2692 Filed 2–5–90; 8:45 am]

BILLING CODE 3510–13–M

National Oceanic and Atmospheric Administration

Coastal Zone Management; Federal Consistency Appeal by George Chenault From an Objection by the South Carolina Coastal Council

AGENCY: National Oceanic and Atmospheric Administration, Commerce.

ACTION: Notice of dismissal.

On August 28, 1989, George Chenault (Appellant) filed with the Department of Commerce (Department) a notice of appeal under section 307(c)(3)(A) of the Coastal Zone Management Act of 1972, as amended, 16 U.S.C. 1456(c)(3)(A), and implementing regulations, 15 CFR part 930, subpart H. The appeal arose from an objection by the South Carolina Coastal Council (State) to the Appellant's consistency certification for a U.S. Army Corps of Engineer's permit to construct a pond. On October 10, 1989, former Under Secretary Evans granted a stay of the appeal until December 1, 1989. Appellant failed to file a brief in a timely manner. Accordingly, the Department dismissed the appeal on January 8, 1990 for good cause pursuant to 15 CFR 930.128 (1988). That dismissal bars the Appellant from filing another appeal from the State's original objection to the aforementioned activities.

FOR ADDITIONAL INFORMATION CONTACT: Kirsten Erickson, Attorney-Adviser, Office of the Assistant General Counsel for Ocean Services, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, 1825 Connecticut Avenue NW., Suite 603, Washington, DC 20235, (202) 673–5200.

(Federal Domestic Assistance Catalog No. 11.419 Coastal Zone Management Program Assistance)

Dated: January 25, 1990.

Thomas A. Campbell,

General Counsel.

[FR Doc. 90–2649 Filed 2–5–90; 8:45 am]

BILLING CODE 3510–08–M

Coastal Zone Management; Federal Consistency Appeal by W. Harry Cone, Jr., From an Objection by the South Carolina Coastal Council

AGENCY: National Oceanic and Atmospheric Administration, Commerce.

ACTION: Notice of dismissal.

On March 13, 1989, W. Harry Cone, Jr. (Appellant) filed with the Department of Commerce (Department) a notice of appeal under section 307(c)(3)(A) of the Coastal Zone Management Act of 1972, as amended, 16 U.S.C. 1456(c)(3)(A), and implementing regulations, 15 CFR part 930, subpart H. The appeal arose from an objection by the South Carolina Coastal Council (State) to the Appellant's consistency certification for a U.S. Army Corps of Engineers' permit to fill freshwater wetlands to reroute the flow of storm water run off. On June 26, 1989, former Under Secretary Evans granted a six month stay of the appeal. That stay expired on December 18, 1989. On December 15, 1989, Appellant requested that the Department dismiss his appeal. Accordingly, the Department dismissed the appeal on January 10, 1990, for good cause pursuant to 15 CFR 930.128 (1988). That dismissal bars the Appellant from filing another appeal from the State's original objection to the aforementioned activities.

FOR ADDITIONAL INFORMATION CONTACT: Kirsten Erickson, Attorney-Adviser, Office of the Assistant General Counsel for Ocean Services, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, 1825 Connecticut Avenue NW., Suite 603, Washington, DC, 20235, (202) 673–5200.

(Federal Domestic Assistance Catalog No. 11.419 Coastal Zone Management Program Assistance)

Dated: January 25, 1990.

Thomas A. Campbell,

General Counsel.

[FR Doc. 90–2648 Filed 2–5–90; 8:45 am]

BILLING CODE 3510–08–M

Coastal Zone Management; Federal Consistency Appeal by James Dusenbury From an Objection by the South Carolina Coastal Council

AGENCY: National Oceanic and Atmospheric Administration, Commerce.

ACTION: Notice of dismissal.

On June 27, 1989, James Dusenbury (Appellant) filed with the U.S. Department of Commerce a notice of appeal under section 307(c)(3)(A) of the Coastal Zone Management Act of 1972, as amended, 16 U.S.C. 1456(c)(3)(A), and its implementing regulations, 15 CFR part 930, subpart H. The appeal was taken from an objection by the South Carolina Coastal Council (State) to Appellant's certification that his proposal to fill a man-made pond of less than one acre located in North Myrtle Beach, South Carolina, for which he would need a U.S. Army Corps of Engineers permit, was consistent with the State coastal zone management program.

Appellant has failed to file a mandatory brief due in early November. On January 10, 1990, the Under Secretary for Oceans and Atmosphere accordingly dismissed the appeal for good cause pursuant to 15 CFR 930.128. The dismissal bars Appellant from filing another appeal from the State's objection to his consistency certification. The dismissal constitutes final agency action for purposes of judicial review.

(Federal Domestic Assistance Catalog No. 11.419 Coastal Zone Management Program Assistance)

Dated: January 25, 1990.

Thomas A. Campbell,

General Counsel.

[FR Doc. 90–2647 Filed 2–5–90; 8:45 am]

BILLING CODE 3510–08–M

Coastal Zone Management; Federal Consistency Appeal by Rita Rascati From an Objection by the Connecticut Department of Environmental Protection

AGENCY: National Oceanic and Atmospheric Administration; Commerce.

ACTION: Notice of dismissal.

On September 25, 1989, Rita Rascati (Appellant) filed with the Department of Commerce (Department) a notice of appeal under section 307(c)(3)(A) of the Coastal Zone Management Act of 1972, as amended, 16 U.S.C. 1456(c)(3)(A), and implementing regulations, 15 CFR part 930, subpart H. The appeal arose from an objection by the Connecticut Department of Environmental Protection (State) to the Appellant's consistency certification for the retention and maintenance of a seawall and backfill. On October 26, 1989, the State withdrew its objection to Appellant's proposed project. Accordingly, the Department dismissed the appeal on January 5, 1990 for good cause pursuant to 15 CFR 930.128 (1988). That dismissal bars the Appellant from filing another appeal from the State's original objection to the aforementioned activities.

FOR ADDITIONAL INFORMATION CONTACT: Kirsten Erickson, Attorney-Adviser, Office of the Assistant General Counsel for Ocean Services, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, 1825 Connecticut Avenue, NW., Suite 603, Washington, DC, 20235, (202) 673–5200.

(Federal Domestic Assistance Catalog No. 11.419 Coastal Zone Management Program Assistance)

Dated: January 25, 1990.

Thomas A. Campbell,

General Counsel.

[FR Doc. 90–2645 Filed 2–5–90; 8:45 am]

BILLING CODE 3510–08–M

Coastal Zone Management, Federal Consistency Appeal by the Town of Swampscott, Massachusetts, From an Objection by the Massachusetts Coastal Zone Management Office

AGENCY: National Oceanic and Atmospheric Administration Commerce.

ACTION: Notice of dismissal.

On July 27, 1987, the Town of Swampscott, Massachusetts (Appellant) filed with the U.S. Department of Commerce a notice of appeal under section 307(c)(3)(A) of the Coastal Zone Management Act of 1972, as amended, 16 U.S.C. 1456(c)(3)(A), and its implementing regulations, 15 CFR part 930, subpart H. The appeal was taken from an objection by the Massachusetts Coastal Zone Management Office (State) to Appellant's certification that its request to the U.S. Environmental Protection Agency (EPA) to modify secondary treatment requirements for discharge into marine waters under the Federal Water Pollution Control Act

was consistent with the State coastal zone management program.

The appeal was subsequently stayed pending the outcome of a lawsuit by EPA against Appellant to compel secondary treatment. That lawsuit has resulted in a consent decree under which Appellant must withdraw its consistency appeal, and Appellant has done so.

On January 5, 1990, the Under Secretary for Oceans and Atmosphere accordingly dismissed the appeal for good cause pursuant to 15 CFR 930.128. The dismissal bars Appellant from filing another appeal from the State's objection to its consistency certification. The dismissal consititutes final agency action for purposes of judicial review.

(Federal Domestic Assistance Catalog No. 11.419 Coastal Zone Management Program Assistance)

Dated: January 25, 1990.

Thomas A. Campbell,

General Counsel.

[FR Doc. 90-2646 Filed 2-5-90; 8:45 am]

BILLING CODE 3510-08-M

Endangered and Threatened Wildlife and Plants: Recovery Plans

AGENCY: National Marine Fisheries Service, NOAA, Commerce.

ACTION: Notice of availability and request for comments.

SUMMARY: The Draft National Recovery Plan for the Northern Right Whale (*Eubalaena glacialis*) is available for review and comments by interested parties prior to final approval and adoption by the National Marine Fisheries Service (NMFS). The plan was developed by the Northern Right Whale Recovery Team which was appointed in 1987 by the Assistant Administrator for Fisheries. Membership includes biologist and resource managers from The Georgia Conservancy, College of the Atlantic, Commonwealth of Massachusetts, Long Term Research Institute, Marine Mammal Commission, New England Aquarium, NMFS, University of Guelph, and the University of Rhode Island.

DATES: Comments on the draft recovery plan must be received on or before March 23, 1990.

ADDRESSES: Comments should be addressed to Director, Office of Protected Resources, National Marine Fisheries Service, 1335 East West Highway, Silver Spring, MD 20910. Copies of the Draft Northern Right Whale National Recovery Plan are available upon request from Robert C. Ziobro, Protected Species Management Division, National Marine Fisheries Service, 1335 East West Highway, room 8275, Silver Spring, MD 20910.

FOR FURTHER INFORMATION CONTACT: Robert C. Ziobro at 301/427-2323.

SUPPLEMENTARY INFORMATION: The Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*) requires that the agencies responsible for listed species develop and implement recovery plans for the conservation and survival of threatened and endangered species, unless it is determined that such plans will not promote the conservation of the species. Accordingly, NMFS appointed a Northern Right Whale Recovery Team to assist in the development of a Draft Northern Right Whale National Recovery Plan. The Recovery Plan discusses the natural history, current status of the Western North Atlantic and North Pacific populations, and the known and potential human impacts on the species. Actions that would promote the recovery of right whales are identified and discussed in the draft plan. The Recovery Plan will be used to direct U.S. activities to promote the recovery of the endangered right whale.

Dated: January 31, 1990.

Nancy Foster,

Director, Office of Protected Resources and Habitat Programs.

[FR Doc. 90-2618 Filed 2-5-90; 8:45 am]

BILLING CODE 3510-22-M

COMMITTEE FOR THE IMPLEMENTATION OF TEXTILE AGREEMENTS

Establishment, Amendment and Cancellation of Import Limits for Certain Cotton and Man-Made Fiber Textile Products Produced or Manufactured in Pakistan

February 1, 1990.

AGENCY: Committee for the Implementation of Textile Agreements (CITA).

ACTION: Issuing a directive to the Commissioner of Customs establishing, amending and cancelling limits.

EFFECTIVE DATE: February 8, 1990.

FOR FURTHER INFORMATION CONTACT: Ann Novak, International Trade Specialist, Office of Textiles and Apparel, U.S. Department of Commerce, (202) 377-4212. For information on the quota status of these limits, refer to the Quota Status Reports posted on the bulletin boards of each Customs port or call (202) 343-6498. For information on embargoes and quota re-openings, call (202) 377-3715.

SUPPLEMENTARY INFORMATION:

Authority: Executive Order 11651 of March 3, 1972, as amended; sec. 204 of the Agricultural Act of 1856, as amended (7 U.S.C. 1854).

As as result of consultations between the Governments of the United States and Pakistan, the two governments agreed to amend their current bilateral textile agreement. As a result, specific limits are being established and certain current limits are being amended and cancelled.

A description of the textile and apparel categories in terms of HTS numbers is available in the CORRELATION: Textile and Apparel Categories with the Harmonized Tariff Schedule of the United States (see **Federal Register** notice 54 50797, published on December 11, 1989).

The letter to the Commissioner of Customs and the actions taken pursuant to it are not designed to implement all of the provisions of the Memorandum of Understanding, but are designed to assist only in the implementation of certain of its provisions.

Auggie D. Tantillo,

Chairman, Committee for the Implementation of Textile Agreements.

Committee for the Implementation of Textile Agreements

February 1, 1990.

Commissioner of Customs,

Department of the Treasury, Washington, DC 20229.

Dear Commissioner: Pursuant to a Memorandum of Understanding dated December 13, 1989, between the Governments of the United States and Pakistan, this directive amends, but does not cancel, the directive issued to you on November 16, 1989, by the Chairman, Committee for the Implementation of Textile Agreements, concerning imports into the United States of certain cotton, man-made fiber, silk blend and other vegetable fiber textile and textile products, produced or manufactured in Pakistan and exported during the twelve-month period which began on January 1, 1990, and extends through December 31, 1990.

Effective on February 8, 1990, you are directed to cancel the limits and charges for Categories 218, 220, 229, 237, 607, 617, 635, 640 and 650/850 in Group III. The limits and charges for Categories 613/614, 615, 636, 638/639, 641 and 647/648 shall be moved from Group III to Group I. The levels for these categories shall remain as established in the November 16, 1989, directive. In addition, Category 631 shall be moved from Group III to Group I. The charges already made to Categories 331 and 631 shall be charged to the newly merged Categories 331/631.

Categories 359-C, 360 and 361 shall be moved from Group II to Group I. Charges made to these categories shall be retained.

Also effective on February 8, 1990, you are directed to establish and amend the limits for the following categories:

Category	New and amended limits [1]
Levels in group I:	
226/313	71,081,038 square meters.
315	48,928,745 square meters.
331/631	1,337,291 dozen pairs.
339	742,245 dozen.
359–C [2]	462,608 kilograms.
360	1,425,000 numbers.
361	1,925,000 numbers.
369–R [3]	6,093,175 kilograms.
Group II:	
300, 301, 314, 317, 326, 330, 332, 333, 345, 349, 350, 353, 354, 359–O [4], 362, 369–S,[5] and 369–O,[6] as a group.	63,115,775 square meters equivalent.

[1] The limits have not been adjusted to account for any imports exported after December 31, 1989.

[2] Category 359–C: only HTS numbers 6103.42.2025, 6103.49.3034, 6104.62.1020, 6104.69.3010, 6114.20.0048, 6114.20.0052, 6203.42.2010, 6203.42.2090, 6204.62.2010, 6211.32.0010, 6211.32.0025 and 6211.42.0010.

[3] Category 369–R: only HTS number 307.10.2020.

[4] Category 359–O: all HTS numbers except 6103.42.2025, 6103.49.3034, 6104.62.1020, 6104.69.3010, 6114.20.0048, 6114.20.0052, 6203.42.2010, 6203.42.2090, 6204.62.2010, 6211.32.0010, 6211.32.0025 and 6211.42.0010 (Category 359–C).

[5] Category 369–S: only HTS number 6307.10.2005.

[6] Category 369–O: all HTS numbers except 6302.60.0010, 6302.91.0005 and 6302.91.0045 (Category 369–D); 6307.10.2020 (Category 369–R); and 6307.10.2005 (Category 369–S).

The Committee for the Implementation of Textile Agreements has determined that these actions fall within the foreign affairs exception to the rulemaking provisions of 5 U.S.C. 533(a)(1).

Sincerely,

Auggie D. Tantillo,

Chairman, Committee for the Implementation of Textile Agreements.

[FR Doc. 90–2666 Filed 2–5–90; 8:45 am]

BILLING CODE 3510–DR–M

DEPARTMENT OF DEFENSE

GENERAL SERVICES ADMINISTRATION

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Federal Acquisition Regulation (FAR); Information Collection Under OMB 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 an extension of a currently approved information collection concerning Schedules for Construction Contracts.

ADDRESSES: Send comments to Ms. Eyvette Flynn, FAR Desk Officer, OMB, Room 3235, NEOB, Washington, DC 20503.

FOR FURTHER INFORMATION CONTACT: Mr. John L. O'Neill, Office of Federal Acquisition Policy, (202) 523–3856 or Mr. Owen Green, Defense Acquisition Regulatory Council, (703) 697–7268.

SUPPLEMENTARY INFORMATION:

a. *Purpose:* Federal construction contractors may be required to submit schedules, in the form of a progress chart, showing the order in which the contractor proposes to perform the work.

Actual progress shall be entered on the chart as directed by the contracting officer.

This information is used to monitor progress under a Federal construction contract when other management approaches for ensuring adequate progress are not used.

b. *Annual reporting burden:* The annual reporting burden is estimated as follows: Respondents, *2,600;* responses per respondent, *2;* total annual responses, *5,200;* hours per response, *1;* and total response burden hours, *5,200.*

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. 9000–0058, Schedules for Construction Contracts.

Dated: January 24, 1990.

Margaret A. Willis,

FAR Secretariat.

[FR Doc. 90–2655 Filed 2–5–90; 8:45 am]

BILLING CODE 6820–JC–M

DEPARTMENT OF DEFENSE

Public Information Collection Requirement Submitted to OMB for Review

ACTION: Notice.

The Department of Defense has submitted to OMB for clearance the following proposal for collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. chapter 35).

Title, Applicable Form, and Applicable OMB Control Number. Application for Correction of Military or Naval Records; DD Form 149; and OMB Control Number 0704–0003.

Type of Request: Reinstatement.

Average Burden Hours/Minutes Per Response: 30 mins.

Frequency of Response: On occasion.

Number of Respondents: 31,425.

Annual Burden Hours: 15,713.

Annual Responses: 31,425.

Needs and Uses: The Application for Correction of Military or Naval Records allows applicants to request correction of a military or naval record. It is used by active service members and former service personnel who feel they have suffered an injustice as a result of their military service and desire to file an appeal.

Affected Public: Individuals or households.

Frequency: Continuing.

Respondent's Obligation: Required to obtain or retain a benefit.

OMB Desk Officer: Dr. Timothy Sprehe

Written comments and recommendations on the proposed information collection should be sent to Dr. Timothy Sprehe at Office of Management and Budget, Desk Officer, room 3235, New Executive Office Building, Washington, DC 20503.

DOD Clearance Officer: Ms. Pearl Rascoe-Harrison.

Written request for copies of the information collection proposal should be sent to Ms. Rascoe-Harrison, WHS/DIOR, 1215 Jefferson Davis Highway, Suite 1204, Arlington, Virginia 22202–4302.

Dated: January 31, 1990.

L.M. Bynum,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 90–2622 Filed 2–5–90; 8:45 am]

BILLING CODE 3810–01–M

Public Information Collection Requirement Submitted to OMB for Review

ACTION: Notice.

The Department of Defense has submitted to OMB for clearance the following proposal for collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. chapter 35).

Title, Applicable Form, and Applicable OMB Control Number. Request for Secondary School Transcript; Form NDW–USNA–GRB–1110/15; and OMB Control Number 0703–0038.

Type of Request: Extension.

Average Burden Hours/Minutes Per Response: 20 min.

Frequency of Response: one time request.

Number of Respondents: 10,000
Annual Burden Hours: 3,333
Annual Responses: 10,000
Needs and Uses: "institution accreditation, military service academies" Information used to evaluate a candidate's high school academic performance in the admissions process. Also provides profile of school.
Affected Public: Individuals or households.
Frequency: One-time only.
Respondent's Obligation: Voluntary.
OMB Desk Officer: Dr. Timothy Sprehe.

Written comments and recommendations on the proposed information collection should be sent to Dr. Timothy Sprehe at Office of Management and Budget, Desk Officer, Room 3235, New Executive Office Building, Washingotn, DC 20503.

DOD Clearance Officer: Ms. Pearl Rascoe-Harrison.

Written request for copies of the information collection proposal should be sent to Ms. Rascoe-Harrison, WHS/DIOR, 1215 Jefferson Davis Highway, Suite 1204, Arlington, Virginia 22202-4302.

Dated: January 31, 1990.

L.M. Bynum,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 90-2623 Filed 2-5-90; 8:45 am]

BILLING CODE 3810-01-M

Public Information Collection Requirement Submitted to OMB for Review

ACTION: Notice.

The Department of Defense has submitted to OMB for clearance the following proposal for collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. chapter 35).

Title, Applicable Form, and Applicable OMB Control Number: School Official's Evaluation of Candidate; Form NDW-USNA-GRB-1110/14; and OMB Control Number 0703-0037.
Type of Request: Extension
Average Burden Hours/Minutes Per Response: 20 min.
Frequency of Response: one time request.
Number of Respondents: 20,000.
Annual Burden Hours: 6,666.
Annual Responses: 20,000.
Needs and Uses: "Institution accreditation, military service academies" USNA uses this information to further evaluate a candidate's predicted academic/military performance.
Affected Public: Individuals or households.
Frequency: One-time only.
Respondent's Obligation: Voluntary.
OMB Desk Officer: Dr. Timothy Sprehe.

Written comments and recommendations on the proposed information collection should be sent to Dr. Timothy Sprehe at Office of Management and Budget, Desk Officer, Room 3235, New Executive Office Building, Washington, DC 20503.

DOD Clearance Officer: Ms. Pearl Rascoe-Harrison.

Written request for copies of the information collection proposal should be sent to Ms. Rascoe-Harrison, WHS/DIOR, 1215 Jefferson Davis Highway, Suite 1204, Arlington, Virginia 22202-4302.

Dated: January 31 1990.

L.M. Bynum,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 90-2624 Filed 2-5-90; 8:45 am]

BILLING CODE 3810-01-M

Department of the Air Force

Air Force Academy Board of Visitors; Meeting

Pursuant to section 9355, title 10, United States Code, the Air Force Academy Board of Visitors will meet at the Air Force Academy, Colorado Springs, Colorado, March 2-4, 1990. The purpose of the meeting is to consider morale and discipline, the curriculum, instruction, physical equipment, fiscal affairs, academic methods, and other matters relating to the Academy.

A portion of the meeting will be open to the public on March 3, 1990, from 9:00 a.m. to 10:30 a.m. Other portions of this meeting will be closed to the public to discuss matters listed in subsections (2), (4), and (6) of section 552b(c), title 5, United States Code. These closed sessions will include: attendance at cadet classes and panel discussions with groups of cadets and military staff and faculty officers involving personal information and opinions, the disclosure of which would result in a clearly unwarranted invasion of personal privacy. Closed sessions will also include executive sessions involving discussions of personal information, including financial information, and information relating solely to internal personnel rules and practices of the Board of Visitors and the Academy. Meeting sessions will be held in various facilities throughout the cadet area.

For further information, contact Major Tim Taylor, Headquarters, US Air Force (DPPA), Washington, DC 20330-5060, at (202) 697-2919.

Patsy J. Conner,

Air Force Federal Register Liaison Officer.

[FR Doc. 90-2650 Filed 2-5-90; 8:45 am]

BILLING CODE 3910-01-M

Department of the Army

Army Science Board; Open Meeting

In accordance with section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), announcement is made of the following Committee Meeting:

Name of the Committee: Army Science Board (ASB).

Dates of Meeting: 21-22 February 1990.

Time: 0800-1700 each day.

Place: McLean, Virginia.

Agenda: The Army Science Board 1989 Summer Study on Maintaining State of the Art in the Army Command and Control System will meet to review and modify as necessary the draft final report in light of the results of the visit to Fort Gordon, Georgia. This is a working meeting to complete the final report and no briefings are planned. This meeting will be open to the public. Any interested person may attend, appear before, or file statements with the committee at the time and in the manner permitted by the committee. The ASB Administrative Officer, Sally Warner, may be contacted for further information at (202) 695-0781/0782.

Sally A. Warner,

Administrative Officer, Army Science Board.

[FR Doc. 90-2608 Filed 2-5-90; 8:45 am]

BILLING CODE 3710-08-M

DEPARTMENT OF EDUCATION

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 March 8, 1990.

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 George P. Sotos, Department of Education, 400 Maryland Avenue SW., Room 5624, Regional Office Building 3, Washington, DC 20202.

FOR FURTHER INFORMATION CONTACT: George P. Sotos, (202) 732–2174.

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 George Sotos at the address specified above.

Dated: January 30, 1990.

George P. Sotos,

Acting, Director for Office of Information Resources Management.

Office of Postsecondary Education

Type of Review: Revision
Title: Fulbright-Hays Training Grants: Faculty Research Abroad Program (CFDA 84.019); Doctoral Dissertation Research Abroad Program (CFDA 84.022)
Frequency: Annually
Affected Public: Individuals or households; state or local governments; non-profit institutions
Reporting Burden:
Responses: 670
Burden Hours: 10,600
Recordkeeping Burden:
Recordkeepers: 0
Burden Hours: 0
Abstract: This form will be used by graduate students and faculty members to apply for grants under the Fulbright-Hays fellowship program. The Department uses this information to make awards to institutions of higher education who administer the program.

Office of Vocational and Adult Education

Type of Review: Revision
Title: Application for Vocational and Adult Education Direct Grant Programs
Frequency: Annually
Affected Public: Individuals or households; state or local governments; non-profit institutions
Reporting Burden:
Responses: 550
Burden Hours: 11,000
Recordkeeping Burden:
Recordkeepers: 0
Burden Hours: 0
Abstract: This form will be used by applicants to apply for funding under the Vocational and Adult Education direct grant programs. The Department uses the information to make grant and cooperative agreement awards.

Office of Elementary and Secondary Education

Type of Review: Revision
Title: Drug-Free Schools and Communities Act of 1986—Regional Centers Program Application for Cooperative Agreements
Frequency: Annually
Affected Public: Individuals or households; state or local governments; businesses or other for-profit; non-profit institutions
Reporting Burden:
Responses: 25
Burden Hours: 6,250
Recordkeeping Burden:
Recordkeepers: 0
Burden Hours: 0
Abstract: This application will be used by State educational agencies, local educational agencies and institutions of higher education to apply for grants under the Regional Centers Program. The information collected will be used by the Department to award grants and monitor the performance of effective alcohol and drug abuse education and prevention programs.

[FR Doc. 90–2616 Filed 2–5–90; 8:45 am]
BILLING CODE 4000–1–M

DEPARTMENT OF ENERGY

Office of the Secretary

Regional Hearings To Solicit Views From Public Officials and Individuals With Expertise and Interest in the Development of a National Energy Strategy

AGENCY: Office of the Secretary, Department of Energy.

ACTION: Notice of hearing to provide comments on the development of a national energy strategy.

SUMMARY: This hearing will be the fifteenth hearing in a series being conducted throughout the country by the Department of Energy to solicit comments from interested parties on a range of energy topics. Oral testimony at this hearing will be presented by invitation only. Written testimony can be submitted by any interested party at either the hearings site or directly to the Department of Energy, Office of Policy, Planning and Analysis, c/o Ms. Cherie Gary, 1000 Independence Avenue, SW., room 7B–143, Washington, DC 20585. Please reference specific hearing(s) and topic(s).

This and other National Energy Strategy hearings are designed to solicit information, data, and analysis related to the development of national energy policy objectives, strategies for achieving them, and the role that the Federal Government should play in meeting national energy, economic, and environmental needs.

The Department is interested in obtaining specific suggestions as to options and obstacles to efficient production and use of energy. Written comments may address general policies, regulations, economic incentives or disincentives, research and development needs, energy science, techology transfer, education, technical assistance, role of State and Local Government, the role of industry in energy policy development and implementation, or any other issues that would enhance the national dialogue on national energy strategy.

Date, Location, and Topic of the Hearing is as Follows: February 9, 1990—Washington, DC; The topical theme for this hearing will be "Energy and Science". Topics discussed will include: Environmental sciences; physics, math and computational sciences, basic energy science; and biological and health sciences. The hearing will be held from 8:30 a.m. to 3 p.m. at The James Forrestal Building, 1000 Independence Avenue, SW.,

Auditorium, Ground Floor, room GE-086, Washington, DC.

All testimony submitted in conjunction with these hearings will be entered into the National Energy Strategy development record and made available to the public.

FURTHER INFORMATION CONTACT: For further information, please write or call William H. Hatch, Office of Policy, Planning and Analysis, U.S. Department of Energy, 1000 Independence Avenue, SW., PE-01, Washington, DC 20585, (202) 596-4767.

Mark L. Kerrigan,

Principal Associate Deputy Under Secretary, Policy, Planning and Analysis.

[FR Doc. 90-2865 Filed 2-4-90; 4:35 pm]

BILLING CODE 6450-01-M

Advisory Committee on Nuclear Facility Safety; Open Meeting

Pursuant to the provisions of the Federal Advisory Committee Act (Pub. L. 92-463, 86 Stat. 770), notice is hereby given of the following advisory committee meeting:

Name: Advisory Committee on Nuclear Facility Safety.

Date and Time: Tuesday, February 20, 1990, 8 a.m. to 6 p.m. Wednesday, February 21, 1990 8 a.m. to 1 p.m.

Place: U.S. Department of Energy, Forrestal Building, Room 1E-245, 1000 Independence Ave. SW., Washington, DC 20585.

1*Contact:* Wallace R. Kornack, Executive Director, ACNFS, S-2, 1000 Independence Ave. SW., Washington, DC 20585, 202/586-1770.

Purpose of the Committee: The Committee was established to provide the Secretary of Energy with advice and recommendations concerning the safety of the Department's production and utilization facilities, as defined in section 11 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014).

Tentative Agenda

February 20, 1990

8 a.m.—chairman John F. Ahearne Opens Meeting, DOE Facility Issues
Noon—Lunch
1 p.m.—Review of Selected Technical Issues
5:30 p.m.—Public Comment Period
6 p.m.—Meeting Adjourned Until Next Day.

February 21, 1990

8 a.m.—Subcommittee Reports, Committee Business, Review of Selected Technical Issues
1 p.m.—Meeting Ends.

Public Participation: This meeting is open to the public. Written statements may be filed with the Committee either before or after the meeting. Members of the public who wish to make oral statements pertaining to agenda items should contact Wallace Kornack at the address or telephone number listed above. Requests must be received 5 days prior to the meeting and reasonable provision will be made to include the presentation on the agenda. The Chairperson of the Committee is empowered to conduct the meeting in a fashion that will facilitate the orderly conduct of business.

Transcripts: The transcript of the meeting will be available for public review and copying at the Freedom of Information Public Reading Room, IE-190, Forrestal Building, 1000 Independence Ave. SW., Washington, DC, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

Issues at Washington, DC, on February 1, 1990.

J. Robert Franklin,

Deputy Advisory Committee, Management Officer.

[FR Doc. 90-2712 Filed 2-5-90; 8:45 am]

BILLING CODE 6450-01-M

Energy Information Administration

Agency Information Collections Under Review by the Office of Management and Budget

AGENCY: Energy Information Administration, Department of Energy.

ACTION: Notice of a request submitted for emergency processing by the Office of Management and Budget.

SUMMARY: The Energy Information Administration (EIA) has submitted the energy information collection listed at the end of this notice to the Office of Management and Budget (OMB) for emergency processing under provisions of the Paperwork Reduction Act (Pub. L. 96-511, 44 U.S.C. 3501 *et seq.)*

The entry contains the following information: (1) The sponsor of the collection; (2) Collection number; (3) Current OMB docket number; (4) Collection title; (5) Type of request, e.g., new, revision, reinstatement, or extension; (6) Frequency of collection; (7) Response obligation, Frequency of collection; (7) Response obligation, i.e., mandatory, voluntary, or required to obtain or retain a benefit; (8) Affected public; (9) An estimate of the number of respondents per report period; (10) An estimate of the number of responses annually; (11) An estimate of the average hours per response; (12) The estimated total annual respondent burden; and (13) A brief abstract describing the proposed collection and the respondents.

DATES: Under the provisions of 5 CFR 1320.15 and 1320.18, the Agency has requested that the Office of Management and Budget take action by February 1, 1990.

ADDRESSES: Direct comments to the Department of Energy Desk Officer, Office of Information and Regulatory Affairs, Office of Management and Budget, 726 Jackson Place NW., Washington, DC 20503, Telephone No. (202) 395-3084. (Comments should also be addressed to the Office of Statistical Standards at the address below.)

FOR FURTHER INFORMATION CONTACT: Jay Casselberry, EIA's Office of Statistical Standards (EI-73), Forrestal Building, U.S.

SUPPLEMENTARY INFORMATION: The energy information collection submitted to OMB for review was:

1. Energy Information Administration.
2. EIA-807.
3. N/A.
4. Propane Emergency Telephone Survey.
5. New.
6. Weekly.
7. Mandatory.
8. Business or other for profit.
9. 75 respondents.
10. 600 responses annually.
11. The estimated average hours per response for each of the respondents to the form is 1 burden hour.
12. The estimated total reporting hours for the form are 600.
13. EIA-807 is an emergency telephone survey designed to collect weekly information from February 12, 1990, to April 2, 1990, on the production, imports, and stock levels of propane. The data will be used to monitor the supply of propane during the heating season and to report on supplies to the Congress and others. Respondents will be selected producers, storers, and importers of propane who have operations in PAD Districts I, II, and III.

Statutory Authority: Sections 5(a), 5(b), 13(b), and 52 of Public Law 93-275, Federal Energy Administration Act of 1974, 15 U.S.C. 764(a), 764(b), 772(b) and 790a.

Dated: January 31, 1990.

Yvonne M. Bishop,

Director, Statistical Standards, Energy Information Administration.

[FR Doc. 90-2714 Filed 2-5-90; 8:45 am]

BILLING CODE 6450-01-M

Federal Energy Regulatory Commission

[Docket Nos. CP90-615-000, et al.]

Paiute Pipeline Co., et al.; Natural Gas Certificate Filings

Take notice that the following filings have been made with the Commission:

1. Paiute Pipeline Company

[Docket No. CP90-615-000]

January 29, 1990

Take notice that on January 25, 1990, Paiute Pipeline Company (Paiute), P.O. Box 94197, Las Vegas, Nevada 89193-4197, filed in Docket No. CP90-615-000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to modify the capacity of the Winnemucca City Gate No. 1 delivery point to enable the sale for resale and delivery of additional quantities of natural gas to Southwest Gas Corporation (Southwest), an existing local distribution company, under Paiute's blanket certificate issued in Docket No. CP84-739-000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request which is on file with the Commission and open to public inspection.

Paiute proposes to increase the maximum daily capacity at the Winnemucca City Gate No. 1 delivery point, located on the Elko lateral in Humboldt County, Nevada, from 1,821 dt to 6,821 dt. Paiute states that the purpose of increasing capacity at the Winnemucca City Gate No. 1 delivery point is to provide for the delivery of additional volumes of up to 5,000 dt. per day of natural gas to Southwest for resale to a new industrial customer, Mining Surfaces International, at the site of a proposed manufacturing facility known as the Cynaco Plant (Cynaco). Paiute estimates that the initial maximum daily sales would be 2,000 dt.

Paiute asserts that it has sufficient capacity available to provide the proposed additional deliveries without any detriment or disadvantages to any of its existing customers and that the total volumes delivered to Southwest would not exceed the current authorized sales entitlement for Southwest. Paiute states that the proposed additional deliveries are not prohibited by any of its existing tariffs.

Paiute would be reimbursed by Southwest for all costs associated with the proposed modification of the Winnemucca City Gate No. 1 delivery point, it is stated.

Comment date: March 15, 1990, in accordance with Standard Paragraph G at the end of this notice.

2. Natural Gas Pipeline Co. of America

[Docket No. CP90-616-000]

January 29, 1990

Take notice that on January 25, 1990, Natural Gas Pipeline Company of America (Natural), 701 East 22nd Street, Lombard, Illinois 60148, filed in Docket No. CP90-616-000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to transport natural gas under its blanket authorization issued in Docket No. CP86-582-000 pursuant to section l7 of the Natural Gas Act, all as more fully set forth in the request which is on file with the Commission and open to public inspection.

Natural proposes to transport natural gas on a firm basis for American Central Gas Marketing Company (American Central), a marketer of natural gas, pursuant to a firm transportation service agreement dated November 20, 1989. Natural proposes to transport on a peak day up to 20,000 MMBtu per day; on an average day up to 20,000 MMBtu; and on an annual basis 7,300,000 MMBtu of natural gas. Natural proposes to receive the gas for American Central's account at receipt points located in Texas and Arkansas. Natural would redeliver the gas at delivery points located in Illinois and Missouri.

It is explained that the proposed service is currently being performed pursuant to the 120-day self implementing provision of § 284.223(a)(1) of the Commission's Regulations. Natural commenced such self-implementing service on December 1, 1989, as reported in Docket No. ST90-1224-000.

Comment date: March 15, 1990, in accordance with Standard Paragraph G at the end of this notice.

3. Mississippi River Transmission Corp.

[Docket No. CP90-625-000]

January 29, 1990

Take notice that on January 25, 1990, Mississippi River Transmission Corporation (MRT), 9900 Clayton Road, St. Louis, Missouri 63124, Filed in Docket No. CP90-625-000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to provide an interruptible transportation service for Olin Corporation (Olin), an end user, under the blanket certificate issued in Docket No. CP89-1121-000, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request that is on file with the Commission and open to public inspection.

MRT states that pursuant to a transportation service agreement dated November 14, 1989, under its Rate Schedule ITS, it proposes to transport up to 6,150 MMBtu per day equivalent of natural gas for Olin. MRT states that it would transport the gas from receipt points located in Oklahoma, Texas, Louisiana, Arkansas and Illinois, and would deliver the gas to a delivery point located in Illinois.

MRT advises that service under § 284.223(a) commenced December 1, 1989, as reported in Docket No. ST90-1299-000 (filed January 2, 1990). MRT further advises that it would transport 3,370 MMBtu on an average day and 1,230,000 MMBtu annually.

Comment date: March 15, 1990, in accordance with Standard Paragraph G at the end of this notice.

4. Panhandle Estern Pipe line Company

[Docket No. CP90-609-000]

January 29, 1990

Take notice that on January 24, 1990, Panhandle Eastern Pipe Line Company (Panhandle), filed in Docket No. CP90-609-000 a request pursuant to §§ 157.205 and 284.223 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to transport natural gas for Gastrack Corporation (Gastrak) under the blanket certificate issued in Docket No. CP86-585-000 pursuant to Section 7 of the Natrual Gas Act, all as more fully set forth in the request on file with the Commission and open to public inspection.

Panhandle states that it proposes to transport up to 30,000 dt per day on an interruptible basis on behalf of Gastrak pursuant to a Transportation Agreement dated March 20, 1989 between Panhandle and Gastrak (Transportation Agreement). The Transportation Agreement provides for Panhandle to receive gas from various existing points of receipt located in Colorado, Illinois, Kansas, Michigan, Ohio, Oklahoma, and Texas. Panhandle will then transport and redeliver subject gas, less fuel used and unaccounted for line loss to Columbia Gas-Maumee, Lucas County, Ohio.

Panhandle also states that the estimated daily and annual quantities would be 30,000 dt. and 10,950,000, respectively.

Panhandle further states that it commenced this service on December 1, 1989, as reported in Docket No. ST90-1108-000.

Comment date: March 15, 1990, in accordance with Standard Paragraph G at the end of this notice.

5. Algonquin Gas Transmission Co.

[Docket No. CP90–638–000]

January 29, 1990

Take notice that on Janaury 25, 1990, Algonquin Gas Transmission Company (Algonquin), 1284 Soldiers Field Road, Boston, Massachusetts 02135, filed in Docket No. CP90–638–000 a request pursuant to § 157.205 of the Commission's Regulations for authorization to provide transportation service on behalf of Valley Gas Company (Valley), under Algonquin's blanket certificate issued in Docket No. CP89–948–000, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the application which is on file with the Commission and open to public inspection.

Algonquin requests authorization to transport, on an interruptible basis, up to a maximum of 3,000 MMBtu of natural gas per day for Valley from a receipt point located in Lambertville, New Jersey to a delivery point located in Worcester County, Massachusetts. Algonquin anticipates transporting, on an average day 3,000 MMBtu and an annual volume of 1,095,000 MMBtu.

Algonquin states that the transportation of natural gas for Valley commenced December 22, 1989, as reported in Docket No. ST90–1486–000, for a 120-day period pursuant to § 284.223(a) of the Commission's Regulations and the blanket certificate issued to Algonquin in Docket No. CP89–948–000.

Comment date: March 15, 1990, in accordance with Standard Paragraph G at the end of this notice.

6. Natural Gas Pipeline Co. of America

[Docket No. CP90–618–000]

January 29, 1990

Take notice that on Janaury 25, 1990, Natural Gas Pipeline Company of America (Natural), 701 East 22nd Street, Lombard, Illinois 60148, filed in Docket No. CP90–618–000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to provide interruptible transportation service for Conoco, Inc (Conoco), a producer, under the blanket certificate issued in Docket No. CP86–582–000, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request that is on file with the Commission and open to public inspection.

Natural states that pursuant to a transportation service agreement dated November 16, 1989, under its Rate Schedule ITS, it proposes to transport up to 5,000 MMBtu per day of equivalent of natural gas for Conoco. Natural stafes that it would transport the gas (plus any additional volumes accepted pursuant to the overrun provisions of Natural's Rate Schedule ITS) from a receipt point in New Mexico and would deliver the gas to delivery points located in Oklahoma, Texas and New Mexico.

Natural advises that service under § 284.223(a) commenced December 1, 1989, as reported in Docket No. ST90–1143 (filed December 22, 1989). Natural further advises that it would transport 2,000 MMBtu on an average day and 730,000 MMBtu annually.

Comment date: March 15, 1990, in accordance with Standard Paragraph G at the end of this notice.

7. Northwest Pipeline Corp.

[Docket No. CP90–597–000]

January 30, 1990

Take notice that on January 22, 1990, Northwest Pipeline Corporation (Northwest) filed in Docket No. CP90–597–000 a request pursuant to §§ 157.205 and 284.223 of the Commission's Regulations under the Natural Gas Act, to transport natural gas on an interruptible basis under its blanket certificate issued in Docket No. CP86–578–000 for the account of Union Oil Company of California (Union Oil) all as more fully set forth in the request on file with the Commission and open to public inspection.

Northwest indicates that service commenced on December 2, 1989, as reported in Docket No. ST90–1250–000 and estimates the volumes transported to be 1,500 MMBtu per day on a peak day, 1,000 MMBtu on an average day and approximately 365,000 MMBtu on an annual basis for Union Oil.

Northwest states that no new facilities are to be constructed, as it will transport the gas from the Ignacio Plant receipt point in La Plata County, Colorado, to El Paso Natural Gas Company at the Ignacio delivery point also in La Plata County.

Comment date: March 16, 1990, in accordance with Standard Paragraph G at the end of this notice.

8. Northwest Pipeline Corp.

[Docket No. CP90–580–000]

January 30, 1990

Take notice that on January 19, 1990, Northwest Pipeline Corporation (Northwest) filed in Docket No. CP90–580–000 a request pursuant to §§ 157.205 and 284.223 of the Commission's Regulations under the Natural Gas Act, to transport natural gas on an interruptible basis under its blanket certificate issued in Docket No. CP86–578–000 for the account of Kimbark Oil & Gas Company (Kimbark), all as more fully set forth in the request on file with the Commission and open to public inspection.

Northwest indicates that service commenced on December 1, 1989, as reported in Docket No. ST90–1245–000 and estimates the volumes transported to be 1,000 MMBtu per day on a peak day, 200 MMBtu on an average day and approximately 73,000 MMBtu on an annual basis for Kimbark.

Northwest states that no new facilities are to be constructed, as it will transport the gas from the Ignacio Plant receipt point in La Plata County, Colorado, to El Paso Natural Gas Company at the Ignacio delivery point also in La Plata County.

Comment date: March 16, 1990, in accordance with Standard Paragraph G at the end of this notice.

9. Northern Natural Gas Co., Division of Enron Corp.

[Docket No. CP90–642–000]

January 30, 1990

Take notice that on January 26, 1990, Northern Natural Gas Company, Division of Enron Corp. (Northern), 1400 Smith Street, P.O. Box 1188, Houston, Texas 77251–1188, filed in Docket No. CP90–642–000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to abandon and remove certain sales metering facilities for Wisconsin Gas Company (Wisconsin Gas), under the blanket certificate issued in Docket No. CP82–401–000, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request on file with the Commission and open to public inspection.

Northern proposes to abandon and remove the sales metering facilities from the Hixton TBS No. 2 and the Black River Falls TBS No. 2, both located in Jackson County, Wisconsin. Northern has been advised by its customer, Wisconsin Gas, that service is no longer required at these locations and Wisconsin Gas wishes to have these meters removed. Further, it is stated that Wisconsin Gas has removed its facilities from these two locations.

Comment date: March 16, 1990, in accordance with Standard Paragraph G at the end of this notice.

10. United Gas Pipe Line Co.

[Docket No. CP90–640–000]

January 30, 1990

Take notice that on January 26, 1990, United Gas Pipe Line Company (United), P.O. Box 1478, Houston, Texas 77251–1478, filed in Docket No. CP90–640–000 a request pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to provide a firm transportation service for Fina Oil and Chemical Company (Fina), a producer, under the blanket certificate issued in Docket No. CP88–6–000, pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request that is on file with the Commission and open to public inspection.

United states that pursuant to a transportation agreement dated August 22, 1989, under its Rate Schedule FTS, it proposes to transport up to 61,800 MMBtu per day equivalent of natural gas for Fina. United states that it would transport the gas from a receipt point located in St. Charles Parish, Louisiana, and would deliver the gas to delivery points in Pike County, Mississippi.

United advises that service under § 284.223(a) commenced November 30, 1989, as reported in Docket No. ST90–1100 (filed December 19, 1989). United further advises that it would transport 61,800 MMBtu on an average day and 22,557,000 MMBtu annually.

Comment date: March 16, 1990, in accordance with Standard Paragraph G at the end of this notice.

11. Tennessee Gas Pipeline Co.

[Docket No. CP90–604–000]

January 30, 1990

Take notice that on January 24, 1990, Tennessee Gas Pipeline Company (Tennessee) filed in Docket No. CP90–604–000 a request pursuant to §§ 157.205 and 284.223 of the Commission's Regulations under the Natural Gas Act, to provide firm transportation service pursuant to its blanket certificate issued in Docket No. CP87–115–000 for Kerr-McGee Chemical Corporation (Kerr-McGee), and enduser, all as more fully set forth in the request on file with the Commission and open to public inspection.

Tennessee estimates that the peak day and average daily volumes transported to be 2,600 dt and 949,000 dt on an annual basis. The volumes of natural gas would be transported from a receipt point located Offshore Louisiana and redelivered to Kerr-McGee's chemical plant in Monroe County, Mississippi.

Further, Tennessee indicates that the transportation service commenced January 1, 1990, as reported in Docket No. ST90–1513.

Comment date: March 16, 1990, in accordance with Standard Paragraph G at the end of this notice.

12. Mississippi River Transmission Corp.

[Docket No. CP90–627–000]

January 30, 1990

Take notice that on January 25, 1990, Mississippi River Transmission Corporation (MRT), 9900 Clayton Road, St. Louis, Missouri 63124, filed in Docket No. CP90–627–000 an application pursuant to § 157.205 of the Commission's Regulations under the Natural Gas Act (18 CFR 157.205) for authorization to transport natural gas on behalf of National Steel Corporation (National Steel), an end user of natural gas, under MRT's blanket certificate issued in Docket No. CP89–1121–000 pursuant to section 7 of the Natural Gas Act, all as more fully set forth in the request which is on file with the Commission and open to public inspection.

MRT proposes to transport, on an interruptible basis, up to 45,000 MMBtu of natural gas per day for National Steel. MRT states that construction of facilities would not be required to provide the proposed service.

MRT further states that the maximum day, average day, and annual transportation volumes would be approximately 45,000 MMBtu, 45,000 MMBtu and 16,425,000 MMBtu respectively.

MRT advises that service under § 284.223(a) commenced December 1, 1989, as reported in Docket No. ST90–1305.

Comment date: March 16, 1990, in accordance with Standard Paragraph G at the end of this notice.

Standard Paragraph

G. Any person or the Commission's staff may, within 45 days after the issuance of the instant notice by the Commission, file pursuant to Rule 214 of the Commission's Procedural Rules (18 CFR 385.214) a motion to intervene or notice of intervention and pursuant to § 157.205 of the Regulations under the Natural Gas Act (18 CFR 157.205) a protest to the request. If no protest is filed within the time allowed therefore, the proposed activity shall be deemed to be authorized effective the day after the time allowed for filing a protest. If a protest is filed and not withdrawn within 30 days after the time allowed for filing a protest, the instant request shall be treated as an application for authorization pursuant to section 7 of the Natural Gas Act.

Lois D. Cashell,

Secretary.

[FR Doc. 90–2620 Filed 2–5–90; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. Docket No. RP90–74–000]

Notice of Complaint; City Gas Co., et al.

January 30, 1990.

In the matter of: City Gas Company, Madison Gas & Electric Company, Wisconsin Fuel & Light Company, Wisconsin Gas Company, Wisconsin Natural Gas Company, Wisconsin Power & Light Company, Wisconsin Public Service Corp., Wisconsin Southern Gas Company *v.* ANR Pipeline Company.

Take notice that on January 12, 1990, City Gas Company, Madison Gas & Electric Company, Wisconsin Fuel & Light Company, Wisconsin Gas Company, Wisconsin Natural Gas Company, Wisconsin Power & Light Company, Wisconsin Public Service Corporation, and Wisconsin Southern Gas Company (WDG) filed a complaint and request for cease and desist order, and order of immediate refunds, or, in the alternative, a request for order to show cause against ANR Pipeline Company (ANR) requesting the Commission to issue an order to show cause (1) why ANR should not immediately cease direct billing take-or-pay buyout costs, and (2) why ANR should not refund all revenues collected from the direct billing of take-or-Pay buyout and buydown costs in Docket Nos. RP89–45, RP89–127, RP89–193, RP90–18 and RP90–46.

WDG state that the reason for these requests is the finding that the provision in Order No. 500 authorizing the direct billing of take-or-pay buyout and buydown costs has been found to be unlawful and vacated by the United States Court of Appeals for the District of Columbia Circuit in *AGD* v. *FERC*, Case No. 88–1325, Slip Op. December 29, 1989. As a result of *AGD* v. *FERC*, WDG state that there is no lawful basis under which ANR can direct bill WDG members or its other customers and there is no lawful basis on which ANR can retain revenues collected under the now legally invalid direct bill procedure.

WDG state that good cause exists to grant the request for a cease and desist order because ANR has no authority under Order No. 500 or the Natural Gas Act to direct bill WDG members. Similarly, good cause exists to grant the request for immediate refunds because

there is no reason why ANR should retain unlawfully collected revenues.

In the alternative, WDG requests the Commission to order ANR to show cause (1) why it should not cease and desist direct billing-take-or Pay costs to WDG members under Order No. 500 pursuant to Sheet No. 18 of its FERC Gas Tariff Volume No. 1; and (2) why it should not immediately refund with interest all revenues it has collected as a result of direct billing of take-or-pay costs under Order No. 500.

WDG state that, in any event, the Commission should set for hearing the justness and reasonableness of all of ANR's claimed take-or-pay buyout and buydown costs and the sharing of burden and allocation of customer burden, if any.

Any person desiring to be heard or to protest said complaint should file a motion to intervene or a protest with the Federal Energy Regulatory Commission, 825 North Capitol Street NE., Washington, DC 20426, in accordance with Rules 214 and 211 of the Commission's Rules of Practice and Procedure (18 CFR 385.214, 385.211 (1989)). All such motions or protests should be filed on or before March 2, 1990. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection. Answers to this complaint shall be due on or before March 2, 1990.

Lois D. Cashell,

Secretary.

[FR Doc. 90–2621 Filed 2–5–90; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. CI89–455–000]

CMEX Energy, Inc.; Supplement to an Application for a Blanket Certificate With Pregranted Abandonment

January 30, 1990.

Take notice that on January 8, 1990, CMEX Energy, Inc. (CMEX) of 17101 Preston Road, Suite 240, Dallas, Texas 75248, filed a supplement to its pending application filed June 8, 1989, in Docket No. CI89–455–000 pursuant to sections 4 and 7 of the Natural Gas Act and the Federal Energy Regulatory Commission's (Commission) regulations thereunder for an unlimited term blanket certificate with pregranted abandonment to authorize sales of natural gas for resale in interstate commerce. CMEX indicates that it is supplementing its application to clarify that it is seeking authorization to resell natural gas subject to the Commission's jurisdiction including imported gas, liquified natural gas (LNG) and gas purchased under pipeline discount sales programs, all as more set forth in the supplement to the application which is on file with the Commission and open for public inspection.

Any person desiring to be heard or to make any protest with reference to said application should on or before February 20, 1990, file with the Federal Energy Regulatory Commission, Washington, DC 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party in any proceeding herein must file a petition to intervene in accordance with the Commission's rules.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for CMEX to appear or to be represented at the hearing.

Lois D. Cashell,

Secretary.

[FR Doc. 90–2629 Filed 2–5–90; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. RP90–30–001]

Texas Eastern Transmission Corp.; Proposed Changes in FERC Gas Tariff

January 30, 1990.

Take notice that Texas Eastern Transmission Corporation (Texas Eastern) on January 25, 1990 tendered for filing as part of its FERC Gas Tariff, Fifth Revised Volume No. 1, six copies of the following tariff sheet:

Proposed to be Effective November 1, 1989

Substitute Fourth Revised Sheet No. 475

Texas Eastern states that the purpose of this filing is to update Texas Eastern's Fifth Revised Volume No. 1 to reflect a change in the Monthly Inventory Determinants for the Contract Year which commenced on November 1, 1989 for Texas Gas Transmission Corporation.

The proposed effective date of the above tariff sheet is November 1, 1989.

Copies of the filing were served on Texas Eastern's jurisdictional customers and interested state commissions.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure. All such motions or protests should be filed on or before February 6, 1990. Protests will be considered by the Commission in determining the appropriate aciton to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 90–2630 Filed 2–5–90; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. RP85–177–072]

Texas Eastern Transmission Corp.; Filing of Service Agreements

January 30, 1990.

Take notice that on January 5, 1990, Texas Eastern Transmission Corporation (Texas Eastern) filed, in compliance with the Commission's orders of December 21 and 22, 1989, service agreements under Rate Schedules CD–1, CD–2 and FT–1 between Texas Eastern, as Seller, and the customers listed in appendix A (attached to the filing) as Buyers.

Texas Eastern states that these service agreements reflect revisions in the Form of Service Agreement accepted by the Commission in its October 27, 1989 order and reflect receipt points under Rate Schedule FT–1 in effect as of November 1, 1989.

Texas Eastern requests waiver of all applicable rules and regulations to allow these service agreements to become effective November 1, 1989.

Texas Eastern states that the service agreement for the 12 remaining customers have been tendered for execution by Texas Eastern but these service agreements have not yet been fully executed and returned to Texas Eastern. Accordingly, Texas Eastern requests an extension of the time deadline to file these 12 remaining

service agreements to and including February 9, 1990.

Any person desiring to protest said filing should file a protest with the Federal Energy Regulatory Commission, 825 North Capitol Street NW., Washington, DC 20426, in accordance with Rules 214 and 211 of the Commission's Rules of Practice and Procedure (18 CFR 385.214, 385.211 (1989)). All such protests should be filed on or before February 6, 1990. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Persons that are already parties to this proceeding need not file a motion to intervene in this matter. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 90-2631 Filed 2-5-90; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. CI90-1-000]

Oryx Gas Marketing Limited Partnership; Application for a Blanket Certificate with Pregranted Abandonment

January 30, 1990.

Take notice that on October 4, 1989, Oxyx Gas Marketing Limited Partnership (OGM) of P.O. Box 2880, Dallas, Taxas 75221-2880, filed an application pursuant to section 7 of the National Gas Act and the Federal Energy Regulatory Commission's (Commission) regulations thereunder for an unlimited term blanket certificate with pregranted abandonment to authorize sales of natural gas for resale in interstate commerce including sales of gas temporarily released under Order No. 490 and gas purchased from a pipeline, marketing affiliate or any other source where previous sales and purchase transactions may not be known to OGM, all as more set forth in the application which is on file with the Commission and open for public inspection.

Any person desiring to be heard or to make any protest with reference to said application should on or before February 20, 1990, file with the Federal Energy Regulatory Commission, Washington, DC 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party in any proceeding herein must file a petition to intervene in accordance with the Commission's rules.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for OGM to appear or to be represented at the hearing.

Lois D. Cashell,

Secretary.

[FR Doc. 90-2627 Filed 2-5-90; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. CI87-223-004]

OXY USA Inc.; Application for Extension of a Blanket Limited—Term Certificate with Pregranted Abandonment

January 30, 1990.

Take notice that on January 18, 1990, OXY USA Inc. (OXY) of 110 West 7th Street, Tulsa, Oklahoma 74119, filed an application pursuant to sections 4 and 7 of the National Gas Act and the Federal Energy Regulatory Commission's (Commission) regulations thereunder for extension of its blanket limited-term certificate with pregranted abandonment previously issued by the Commission in Docket No. CI87-223-003 for a term expiring March 31, 1990, for an unlimited term to the extent gas is not sold to affiliated companies. For sales to affiliates, OXY requests an extension of two years, through March 31, 1992. The application is on file with the Commission and open for public inspection.

Any person desiring to be heard or to make any protest with reference to said application should on or before February 20, 1990, file with the Federal Energy Regulatory Commission, Washington, DC 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party in any proceeding herein must file a petition to intervene in accordance with the Commission's rules.

Uner the procedure herein provided for, unless otherwise advised, it will be unnecessary for OXY to appear or to be represented at the hearing.

Lois D. Cashell,

Secretary.

[FR Doc. 90-2628 Filed 2-5-90; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. CI90-34-000]

PSI Gas Marketing, Inc.; Application for a Blanket Certificate with Pregranted Abandonment

January 30, 1990.

Take notice that on January 11, 1990, PSI Gas Marketing, Inc. (PGM) of 1044 North 115th Street, Omaha, Nebraska 68154, filed an application pursuant to sections 4 and 7 of the Natural Gas Act and the Federal Energy Regulatory Commission's (Commission) regulations thereunder for an unlimited-term blanket certificate with pregranted abandonment to authorize sales of natural gas for resale in interstate commerce, all as more set forth in the application which is on file with the Commission and open for public inspection.

Any person desiring to be heard or to make any protest with reference to said application should on or before February 20, 1990, file with the Federal Energy Regulatory Commission, Washington, DC 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party in any proceeding herein must file a petition to intervene in accordance with the Commission's rules.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for PGM to appear or to be represented at the hearing.

Lois D. Cashell,

Secretary.

[FR Doc. 90-2626 Filed 2-5-90; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. CI90-36-000]

Unicorp Energy, Inc.; Application for a Blanket Certificate With Pregranted Abandonment

January 30, 1990.

Take notice that on January 17, 1990, Unicorp Energy, Inc. (Unicorp) of 150 East Campus View Boulevard, Suite 250, Columbus, Ohio 43235, filed an application pursuant to sections 4 and 7 of the Natural Gas Act and the Federal Energy Regulatory Commission's (Commission) regulations thereunder for an unlimited term blanket certificate with pregranted abandonment to authorize sales of natural gas for resale in interstate commerce including imported gas, liquified natural gas (LNG) and gas purchased under pipeline discount sales programs, all as more set forth in the application which is on file with the Commission and open for public inspection.

Any person desiring to be heard or to make any protest with reference to said application should on or before February 20, 1990, file with the Federal Energy Regulatory Commission, Washington, DC 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party in any proceeding herein must file a petition to intervene in accordance with the Commission's rules.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for PGM to appear or to be represented at the hearing.

Lois D. Cashell,

Secretary.

[FR Doc. 90-2625 Filed 2-5-90; 8:45 am]

BILLING CODE 6717-01-M

[Docket No. EL90-13-000]

Vermont Department of Public Service and Vermont Public Service Board V. Connecticut Light and Power Company, et al. Filing

January 29, 1990.

Take notice that on January 23, 1990, the Vermont Department of Public Service and the Vermont Public Service Board (jointly Vermont), pursuant to section 207 of the Federal Power Act, 16 U.S.C. 824f (1988), tendered for filing a complaint against Connecticut Light and Power Company, Holyoke Water Power Company, Holyoke Power and Electric Company and Western Massachusetts Electric Company [collectively, Northeast Utilities (Northeast)]. Vermont states that Northeast may be rendering inadequate or insufficient interstate service.

Vermont asserts that Northeast is the only utility with any excess capacity in the New England area and that Northeast has a substantial portion of the facilities available for transmission. Vermont expresses concern that Northeast may have been using its control over transmission to induce other utilities to buy power from Northeast or to extract monopoly rents for transmission service. Vermont asserts that Northeast has insisted on inclusion of burdensome terms in its contracts, and that some of Northeast's contracts may require a customer to agree not to protest the filing of the contract with the Commission.

Vermont also asserts that Northeast Utilities Service Company has indicated its intent to unveil a transmission access plan as part of the proposed merger between Northeast and Public Service Company of New Hampshire. Vermont states that Northeast's existing transmission access policies may impede adequate interstate service, and that these policies, if extended to the merged companies, would exacerbate these problems.

Vermont requests that the Commission initiate procedures under section 207 of the Federal Power Act to determine what steps may need to be taken to assure the availability of adequate interstate service.

Any person desiring to be heard or to protest said filing should file a protest or motion to intervene with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211, 385.214). All such motions or protests should be filed on or before February 12, 1990. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 90-2632 Filed 2-5-90; 8:45 am]

BILLING CODE 6717-01-M

Office of Conservation and Renewable Energy

Energy Conservation Program for Consumer Products; Application for Interim Waiver and Petition for Waiver of Furnace Test Procedures From DMO Industries (F-020)

AGENCY: Conservation and Renewable Energy Office, Department of Energy.

SUMMARY: Today's notice publishes a letter granting an Interim Waiver to DMO Industries' (DMO) from the existing Department of Energy (DOE) test procedures for furnaces regarding blower time delay for DMO's model WSC(−) condensing furnace.

Today's notice also publishes a "Petition for Waiver" from DMO. DMO's Petition for Waiver requests DOE to grant relief from the DOE test procedures relating to the blower time delay specification. DMO seeks to test using a blower delay time of 30 seconds instead of the specified 1.5 minute delay between burner on-time and blower on-time. DOE is soliciting comments, data, and information representing the Petition for Waiver.

DATES: DOE will accept comments, data, and information not later than March 8, 1990.

ADDRESSES: Written comments and statements shall be sent to: Department of Energy, Office of Conservation and Renewable Energy, Case No. F-020, Mail Stop CE-132, Forrestal Building, 1000 Independence Avenue SW., Washington, DC 20585.

FOR FURTHER INFORMATION CONTACT:

Cyrus H. Nasseri, U.S. Department of Energy, Office of Conservation and Renewable Energy, Mail Station CE-132, Forrestal Building, 1000 Independence Avenue SW. Washington, DC 20585, (202) 586-9127

Eugene Margolis, Esq., U.S. Department of Energy, Office of General Counsel, Mail Station GC-12, Forrestal Building, 1000 Independence Avenue SW., Washington, DC 20585, (202) 586-9507

BACKGROUND: The Energy Conservation Program for Consumer Products (other than automobiles) was established pursuant to the Energy Policy and Conservation Act (EPCA), Public Law 94-163, 89 Stat. 917, as amended by the National Energy Conservation Policy Act (NECPA), Public Law 95-619, 92 Stat. 3266, the National Appliance Energy Conservation Act of 1987 (NAECA), Public Law 100-12, and the National Appliance Energy Conservation Amendments of 1988 (NAECA 1988), Public Law 100-357,

which requires DOE to prescribe standardized test procedures to measure the energy consumption of certain consumer products, including furnaces. The intent of the test procedures is to provide a comparable measure of energy consumption that will assist consumers in making purchasing decisions. These test procedures appear at 10 CFR part 430, subpart B.

DOE has amended the prescribed test procedures by adding 10 CFR 430.27 on September 26, 1980, creating the waiver process. 45 FR 64108. DOE further amended the Department's appliance test procedure waiver process to allow the Assistant Secretary for Conservation and Renewable Energy (Assistant Secretary) to grant an interim waiver from test procedure requirements to manufacturers that have petitioned DOE for a waiver of such prescribed test procedures. 51 FR 42823, November 26, 1986.

The waiver process allows the Assistant Secretary to waive temporarily test procedures for a particular basic model when a petitioner shows that the basic model contains one or more design characteristics which prevent testing according to the prescribed test procedures or when the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption as to provide materially inaccurate comparative data. Waivers generally remain in effect until final test procedure amendments become effective, resolving the problem that is the subject of a waiver.

The interim waiver provisions, added by the 1986 amendment, allow the Assistant Secretary to grant an interim waiver when it is determined that the applicant will experience economic hardship if the Application for Interim Waiver is denied, if it appears likely that the petition for waiver will be granted, and/or the Assistant Secretary determined that it would be desirable for public policy reasons to grant immediate relief pending a determination on the petition for waiver.

On September 27, 1989, DMO filed an Application for an Interim Waiver regarding blower time delay. DMO's application seeks an interim waiver from the DOE test provisions that require a 1.5 minute time delay between the ignition of the burner and starting of the circulating air blower. Instead, DMO requests the allowance to test using a 30 second blower time delay when testing its model WCS(−) condensing furnace. DMO states that the 30 second delay is indicative of how this furnace actually operates. Such a delay results in an energy savings of approximately 2.0 percent. Since current DOE test procedures do not address this variable blower time delay, DMO asks that the interim waiver be granted.

Previous waivers for this type of timed blower delay control have been granted by the Department to the Coleman Company, 50 FR 2710, January 18, 1985, the Magic Chef Company, 50 FR 41553, October 11, 1985, the Rheem Manufacturing Company, 53 FR 48574, December 1, 1988, and the Trane Company, 54 FR 19226, May 4, 1989. Thus, it appears likely that the Petition for Waiver will be granted for blower time delay.

Because DMO's Petition for Waiver requesting relief from the DOE test procedures concerning blower time delay appears likely to be granted, DMO's Application for Interim Waiver is granted.

Pursuant to paragraph (b) of 10 CFR 430.27, DOE is hereby publishing the "Petition for Waivers" in its entirety. The petition contains no confidential information. DOE solicits comments, data, and information respecting the petition.

In addition, pursuant to paragraph (e) of § 430.27 of the Code of Federal Regulations, the following letter granting the Application for Interim Waiver was issued to DMO Industries.

Issued in Washington, DC, January 31, 1990.

J. Michael Davis, P.E.,

Assistant Secretary, Conservation and Renewable Energy.

September 27, 1989

Assistant Secretary, Conservation and Renewable Energy

United States Department of Energy, 1000 Independence Avenue SW., Washington, DC 20585

Gentlemen: Please accept this letter as a petition for waiver and an application for interim waiver submitted pursuant to title 10 CFR part 430.27. Waiver is requested from the condensing furnace test procedure found at Appendix N to subpart B of part 430. The test procedure requires a 1.5 minute delay between blower on and burner on. DMO industries (formerly Duomatic Olsen) is requesting permission to change the 1.5 minute delay to a 30 second delay. DMO Industries will be producing a line of ondensing downflow models WCS (−) which will experience an AFUE increase of approximately 1.5% to 2.5% if tested with the aforementioned blower delay of 30 seconds. We would like to include a timing feature into the control system on WCS (−) furnaces to facilitate an average blower on timing of 30 seconds. As the standard exists, there would be no benefit in adding the 30 second blower timing control. In reality however, the sooner the blower is activated, the sooner the forced convection heat transfer process begins and an overall increase in efficiency results. DMO industries feels that this increase in efficiency should be recognized and reflected in the AFUE rating by allowing the 1.5 minute time delay in part 430 (section 9.3.1) to be changed to 30 seconds. Confidential comparative test data will be made available should you request it. DMO Industries feels that its competitive position in the marketplace would be compromised if our petition is not accepted.

DMO Industries requests an interim waiver because it seems likely that our waiver will be granted. Similar waivers have been granted to Coleman, Magic Chef, Rheem and Lennox who are all central furnace manufacturers known to DMO Industries. By a separate letter we will be notifying all manufacturers of a similar product. Attached please find a copy of the letter and a list of manufacturers we will notify by the letter.

Yours very truly,

Peter Janes,

P. Eng.

cc Mike McCabe U.S. Department of Energy, Office of Conservation and Renewable Energy, Mail Station CE–132, Room GF–217, Forrestal Building, 1000 Independence Avenue, Washington, DC 20585, Kyu Hwang, Mike Bryant.

January 31, 1990

Mr. Peter Janes, P.E.,

DMO Industries, 1969 Leslie Street, Don Mills, Ontario, M3B 2M3.

Dear Mr. Janes: This is in response to your September 27, 1989, Application for Interim Waiver and Petition for Waiver from the Department of Energy (DOE) test procedures for furnaces when testing DMO Industries WCS (−) gas-fueled forced-air condensing furnace regarding blower time delay.

Pursuant to the Energy Policy and Conservation Act, as amended, the Department has prescribed test procedures to measure the energy consumption of certain major household appliances, including furnaces. The intent of the test procedures is to provide a comparable measure of energy consumption that will assist consumers in making purchase decisions. These test procedures appear in the Code of Federal Regulations at 10 CFR part 430, subpart B.

DOE amended the test procedure regulations on September 26, 1980 [45 FR 64108] and November 26, 1986, [51 FR 42823] by adding paragraph 430.27. These provisions allow the Assistant Secretary for Conservation and Renewable Energy to waiver temporarily test procedures for a particular basic model when a petitioner shows that the basic model contains one or more design characteristics which prevent testing of the basic model according to the prescribed test procedures or when the prescribed test procedures may evaluate the basic model in a manner so unrepresentative of its true energy consumption characteristics as to provide materially inadequate comparative data. The 1986 amendments added provisions allowing the Assistant Secretary to grant an interim waiver for a particular basic model when a petitioner demonstrates the likely success of the petition for waiver, it is determined that the applicant will experience economic hardship if the Application for Interim Wavier is

denied and/or the Assistant Secretary determines that it would be desirable for public policy reasons to grant immediate relief pending a determination on the petition for waiver.

Previous waivers for timed blower delay control have been granted to the Coleman Company, 50 FR 2710, January 18, 1985, Magic Chef Company, 50 FR 41553, October 11, 1985, Rheem Manufacturing Company, 53 FR 48574, December 1, 1988, and the Trane Company, 54 FR 19226, May 4, 1989.

DMO's Application for Interim Waiver does not provide sufficient information for the Department to evaluate what, if any, economic impact or competitive disadvantage DMO will likely experience absent a favorable determination on the application for interim waiver. DMO feels that its competitive position in the marketplace would be compromised if this Application for Interim Waiver is not granted. However, the Department finds that it would be desirable for public policy reasons to grant DMO's Application for Interim Waiver. Specifically, in those instances where the likely success of the petition for waiver has been demonstrated based upon DOE having granted a waiver for a similar product design, it is in the public's interest to have the similar products tested and rated for energy consumption on a comparable basis.

Therefore, DMO's Application for an Interim Waiver requesting a change from the DOE test procedures for its WCS (—) gas-fueled forced-air condensing furnace regarding blower time delay is granted.

DMO shall be permitted to test its model WCS (—) condensing furnace on the basis of the test procedures specified in 10 CFR part 430, with the modification set forth below.

(i) Section 9.3.1 of ANSI/ASHRAE Standard 103–1982 is deleted and replaced with the following paragraph:

Gas- and Oil-Fueled Central Furnaces. After equilibrium conditions are achieved following the cool-down test and the required measurements performed, turn on the furnace and measure the flue gas temperature, using the thermocouple grid described above, at 0.5 and 2.5 minutes after the main burner(s) comes on. After the burner start-up, delay the blower start-up by 1.5 minutes (t—), unless: (1) The furnace employs a single motor to drive the power burner and the indoor air circulation blower, in which case the burner and blower shall be started together; (2) the furnace is designed to operate using an unvarying delay time that is other than 1.5 minutes, in which case the fan control shall be permitted to start the blower, or (3) the delay time results in the activation of a temperature safety device which shuts off the burner, in which case the fan control shall be permitted to start the blower. In the latter case, if the fan control is adjustable, set it to start the blower at the highest temperature. If the fan control is permitted to start the blower, measure time delay, (t—), using a stop watch. Record the measured tempertures. During the heat-up test for oil-fueled furnaces, maintain the draft in the flue pipe with ± 0.01 inch of water gauge of the manufacturer's recommended on-period draft.

This interim waiver is based upon the presumed validity of statements and all allegations submitted by the company. This interim waiver may be revoked or modified at any time upon a determination that the factual basis underlying the application is incorrect.

The interim waiver shall remain in effect until the Department of Energy issues a determination on DMO's Petition for Waiver.

Sincerely,

J. Michael Davis,

P.E., Assistant Secretary, Conservation and Renewable Energy.

[FR Doc. 90–2713 Filed 2–5–90; 8:45 am]

BILLING CODE 6450–01–M

Office of Hearings and Appeals

Cases Filed During the Week of December 15 through December 22, 1989

During the Week of December 15 through December 22, 1989, the appeals and applications for other relief listed in the appendix to this Notice were filed with the Office of Hearings and Appeals of the Department of Energy. An earlier submission that was inadvertently omitted has been included with this Notice.

Under DOE procedural regulations, 10 CFR part 205, any person who will be aggrieved by the DOE action sought in these cases may file written comments on the application within ten days of service of notice, as prescribed in the procedural regulations. For purposes of the regulations, the date of service of notice is deemed to be the date of publication of this Notice or the date of receipt by an aggrieved person of actual notice, whichever occurs first. All such comments shall be filed with the Office of Hearings and Appeals, Department of Energy, Washington DC 20585.

Dated: January 29, 1990.

George B. Breznay,

Director, Office of Hearings and Appeals.

LIST OF CASES RECEIVED BY THE OFFICE OF HEARINGS AND APPEALS

[Week of December 15 through December 22, 1989]

Date	Name and Location of Applicant	Case No.	Type of Submission
12/18/89	Oasis Petroleum Corp., Culver City, CA	LRZ–0001	Interlocutory. If Granted:—Sanctions would be imposed against the Economic Regulatory Administration for filing an allegedly frivolous and erroneous pleading.
12/18/89	Economic Regulatory Administration, Washington, DC.	LRZ–0002	Interlocutory. If Granted:—The Office of Hearings and Appeals would strike from the record the Motion to Dismiss filed by Oasis Petroleum Corporation (Oasis) in connection with the remedial order proceeding involving Oasis (Case No. KRO–0700).
12/18/89	Barton J. Bernstein, Stanford, CA	LFA–0014	Appeal of an information request denial. If Granted:—Barton J. Bernstein would receive access to the deleted portions of three documents.
12/18/89	Barton J. Bernstein, Stanford, CA	LFA–0013	Appeal of an information request denial. If Granted:—Barton J. Bernstein would receive material deleted from two documents.
12/18/89	New York, Albany, NY	LEG–0001	Petition for special redress. If Granted:—The Office of Hearings and Appeals would review the decision of the Assistant Secretary for Conservation and Renewable Energy denying New York State's proposed use of Stripper Well funds.
12/21/89	Paul Investments, Inc.	LEF–0006	Implementation of special refund procedures. If Granted:—The Office of Hearings and Appeals would implement Special Refund Procedures pursuant to 10 CFR part 205, Subpart V, in connection with a Consent Order which the agency entered into with Paul Investments, Inc.
01/18/89	Oasis Petroleum Corp	LRZ–0003	Interlocutory. If Granted:—The Proposed Remedial Order issued to Oasis Petroleum Corporation on September 16, 1988 would be dismissed.

Refund Applications Received

[Week of December 15 through December 22, 1989]

Date received	Name of refund proceeding/name of refund Applicant	Case No.
12/18/89	Aristech Chemical Corp	RF272-78413
12/18/89	Diffendarfer Trucking	RF272-78413
12/18/89	Richard E. Hughes, Jr.	RF307-10084
12/18/89	Riverside Exxon	RF307-10085
12/18/89	Powell's Exxon	RF307-10086
12/20/89	Brown's Westgate	RF265-2871
12/20/89	Larry Fillipi's Auto Service	RF265-2872
12/20/89	Town Line Service	RF265-2873
12/20/89	Richardson's Skelly	RF265-2874
12/20/89	Rusty's Skelly Service	RF265-2875
12/20/89	Riddle's Getty	RF265-2876
12/20/89	1-29 Oil Ltd	RF265-2877
12/20/89	Hurd's Skelly	RF265-2878
12/20/89	Grand Avenue Getty	RF265-2879
12/20/89	Fleming Store	RF265-2880
12/20/89	Wright Oil Company	RF265-2881
12/15/89 thru 12/22/89	Shell Oil refund application received	RF315-9678 thur RF315-9704
12/15/89 thru 12/22/89	Gulf Oil refund applications received	RF300-10906 thru RF300-10953

[FR Doc. 90-2715 Filed 2-5-90; 8:45 am]

BILLING CODE 6450-01-M

Cases Filed During the Week of December 22 through December 29, 1989

During the Week of December 22 through December 29, 1989, the appeals and applications for other relief listed in the appendix to this Notice were filed with the Office of Hearings and Appeals of the Department of Energy.

Under DOE procedural regulations, 10 CFR part 205, any person who will be aggrieved by the DOE action sought in these cases may file written comments on the application within ten days of service of notice, as prescribed in the procedural regulations. For purposes of the regulations, the date of service of notice is deemed to be the date of publication of this Notice or the date of receipt by an aggrieved person of actual notice, whichever occurs first. All such comments shall be filed with the Office of Hearings and Appeals, Department of Energy, Washington, DC 20585.

Dated: January 30, 1990.

George B. Breznay,

Director, Office of Hearings and Appeals.

List of Cases Received by the Office of Hearings and Appeals

[Week of December 22 through December 29, 1989]

Date	Name and location of applicant	Case No.	Type of submission
12/26/89	Douglas L. Parker, Washington, DC	LFA-0016	Appeal of an information request denial. If Granted: The Freedom of Information Request Denial issued by the DOE Chief of FOI and Privacy Acts would be rescinded and Douglas L. Parker would receive access to copies of decisions granting or denying demonstration projects under either the States Energy Conservation Program or Energy Extension Service.
12/27/89	Robert Gregory Peed, Minford, OH	LFA-0017	Appeal of an information request denial. If Granted: The November 27, 1989 Freedom of Information Request Denial issued by the DOE Oak Ridge Operations Office would be rescinded and Robert Gregory Peed would receive access to documents within his personnel security file.
12/29/89	Stanley Goldberg, Washington, DC	LFA-0018	Appeal of an information request denial. If Granted: The December 15, 1989 Freedom of Information Request Denial issued by the DOE Office of Administrative Services would be rescinded, and Stanley Goldberg would receive access to the information he requested.

Refund Applications Received

[Week of December 22 through December 29, 1989]

Date received	Name of refund proceeding/name of refund applicant	Case No.
12/19/89	W.E. Ingram	RF300-10908
12/21/89	Halls Exxon	RF307-10087
12/22/89	Barnes Exxon Service	RF307-10088
12/26/89	Charter/Mississippi	RQ23-545
12/26/89	Peninsula Oil Company	RF315-9712
12/27/89	Foster's Crown	RF313-316
12/27/89	Foster's Crown	RF313-317
12/26/89	Petromar, Inc	RF311-11
12/29/89	Raymond Bradley Spur-Stat	RF309-1381
12/29/89	Carl's Spur	RF309-1382
12/22/89 thru 12/22/89	Crude Oil refund applications received	RF272-78414 thru RF272-78429

REFUND APPLICATIONS RECEIVED—Continued

[Week of December 22 through December 29, 1989]

Date received	Name of refund proceeding/name of refund applicant	Case No.
12/22/89 thru 12/29/89	Shell Oil refund applications received	RF315-9706 thru RF315-9718
12/22/89 thru 12/29/89	Atlantic Richfield applications received	RF304-10978 thru RF304-10988

[FR Doc. 90-2716 Filed 2-5-90; 8:45 am]
BILLING CODE 6450-01-M

Cases Filed During the Week of January 12 through January 19, 1990

During the Week of January 12 through January 19, 1990, the appeals and applications for other relief listed in the appendix to this Notice were filed with the Office of Hearings and Appeals of the Department of Energy.

Under DOE procedural regulations, 10 CFR part 205, any person who will be aggrieved by the DOE action sought in these cases may file written comments on the application within ten days of service of notice, as prescribed in the procedural regulations. For purposes of the regulations, the date of service of notice is deemed to be the date of publication of this Notice or the date of receipt by an aggrieved person of actual notice, whichever occurs first. All such comments shall be filed with the Office of Hearings and Appeals, Department of Energy, Washington, DC 20585.

Dated: January 30, 1990.

George B. Breznay,

Director, Office of Hearings and Appeals.

LIST OF CASES RECEIVED BY THE OFFICE OF HEARINGS AND APPEALS

[Week of January 12 through January 19, 1990]

Date	Name and location of applicant	Case No.	Type of submission
1/12/90	Oceana County Road Commission, Muskegon, Michigan.	RR272-45	Request for modification/rescission in the Crude Oil Refund Proceeding. If Granted:—The August 16, 1989 Decision and Order issued to Ocean County Road Commission would be modified regarding the firm's application for refund submitted in the Crude Oil Refund proceeding.
1/17/90	The Albuquerque Tribune, Albuquerque, New Mexico.	LFA-0024	Appeal of an information request denial. If Granted:—The January 1, 1989 Freedom of Information Request Denial issued by the Albuquerque Operations Office would be rescinded, and The Albuquerque Tribune would receive access to the material which was the subject of Freedom of Information Request 89-341-C.

REFUND APPLICATIONS RECEIVED

Date received	Name of refund proceeding/name of refund application	Case No.
1/6/88	Kingwood Mining Co.	RF272-78438
1/12/90 thru 1/19/90	Shell Oil refund application received	RF315-9781 thru RF315-9788
1/12/90 thru 1/19/90	Gulf Oil refund application received	RF300-10959 thru RF300-10961
1/17/90	Dob Jones Exxon	RF307-10092
1/18/90	Bart Hoard Oil Company, Inc.	RF309-1384
1/18/90	Del's Arco	RF304-11153
1/19/90	Kirbyville C.I.S.D.	RF272-78436
1/19/90	Ellett's Arco	RF304-11154
1/22/90	Ross Vally Arco	RF304-11160
1/22/90	Al's Arco	RF304-11161

[FR Doc. 90-2717 Filed 2-5-90; 8:45 am]
BILLING CODE 6450-01-M

ENVIRONMENTAL PROTECTION AGENCY

[FRL-3720-7]

Agency Information Collection Activities Under OMB Review

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: In compliance with the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*), this notice announces that the Information Collection Request (ICR) abstracted below has been forwarded to the Office of Management and Budget (OMB) for review and comment. The ICR describes the nature of the information collection and its expected cost and burden.

DATES: Comments must be submitted on or before February 20, 1990.

FOR FURTHER INFORMATION CONTACT: Sandy Farmer at EPA, (202) 382-2740.

SUPPLEMENTARY INFORMATION:

Office of Pesticides and Toxic Substances

Title: Information on Dioxin Discharges from Pulp and Paper Mills; ICR No. 1555.01). This ICR requests clearance for a new collection of information.

Abstract: Pulp and paper mills are believed to be a significant source of dioxin and furan discharges, which are believed to be harmful to human health and persistent in the environment, to surface waters. This ICR provides for the collection of information that EPA needs in order to make informed

decisions on modification of the mills' wastewater discharge permits.

Burden Statement: The public reporting burden for this collection of information is estimated to be 1000 hours per response. This estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Respondents: Pulp and paper mills.

Estimated No. of Respondents: 45.

Estimated Total Annual Burden on Respondents: 91,800 hours.

Frequency of Collection: Semi-annually.

Send comments regarding the burden estimate, or any other aspect of this collection of information, including suggestions for reducing the burden, to:

Sandy Farmer, U.S. Environmental Protection Agency, Information Policy Branch (PM–223), 401 M Street SW., Washington, DC 20460,
and
Tim Hunt, Office of Management and Budget, Paperwork Reduction Project (2070–0057), Washington, DC 20503, Telephone: (202) 395–3084.

Dated: January 29, 1990.

Paul Lapsley,

Director, Information and Regulatory Systems Division.

[FR Doc. 90–2678 Filed 2–5–90; 8:45 am]

BILLING CODE 6560–50–M

[ER–FRL–3720–3]

Designation of Ocean Dredged Material Disposal Site (ODMDS) off Norfolk, VA; Intent to Prepare an Environmental Impact Statement

AGENCY: U.S. Environmental Protection Agency (EPA) Region III.

ACTION: Notice of intent to prepare an environmental impact statement (EIS) on the final designation of an ODMDS off Norfolk, Virginia.

Purpose: The U.S. EPA, Region III, in accordance with section 102(2)(c) of the National Environmental Policy Act (NEPA) and in cooperation with the U.S. Army Corps of Engineers, Norfolk District, will prepare a Draft EIS on the designation of an ODMDS off Norfolk, Virginia. An EIS is needed to provide the information necessary to designate an ODMDS. This Notice of Intent is issued pursuant to section 102 of the Marine Protection, Research and Sanctuaries Act of 1972, and 40 CFR part 338 (Criteria for the Management of Disposal Sites for Ocean Dumping).

FOR FURTHER INFORMATION AND TO BE PLACED ON THE THE PROJECT MAILING LIST CONTACT:

William Muir, U.S. EPA Region III, 841 Chestnut Building, Philadelphia, PA 19107, 215–597–2541
or
Greg Seltzer, U.S. Army Corps of Engineers, Norfolk District, 803 Front Street, Norfolk, VA 23510–1096.

SUMMARY: In accordance with the Army Corps of Engineers, Norfolk District, EPA is preparing to designate an ODMDS off Norfolk Virginia. The Norfolk site is needed to provide the Corps with an alternative long-term disposal option to the currently designated Dam Neck ODMDS. The Norfolk Site has been the subject of extensive environmental studies which previously showed the site to be adequate for the dumping of dredged material. Further, in comments received from the designation on the Dam Neck ODMDS, both the National Marine Fisheries Service and the Fish and Wildlife Service preferred the Norfolk Site to the Dam Neck Site. EPA's position on the Norfolk Site is given below.

First, the Dam Neck Site was specifically designated for clean fine to medium grain material from Thimble Shoals, Cape Henry, and the Atlantic Channels. Use of the Dam Neck Site beyond that could pose a significant conflict. With the continuation of the channel deepening projects, disposal materials from Hampton Roads or York Spit Channel could limit the life of the Dam Neck Site. Further, EPA would not recommend the expansion of the Dam Neck Site. Comments received during the Dam Neck designation indicate that several environmental agencies have concerns about the impacts of the site on fishes migrating through the site. We would expect these same issues to surface again.

Second, Norfolk, as a major port, has limited long range contained spoils capacity. Craney Island disposal alternatives may include ocean dumping. Use of the Norfolk Site would provide a viable option for materials which pass EPA's criteria but which may not be compatible with disposal at the Dam Neck Site.

Last, as mentioned above, extensive characterization of the Norfolk Site has already been done. Minimal new information would be needed to complete the study.

Need for Action: The Corps of Engineers, Norfolk District, has requested that EPA designate an ODMDS offshore of Norfolk, Virginia, for the disposal of dredged material from the Thimble Shoals, Cape Henry, Atlantic, Hampton Roads and York Spit Channels when ocean disposal is the preferred alternative. An EIS is required to provide the necessary information to evaluate alternatives and designate the preferred ODMDS.

Alternatives:

1. No action. The no action alternative is defined as not designating an ocean disposal site.

2. Alternative disposal sites in the nearshore, mid-shelf, and shelf break regions.

Scoping: A scoping meeting is contemplated. Scoping will be accomplished with affected Federal, State and local agencies, and with interested parties at a meeting on February 7, 1990. The meeting will be held at the Norfolk District Office of the Corps of Engineers, 803 Front Street, Norfolk, Virginia, 3rd Floor Conference Room.

Estimated Date of Release: The Draft EIS will be made available in October 1990.

Responsible Official:

Edwin B. Erickson, Regional Administrator, Region III.

Dated: January 30, 1990.

Richard E. Sanderson,

Director Office of Federal Activities.

[FR Doc. 90–2693 Filed 2–5–90; 8:45 am]

BILLING CODE 6560–13–M

[FRL–3721–3]

Additional Extension of Time to Either Withdraw the Proposed Determination or Prepare a Recommended Determination for Two Forks Dam and Reservoir

AGENCY: Environmental Protection Agency.

ACTION: Notice of an additional extension of time.

SUMMARY: As announced in the December 15, 1989 Federal Register (54 FR 51470), the EPA extended the 404(c) process to either withdraw the Proposed Determination or prepare a Recommended Determination for the proposed Two Forks Dam and Reservoir until January 31, 1990. Because of unanticipated developments EPA has decided under its authority contained at 40 CFR 231.8 to futher extend the 404(c) process to either withdraw the Proposed Determination or Prepare a Recommended Determination until February 28, 1990.

FOR FURTHER INFORMATION CONTACT: Gene Reetz, Two Forks Team Leader or Mary Alice Reedy, Records Clerk, State Programs Management Branch, Water Management Division, EPA Region VIII, 999 18th Street, Suite 500, Denver, Colorado 80202-2405 (303) 293-1570, FTS 330-1570.

Lee A. DeHihns,

Regional Decision Officer, EPA Region VIII.

[FR Doc. 90-2677 Filed 2-5-90; 8:45 am]

BILLING CODE 6560-50-M

[FRL-3720-8]

Public Water Supply Supervision Program; Program Revision for the States of Texas, Louisiana, New Mexico, Arkansas and Oklahoma

AGENCY: Environmental Protection Agency.

ACTION: Notice.

SUMMARY: Notice is hereby given that the States of Texas, Louisiana, New Mexico, Arkansas and Oklahoma are revising their approved State Public Water Supply Supervision Primacy Programs. Texas, Louisiana, New Mexico, Arkansas and Oklahoma have adopted (1) drinking water regulations for eight volatile organic chemicals that correspond to the National Primary Drinking Water Regulations for eight volatile organic chemicals promulgated by EPA on July 8, 1987 (52 FR 25690) and (2) public notice regulations that correspond to the revised EPA public notice requirements promulgated on October 28, 1987 (52 FR 41534). EPA has determined that these two sets of State program revisions are no less stringent than the corresponding Federal regulations, Therefore, EPA has tentatively decided to approve these State program revisions.

All interested parties are invited to request a public hearing. A request for a public hearing must be submitted by March 8, 1990 to the Regional Administrator at the address shown below. Frivolous or insubstantial requests for a hearing may be denied by the Regional Administrator. However, if a substantial request for a public hearing is made by March 8, 1990 a public hearing will be held. If no timely and appropriate request for a hearing is received and the Regional Administrator does not elect to hold a hearing on his own motion, this determination shall become effective on March 8, 1990.

A request for a public hearing shall include the following: (1) The name, address, and telephone number of the individual, organization, or other entity requesting a hearing. (2) A brief statement of the requesting person's interest in the Regional Administrator's determination and of information that the requesting person intends to submit at such hearing. (3) The signature of the individual making the request; or, if the request is made on behalf of an organization or other entity, the signature of a responsible official of the organization or other entity.

ADDRESSES: All documents relating to this determination are available for inspection between the hours of 8 a.m. and 4:30 p.m., Monday through Friday, at the following offices:

Division of Water Hygiene, Texas Department of Health, 1100 West 49th Street, Austin, Texas 78756

Office of Public Health, Louisiana Department of Health and Hospitals, P.O. Box 60630, New Orleans, Louisiana 70160

Division of Engineering, Arkansas Department of Health, 4815 West Markham, Little Rock, Arkansas 72201

Water Quality Service, Oklahoma State Department of Health, 1000 NE 10th Street, P.O. Box 53551, Oklahoma City, Oklahoma 73152

Drinking Water Section, New Mexico Environmental Improvement Division, P.O. Box 968, Santa Fe, New Mexico 87503; and

Regional Administrator, Environmental Protection Agency, Region 6, 1445 Ross Avenue, Dallas, Texas 75202-2733.

FOR FURTHER INFORMATION CONTACT: Oscar Cabra, Jr., EPA, Region 6, Water Supply Branch, at the Dallas address given above; telephone (214) 655-7150, FTS 255-7150.

Authority: Section 1413 of the Safe Drinking Water Act, as amended, (1986) and 40 CFR 142.10 of the National Primary Drinking Water Regulations.

Dated: January 25, 1990.

Joe. D. Winkle,

Acting; Regional Administrator.

[FR Doc. 90-2679 Filed 2-5-90; 8:45 am]

BILLING CODE 6560-50-M

FEDERAL EMERGENCY MANAGEMENT AGENCY

[FEMA-851-DR]

Amendment to Notice of a Major Disaster Declaration; Florida

AGENCY: Federal Emergency Management Agency.

ACTION: Notice.

SUMMARY: This notice amends the notice of a major disaster for the State of Florida (FEMA-851-DR), dated January 15, 1990, and related determinations.

DATED: January 24, 1990.

FOR FURTHER INFORMATION CONTACT: Neva K. Elliott, Disaster Assistance Programs, Federal Emergency Management Agency, Washington, DC 20472 (202) 646-3614.

Notice: The notice of a major disaster for the State of Florida, dated January 15, 1990, is hereby amended to include the following areas among those areas determined to have been adversely affected by the catastrophe declared a major disaster by the President in his declaration of January 15, 1990:

The counties of Brevard, Citrus, Hernando, Hillsborough, Lake, Marion, Orange, Osceola, Pasco, Pinellas, Polk, Seminole, Sumpter, and Volusia for Disaster Unemployment Assistance only.

(Catalog of Federal Domestic Assistance No. 83.516, Disaster Assistance)

Richard W. Krimm,

Acting Deputy Associate Director, State and Local Programs and Support Federal Emergency Management Agency.

[FR Doc. 90-2684 Filed 2-5-90; 8:45 am]

BILLING CODE 6718-21-M

[FEMA-853-DR]

Major Disaster and Related Determinations; Oregon

AGENCY: Federal Emergency Management Agency.

ACTION: Notice.

SUMMARY: This is a notice of the Presidential declaration of a major disaster for the State of Oregon (FEMA-853-DR), dated January 24, 1990, and related determinations.

DATED: January 24, 1990.

FOR FURTHER INFORMATION CONTACT: Neva K. Elliott, Disaster Assistance Programs, Federal Emergency Management Agency, Washington, DC 20472 (202) 646-3614.

Notice: Notice is hereby given that, in a letter dated January 24, 1990, the President declared a major disaster under the authority of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121 *et seq.*, Public Law 93-288, as amended by Public Law 100-707), as follows:

I have determined that the damage in certain areas of the State of Oregon, resulting from severe storms and flooding on January 6-9, 1990, is of sufficient severity and magnitude to warrant a major disaster declaration under Public Law 93-288, as amended by Public Law 100-707. I, therefore, declare that such a major disaster exists in the State of Oregon.

In order to provide Federal assistance, you are hereby authorized to allocate from funds available for these purposes, such amounts as you find necessary for Federal disaster assistance and administrative expenses.

You are authorized to provide Public Assistance in the designated areas. Consistent with the requirement that Federal assistance be supplemental, any Federal funds provided under PL 93–288, as amended by Public Law 100–707, for Public Assistance will be limited to 75 percent of the total eligible costs.

The time period prescribed for the implementation of section 310(a), Priority to Certain Applications for Public Facility and Public Housing Assistance, shall be for a period not to exceed six months after the date of this declaration.

Notice is hereby given that pursuant to the authority vested in the Director of the Federal Emergency Management Agency under Executive Order 12148, and redelegated to me, I hereby appoint Richard A. Buck of the Federal Emergency Management Agency to act as the Federal Coordinating Officer for this declared disaster.

I do hereby determine the following areas of the State of Oregon to have been affected adversely by this declared major disaster: Tillamook County for Public Assistance.

(Catalog of Federal Domestic Assistance No. 83.516, Disaster Assistance)

James P. McNeill,

Acting Director, Federal Emergency Management Agency.

[FR Doc. 90–2652 Filed 2–5–90; 8:45 am]

BILLING CODE 6718–21–M

[FEMA–850–DR]

Amendment to Notice of a Major Disaster Declaration; Texas

AGENCY: Federal Emergency Management Agency.

ACTION: Notice.

SUMMARY: This notice amends the notice of a major disaster for the State of Texas (FEMA–850–DR), dated January 9, 1990, and related determinations.

DATES: January 25, 1990.

FOR FURTHER INFORMATION CONTACT: Neva K. Elliott, Disaster Assistance Programs, Federal Emergency Management Agency, Washington, DC 20472, (202) 646–3614.

Notice: The notice of a major disaster for the State of Texas, dated January 9, 1990, is hereby amended to include the following areas among those areas determined to have been adversely affected by the catastrophe declared a major disaster by the President in his declaration of January 9, 1990: Frio County for Disaster Unemployment Assistance only.

(Catalog of Federal Domestic Assistance No. 83.516, Disaster Assistance)

Richard W. Krimm,

Acting Deputy Associate Director, State and Local Programs and Support, Federal Emergency Management Agency.

[FR Doc. 90–2685 Filed 2–5–90; 8:45 am]

BILLING CODE 6718–21–M

[FEMA–852–DR]

Amendment to Notice of a Major Disaster Declaration; Washington

AGENCY: Federal Emergency Management Agency.

ACTION: Notice.

SUMMARY: This notice amends the notice of a major disaster for the State of Washington (FEMA–852–DR), dated January 18, 1990, and related determinations.

DATES: January 23, 1990.

FOR FURTHER INFORMATION CONTACT: Neva K. Elliott, Disaster Assistance Programs, Federal Emergency Management Agency, Washington, DC 20472, (202) 646–3614.

Notice: The notice of a major disaster for the State of Washington, dated January 18, 1990, is hereby amended to include the following areas among those areas determined to have been adversely affected by the catastrophe declared a major disaster by the President in his declaration of January 18, 1990:

The counties of Benton, Grays Harbor, King, Pierce, Thurston, and Wahkiakum for Individual Assistance and Public Assistance.

(Catalog of Federal Domestic Assistance No. 83.516, Disaster Assistance)

Grant C. Peterson,

Associate Director, State and Local Programs and Support, Federal Emergency Management Agency.

[FR Doc. 90–2651 Filed 2–5–90; 8:45 am]

BILLING CODE 6718–21–M

Privacy Act of 1974; Proposed New System of Records and Consolidation of Two Existing Systems of Records

AGENCY: Federal Emergency Management Agency (FEMA).

ACTION: Proposed new system of records.

SUMMARY: Pursuant to the requirements of the Privacy Act of 1974, 5 U.S.C. 552a, FEMA gives notice of the proposed new system of records entitled, "FEMA/OT–4, Associate Faculty Tracking System." Also, FEMA gives notice of a consolidation of an existing system of records, FEMA/REG–2 Temporary Housing Files, into another existing but expanded system of records, FEMA/REG–3, Disaster Recovery Assistance Files. The system entitled, FEMA/REG–2, Temporary Housing Files, will be deleted once the consolidated system notice is effective. A new system report has been filed with the Chairman, Committee on Government Operations of the House of Representatives, the Chairman, Committee on Governmental Affairs of the Senate, and the Acting Administrator, Office of Information and Regulatory Affairs, Office of Management and Budget.

DATE: Comments must be received on or before 30 days from the date of this publication (March 8, 1990). The notices, including the routine uses, become effective 60 days from the date of this publication (April 9, 1990), without further notice, unless comments necessitate otherwise.

ADDRESSES: Address comments to the Federal Emergency Management Agency, Attn: Docket Clerk, Office of General Counsel, Room 840, 500 C Street SW., Washington, DC 20472. Comments received will be available for public inspection at the above address from 9 a.m. to 4 p.m., Monday through Friday (except for legal holidays).

FOR FURTHER INFORMATION CONTACT: Linda M. Keener, FOIA/Privacy Specialist, at (202) 646–3840.

SUPPLEMENTARY INFORMATION: The Office of Training has determined that it needs to establish a new system of records to be entitled, "Associate Faculty Tracking System," to track associate faculty data to facilitate the selection of instructors based on factors such as area of expertise or previous evaluations, obtain cost information in support of budget requirements, and maintenance of records.

The consolidation of the systems entitled, "FEMA/REG–2, Temporary Housing and FEMA/REG–3, Disaster Recovery Assistance Files" is appropriate since the files have been consolidated with the advent of the automated disaster assistance delivery system and the combined verification system. Under the new system, individuals no longer are required to file separate applications for each type of assistance for which they seek. Instead, they will complete one application which encompasses the variety of assistance which they seek.

A "Report on New Systems" has been filed, concurrent with publication of this notice, with Congress and the Office of Management and Budget.

Dated: January 30, 1990.

Robert H. Morris,

Acting Director, Federal Emergency Management Agency.

FEMA/OT–4

SYSTEM NAME:

Associate Faculty Tracking System.

SECURITY CLASSIFICATION:

Unclassified.

SYSTEM LOCATION:

Records are stored at the Federal Emergency Management Agency, Office of Training, National Emergency Training Center, Emmitsburg, MD 21727.

CATEGORIES OF INDIVIDUALS COVERED BY THE SYSTEM:

Individuals who provide instruction in the delivery of Office of Training resident and field courses. Categories of records in the system: Individuals name; home and/or business addresses and telephone numbers; taxpayer identification number; title of courses taught; dates and location of courses; type of supplies or services requested; professional degrees; area(s) of expertise; cost data; and evaluations of courses and instructors.

AUTHORITY FOR MAINTENANCE OF THE SYSTEM:

Federal Civil Defense Act of 1950, as amended, 50 U.S.C. App. 2251 *et seq.;* Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. App. 5121 *et seq.;* National Security Act of 1947, 50 U.S.C. App. 404; Defense Production Act of 1950, 50 U.S.C. App. 2061 *et seq.;* National Flood Insurance Act of 1968, as amended; Flood Disaster Protection Act, as amended, 42 U.S.C. App. 4001 *et seq.;* and Earthquake Hazards Reduction Act of 1977, as amended, 42 U.S.C. 7701, *et seq.;* Federal Fire Prevention and Control Act of 1974, 15 W.S.C. App. 2201 *et seq.;* 5 U.S.C. 301 and 3108; E.O. 1212 and reorganization Plan No. 3 of 1978; Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9615 *et seq.* (CERCLA), as further amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, Pub. L. 99–499; and Emergency Planning and Community Right to Know Act of 1986, as amended, 42 U.S.C. 11001 *et seq.* (SARA Title III).

PURPOSE(S):

To provide a capability to track associate faculty data to facilitate the selection of instructors and maintenance of records. The Office of Training staff may access the system to add records for new instructors and/or course offerings, update records for existing instructors, generate on-screen queries and hard copy reports to facilitate the selection of instructors based on factors such as area of expertise or previous evaluations, and obtain cost information in support of budget requirements.

ROUTINE USES OF RECORDS MAINTAINED IN THE SYSTEM, INCLUDING CATEGORIES OF USERS AND THE PURPOSES OF SUCH USES:

Routine uses may include Nos. 1, 2, 3, 5, and 8 of Appendix A.

DISCLOSURES TO CONSUMER REPORTING AGENCIES:

Disclosures pursuant to 5 U.S.C. 552a(b)(12): Disclosures may be made from this system to "consumer reporting agencies" as defined in the Fair Credit Reporting Act (15 U.S.C. 1681a(f) or the Federal Claims Collection Act of 1966 (31 U.S.C. 3701(a)(3)).

POLICIES AND PRACTICES FOR STORING, RETRIEVING, ACCESSING, RETAINING, AND DISPOSING OF RECORDS IN SYSTEM:

STORAGE:

Stand-alone personal computers which consist of hard drive with floppy backup and network use consists of hard drive and magnetic storage media as backup as well as hard copy procurement documentation.

RETRIEVABILITY:

Menu-driven system capable of retrieving data based on a variety of sorting features. Generally the records will be retrieved by one of the following: name, taxpayer identification number, area(s) of expertise, course and/or course code.

SAFEGUARDS:

The system is accessible by password into an established network capability or on a designated stand-alone computer with limited access and data transmission via modem. Hard copy records are maintained in areas that are secured by building guards during nonbusiness hours.

RETENTION AND DISPOSAL:

Records are updated and are destroyed when no longer needed in accordance with General Records Schedule 3c.

SYSTEM MANAGER(S) AND ADDRESS:

Director, Office of Training, Federal Emergency Management Agency, Washington, DC 20472.

NOTIFICATION PROCEDURES:

Individuals wishing to inquire whether this system of records contains information about themselves should contact the system manager identified above. Written requests should be clearly marked "Privacy Act Request" on the envelope and letter. Requests should include full name of the individual, some type of appropriate personel identification, and current address.

For personal visits, the individuals should be able to provide some acceptable identification, that is, driver's license, employing organization's identification card, or other identification card.

RECORD ACCESS PROCEDURES:

Same as notification procedures above.

RECORD SOURCE CATEGORIES:

Information submitted directly by the subject individuals.

SYSTEMS EXEMPTED FROM CERTAIN PROVISIONS OF THE ACT:

None.

FEMA/REG–2

SYSTEM NAME:

Disaster Recovery Assistance Files.

SECURITY CLASSIFICATION:

Unclassified

SYSTEM LOCATION:

Disaster Field Offices, and FEMA regional offices listed in Appendix AA.

CATEGORIES OF INDIVIDUALS COVERED BY THE SYSTEM:

Individuals who apply for disaster recovery assistance following Presidentially declared major disasters or emergency.

CATEGORIES OF RECORDS IN THE SYSTEM:

a. Records of registration for assistance (FEMA Form 90–69, Disaster Assistance Registration/Application includes names, addresses, telephone numbers, social security numbers, insurance coverage information, household size and composition, type of damage incurred, income information, programs to which referred for assistance, flood zones, preliminary determinations of eligibility for disaster assistance).

b. Inspection reports (FEMA Form 90–56, Inspection Report) contain indentification information, and results of survey of damaged property and goods.

c. Temporary housing assistance eligibility determinations (FEMA Forms 90–11 through 90–13, 90–16, 90–22, 90–24 through 90–28, 90–31, 90–33, 90–41, 90–48, 90–57, 90–68 through 90–70, 90–71, 90–75 through 90–78, 90–82, 90–86, 90–87, 90–94 through 90–97, 90–99, and 90–101). These

pertain to approval and disapproval of temporary housing assistance: General correspondence, compliants appeals, and resolutions, requests for disbursement of payments, inquiries from tenants and landlords, general administrative and fiscal information, payment schedules and forms, termination notices, and information shared with the temporary housing program staff from other agencies to prevent duplication of benefits, leases, contracts, specification for repair of disaster damaged residences, reasons for eviction or denial of aid, sales information after tenant purchase of housing units, and status of disposition of applications of housing.

d. Eligibility decisions from other agencies (for example, the disaster loan program administered by the Small Business Administration, and decisions of the State-administered Individual and Family Grant program) as they relate to determinations of eligibility for disaster assistance programs.

e. State files containing related, but independently kept, records of persons who request Individual and Family Grants, and administrative files and reports required by FEMA. As to individuals, the same type of information as described above under registration, inspection, and temporary housing assistance records are kept. As to administrative and reporting requirements, FEMA Forms 76–27, 76–28, 76–30, 76–32, 76–34, 76–35, 76–38 are used. State administrative planning formats are also used.

AUTHORITY FOR MAINTENANCE OF THE SYSTEM:

Pub. L. 93–288, the Disaster Relief Act of 1974 as amended; Reorganization Plan No. 3 of 1978.

PURPOSE(S):

To register applicants needing disaster assistance, to inspect damaged homes, to verify information provided by the applicant, and to make eligibility determinations for that assistance.

ROUTINE USES OF RECORDS MAINTAINED IN THE SYSTEM, INCLUDING CATEGORIES OF USERS AND THE PURPOSES OF SUCH USES:

Other Federal agencies, State governments, and volunteer agencies charged with administering disaster relief programs, both under the Disaster Relief Act as amended and other disaster legislation of charters may have read-only access to information relevant to their particular assistance program to determine eligibility for assistance programs. They will not be able to change FEMA records. To the extent that eligibility for a program depends on eligibility for assistance from another program (section 312 of the Act, which prevents duplication of benefits among disaster organizations), the information must be shared between and among these agencies and organizations.

Additional routine uses may include those identified as Nos. 1, 2, 3, 5, 6, and 8 of Appendix A.

DISCLOSURE TO CONSUMER REPORTING AGENCIES.

Disclosures pursuant to 5 U.S.C. 552a(b)(12): Disclosures may be made from this system to "consumer reporting agencies" as defined in the Fair Credit Reporting Act, 915 U.S.C. 1681a(f) or the Debt Collection Act of 1982.

POLICIES AND PRACTICES FOR STORING, RETRIEVING, ACCESSING, RETAINING, AND DISPOSING OF RECORDS IN THE SYSTEM:

STORAGE:

Computer discs, records in file folders.

RETRIEVABILITY:

By name, address, social security number case file numbers.

SAFEGUARDS:

Hardware and software computer security measures; paper files in locked file cabinets or rooms; buildings are secured during non-business hours by building guards.

RETENTION AND DISPOSAL:

Because of varying record schedules applicable to this system of records, we have broken down the paragraphs under the categories of records section for easy reference. Records covered by paragraphs a through d are covered by FEMA Records Schedule N1–311–86–1, Item 8b(1) and are destroyed 6 years and 3 months after the files are consolidated. Records covered by paragraph e are covered by FEMA Records Schedule N1–311–86–1, Item 7 and are destroyed 3 years after the disaster contract is terminated.

SYSTEM MANAGER(S) AND ADDRESS:

Regional; Directors of FEMA, addresses are listed in Appendix AA.

NOTIFICATION PROCEDURES:

Inquiries should be addressed to the appropriate system manager. Written requests should be clearly marked, "Privacy Act Request" on the envelope and letter. Include full name of the individual, some type of appropriate personal identification, and current address.

For personal visits, the individual should be able to provide some acceptable identification, that is, driver's license, employing office's identification card, or other identification data.

RECORDS ACCESS PROCEDURES:

Same as notification procedure above.

CONTESTING RECORD PROCEDURE:

Same as notification procedure above. The letter should state clearly and concisely what information is being contested, the reasons for contesting it, and the proposed amendment to the information sought. FEMA Privacy Act regulations are at 44 CFR part 6.

RECORD SOURCE CATEGORIES:

Applicants for disaster recovery assistance; credit rating bureaus, financial institutions, insurance companies and agencies providing disaster relief.

SYSTEMS EXEMPTED FROM CERTAIN PROVISIONS OF THE ACT:

None.

[FR Doc. 90–2686 Filed 2–5–90; 8:45 pm]

BILLING CODE 6718–01–M

FEDERAL MARITIME COMMISSION

Agreement(s) Filed; City of Los Angeles/Distribution and Auto Service, Inc. and Philadelphia Port Corporation

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 10220. Interested parties may submit comments on each agreement to the Secretary, Federal Maritime Commission, Washington, DC 20573, within 10 days after the date of the **Federal Register** in which this notice appears. The requirements for comments are found in § 572.603 of title 46 of the Code of Federal Regulations. Interested persons should consult this section before communicating with the Commission regarding a pending agreement.

Agreement No: 224–200100–002

Title: City of Los Angeles/Distribution and Auto Service, Inc. Terminal Agreement.

Parties:

City of Los Angeles
Distribution and Auto Service, Inc. (DAS).

Synopsis: The Agreement amends the basic agreement to: (1) Substitute certain premises for premises previously granted; (2) change the preferential right to use Berth 199 to a secondary right; (3)

expand the use of the premises to include certain handling of containers; (4) revise the monthly minimum guarantee and revenue sharing breakpoint provisions; (5) provide that the storage amount of $572,505 which may be credited towards the revenue sharing breakpoint shall be adjusted proportionately to changes in the wharfage rate; (6) provide that changes in the monthly minimum guarantee and revenue sharing breakpoint take into accord all changes in the cost of improvements as of the effective date of the Agreement; and (7) provide that, in consideration of the provisions amended by the Agreement, DAS shall be liable to pay for the first annual period of the Agreement not less than $4,653,000, not including interest penalties but not more than $4,700,000, not including interest penalties.

Agreement No: 224–200051–002

Title: Philadelphia Port Corporation Terminal Agreement.

Parties:

Philadelphia Port Corporation
Tioga Fruit Terminal, Inc. (Tioga).

Snyopsis: The Agreement modifies the basic lease Agreement to (1) extend the initial lease term to October 31, 1993; (2) provide Tioga with three additional 3-year optional lease periods; (3) make the rental rates a function of base rent plus cargo fees; and (4) change and re-allocate shed space.

By the Federal Maritime Commission.

Dated: January 31, 1990.

Joseph C. Polking,

Secretary.

[FR Doc. 90–2607 Filed 2–5–90; 8:45 am]

BILLING CODE 6730–01–M

FEDERAL RESERVE SYSTEM

Community Bankshares, Inc., et al.; Formations of; Acquisitions by; and Mergers of Bank Holding Companies

The companies listed in this notice have applied for the Board's approval under section 3 of the Bank Holding Company Act (12 U.S.C. 1842) and § 225.14 of the Board's Regulation Y (12 CFR 225.14) to become a bank holding company or to acquire a bank or bank holding company. The factors that are considered in acting on the applications are set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

Each 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 to the Reserve Bank or to the offices of the Board of Governors. Any comment on an application that requests a hearing must include a statement of why a written presentation would not suffice in lieu of a hearing, identifying specifically any questions of fact that are in dispute and summarizing the evidence that would be presented at a hearing.

Unless otherwise noted, comments regarding each of these applications must be received not later than February 26, 1990.

A. **Federal Reserve Bank of Richmond** (Fred L. Bagwell, Vice President), 701 East Byrd Street, Richmond, Virginia 23261:

1. *Community Bankshares, Inc.*, Parkersburg, West Virginia; to become a bank holding company by acquiring 100 percent of the voting shares of Community Bank of Parkersburg, Parkersburg, West Virginia.

B. **Federal Reserve Bank of Chicago** (David S. Epstein, Vice President), 230 South LaSalle Street, Chicago, Illinois 60690:

1. *Oxford Financial Corporation*, Addison, Illinois; to acquire 100 percent of the voting shares of Hampton Park Corporation, Romeoville, Illinois, and thereby indirectly acquire First Bank of Romeoville, Romeoville, Illinois.

C. **Federal Reserve Bank of Kansas City** (Thomas M. Hoenig, Vice President), 925 Grand Avenue, Kansas City, Missouri 64198:

1. *American National Corporation*, Omaha, Nebraska; to acquire The Northern Corporation, Omaha, Nebraska, and thereby indirectly acquire The Northern Bank, Omaha, Nebraska.

2. *Southwest Holdings, Inc.*, Omaha, Nebraska; to become a bank holding company by acquiring Southwest Ban Corporation, Omaha, Nebraska, and thereby indirectly acquire Southwest Bank of Omaha, Omaha, Nebraska.

D. **Federal Reserve Bank of Dallas** (W. Arthur Tribble, Vice President), 400 South Akard Street, Dallas, Texas 75222:

1. *D. R. N. B., Inc.*, Washington, DC; to become a bank holding company by acquiring 100 percent of the voting shares of Del Rio National Bank, Del Rio, Texas.

2. *Del Rio National Bancshares, Inc.*, Del Rio, Texas; to become a bank holding company by acquiring 100 percent of the voting shares of D.R.N.B., Inc., Washington, DC, and thereby indirectly acquire Del Rio National Bank, Del Rio, Texas.

3. *M & F Financial Corp.*, Wilmington, Delaware; to become a bank holding company by acquiring 100 percent of the voting shares of Texas Bank, Brownwood, Texas, and Texas Bank, Weatherford, Texas.

Board of Governors of the Federal Reserve System, January 31, 1990.

Jennifer J. Johnson,

Associate Secretary of the Board.

[FR Doc. 90–2663 Filed 2–5–90; 8:45 am]

BILLING CODE 6210–01–M

James E. Lindsey; Change in Bank Control Notices, Acquisition of Shares of Banks or Bank Holding Companies; Correction

This notice corrects a previous Federal Register notice (FR Doc. 89–30286) published on page 64 of the issue for Tuesday, January 2, 1990.

Under the Federal Reserve Bank of St. Louis, the entry for James E. Lindsey is amended to read as follows:

B. **Federal Reserve Bank of St. Louis** (Randall C. Sumner, Vice President) 411 Locust Street, St. Louis, Missouri 63166:

1. *James E. Lindsey*, Fayetteville, Arkansas; to acquire an additional 4.14 percent of the voting shares of Baxter County Bancshares, Inc., Mountain Home, Arkansas, for a total of 28.37 percent, and thereby indirectly acquire Peoples Bank and Trust Company, Mountain Home, Arkansas.

Comments on this application must be received by February 26, 1990.

Board of Governors of the Federal Reserve System, January 31, 1990.

Jennifer J. Johnson,

Associate Secretary of the Board.

[FR Doc. 90–2662 Filed 2–5–90; 8:45 am]

BILLING CODE 6210–01–M

GENERAL SERVICES ADMINISTRATION

Information Resources Management Service; Federal Telecommunications Standards

ACTION: Notice of adoption of standard.

SUMMARY: The purpose of this notice is to announce the adoption of a Federal Telecommunications Standard (FED–STD). FED–STD 1045, "Telecommunications: HF Radio Automatic Link Establishment" is approved by the General Services Administration and will be published.

FOR FURTHER INFORMATION CONTACT: Office of Technology and Standards, National Communications System, telephone (202) 692–2124.

SUPPLEMENTARY INFORMATION:

1. The General Services Administration (GSA) is responsible,

under the provisions of the Federal property and Administrative Services Act of 1949, as amended, for the Federal Standardization Program. On August 14, 1972, the Administrator of General Services designated the National Communications System (NCS) as the responsible agent for the development of telecommunications standards for NCS interoperability and the non-computer communication interface.

2. On January 13, 1989, a notice was published in the **Federal Register** (54 FR 1461) that a proposed draft Federal Telecommunications Standard entitled "Telecommunications: HF Radio Automatic Link Establishment" was being proposed for Federal use.

3. The justification package as approved by the Director, Office of Science and Technology Policy (OSTP), Executive Office of the President was presented to GSA by NCS with a recommendation for adoption of the standard. These data are a part of the public record and are available for inspection and copying at the Office of Technology and Standards, National Communications System, Washington, DC 20305–2010.

4. The approved standard contains six sections. Sections 1, 2, and 3 provide information regarding description, objectives, application, definition and reference documents. Sections 4, 5, and 6 provide technical requirements of the standard.

5. Interested parties may purchase the standard from GSA, acting as agent for the Superintendent of Documents. Copies are for sale at the GSA Specification Unit (WPSIS), Room 6039, 7th and D Street SW., Washington, DC 20407; telephone (202) 472–2205.

Dated: January 24, 1990.

Thomas J. Buckholtz,

Commissioner.

[FR Doc. 90–2653 Filed 2–5–90; 8:45 am]

BILLING CODE 6820–25–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Alcohol, Drug Abuse, and Mental Health Administration

Mental Health Services Research Demonstration Grants (Community Support Program for Adults); Community Research Demonstration Projects

AGENCY: National Institute of Mental Health, HHS.

ACTION: Notice of request for applications.

Introduction: The National Institute of Mental (NIMH) announces the availability of Mental Health Services Research Demonstration Grants for adults with severe and persistent mental disorders. These grants will be made under the authority of section 520A of the Public Health Service (PHS) Act which authorizes funds for demonstrations of mental health services for individuals with severe and persistent mental disorders.

Since its inception, the goal of the Community Support Program (CSP) of the National Institute of Mental Health (NIMH) has been to promote the development of effective community-based services and service systems throughout the Nation in order to improve the lives of their families. CSP promotes effective services through the support of research demonstration projects that involve the transfer and application of interventions derived from a research base, that are designed to test effectiveness, that involve a research design, and that generate conclusions that are generalizable to other sites.

Under this RFA, NIMH will receive and review research demonstration proposals to examine the effectiveness and generalizability of innovative approaches to providing three key components of a comprehensive, community-based service system: case management, psychiatric rehabilitation, and crisis response services. The purpose is to geneate new knowledge on the effectiveness, impact on clinical outcomes, and replicability of approaches to providing these service components. Another important purpose is to strengthen linkages between the public mental health system and the academic community. This announcement is a minor revision of the Request for Applications (RFA) MH–88–11.

In fiscal year 1990, it is estimated that CSP will fund a total of approximately 8–10 Community Research Demonstration projects averaging $250,000 to $350,000 per year.

Population of Concern

The population of concern for CSP grants includes individuals 18 years and over with a severe and persistent mental disorder that seriously impairs functioning in primary aspects of daily living such as interpersonal relations, living arrangements, or employment. Individuals who have a dual diagnosis of severe and persisent mental disorder and substance abuse or severe or mental retardation are included. Because the understanding and prevention of homelessness are among the Institute's highest priorities, applicants should focus on the problems related to individuals with a severe and persistent mental disorder who are homeless or at risk of becoming homeless because of unstable living situations or inadequate income levels. Applicants should also focus on the unique needs and special concerns of racial and ethnic minorities and women.

Inclusion of Minorities in Study Populations

ADAMHA urges applicants to give added attention (where feasible and appropriate) to the inclusion of minorities in study populations for research into the etiology of diseases, research in behavioral and social sciences, clinical studies of treatment and treatment outcomes, research on the dynamics of health care and its impact on disease, and appropriate interventions for disease prevention and health promotion. If minorities are not included in a given study, a clear rationale for their exclusion should be provided.

Inclusion of Women in Study Population

ADAMHA urges applicants to consider the inclusion of women in the study populations for all clincial research efforts. Exceptions would be studies of diseases which exclusively affect males or where involvement of pregnant women may expose the fetus to undue risks. Gender differences should be noted and evaluated. If women are not to be included, a clear rationale should be provided for their exclusion.

In order to provide more precise information to the treatment community, it is recommended that publications resulting from ADAMHA-supported research in which the study population was limited to one sex for any reason other than that the disease or condition studied exclusively affects that sex, should state, in the abstract summary, the gender of the population studied, e.g., "male patients," "male volunteers," "female patients," "female volunteers."

Eligibility

Only State mental health authorities are eligible to apply for CSP Community Research Demonstration Grants. However, grant applications which involve meaningful collaboration between State mental health agencies and the academic/scientific sector will receive priority in funding decisions. States may submit only *two* applications

under this RFA. They should be in different priority areas.

NIMH is limiting potential applicants for demonstrations under this announcement to State mental health authorities for three reasons. First, because multipe agencies and providers are generally involved in implementing these demonstration initiatives, centralized State assistance is needed to assue that sufficient resources will be allocated to the project and appropriate staff and organizations will be involved. The State mental health authorities are best qualified to undertake this coordination function, since they oversee a wide range of mental health service providers. Prior NIMH demonstration efforts under section 504(f) of the PHS Act have shown the State mental health authorities to be effective in coordinating services.

Second, a related Federal initiative focused on the long-term mentally ill population, authorized under Public Law 99–660, The State Comprehensive Mental Health Planning Act, requires State governments to coordinate services for these groups. The research demonstration projects supported through the grant will facilitiate State efforts to develop coordinated services for the long-term mentally ill population. Finally, if the programs stimulated through these grants are to survive beyond the grant period, it is probable that the main source of funding will come from State mental health authorities and other related State human service agencies. Based on previous program experience, involving States in the demonstration projects greatly increases the probablility that they will provide continuation funding for the program.

Community Support System Components for Which Grant Support is Available

CSP Case Management Research Demonstration Projects

Although many mental health systems are providing or currently developing case management services, there is great variability in how these services are being provided. Also there is little clarity on the essential components of the service; the effectiveness of different models or approaches; the complex interactions between the individual, case manager, and the system; and the education, training, and other characteristics of effective case managers. Therefore, NIMH is providing grant support to demonstrate and assess the effectiveness of various approaches to providing case management services. In general, case management is a long-term continuous service, provided by a single person or a team of persons who link individuals to needed services and supports. Most case managers serve as helpers, service brokers, and advocates, assisting individuals and families to negotiates the system to meet their needs. Some case managers also provide a significant amount of direct services.

Study Questions

CSP research demonstration projects must be designed to address specific questions and produce new, generalizable knowledge regarding the effectiveness of different approaches to providing case management services. Below are examples of major questions that research demonstration projects might address.

- What is the relative effectiveness and cost of different case management approaches (e.g., staffing patterns that use recovering clients, volunteers, psychiatric rehabilitation club house staff, continuous treatment teams, therapist-case managers; or models such as the generalist, specialist, center, or assertive outreach models) in producing positive system and client-level outcomes?
- What are the essential elements of case management services that produce positive clinical outcomes (e.g., size of case load, scope of services provided or arranged for, length of time services are provided, availability of services in the community, types of staff who provide case management, use of teams or individual case managers, continuity of care or caregivers, nature of the relationship between the case manager and the individual, characteristics of the service users, organizational structure and location within the service system)?
- What is the role of case management in the overall development of an effective service delivery system in terms of minimizing costs and maximizing client outcomes?
- Are there particular models of case management that are relatively more effective in terms of cost and positive outcomes for specific subgroups (e.g., elderly persons, homeless persons, frequent service users, young adults with mental illness and substance abuse)?
- What are the education, training, and other characteristics of an effective case manager (e.g., skills credentials, experience) that relate to positive outcomes?

Project questions must relate to specific process and client outcome measures. Some examples of outcomes relevant for CSP Case Management Research Demonstration Projects are numbers of individuals assisted; impact on the service system (e.g., service integration); psychiatric diagnosis and clinical symptomatology; functional capacities; quality of life; client and family satisfaction with services; family and community burden; cost; availability and use of generic community resources (e.g., housing, income supports, vocational rehabilitation services); community tenure; and use of inpatient care.

CSP Psychiatric Rehabilitation Research Demonstration Projects

In general, psychiatric rehabilitation (sometimes referred to as psychosocial rehabilitation, vocational rehabilitation, or social rehabilitation) is a service that assists individuals with a severe and persistent mental disorder to function as productively and independently in society as possible. Activities are designed to strengthen the individual's living, learning, and vocational skills and to develop the environmental supports necessary to sustain the individual in the community.

Because of the impact of the symptoms of serious mental disorder on the cognitive and interpersonal capacities of individuals afflicted with these illnesses, many have severe and persistent disabilities and social and vocational deficients. Many have either lost or never developed the skills needed to live, learn, and work in the community, and many do not have the environmental supports they need to help them function successfully. During the past several decades, there has been a growing recognition of the need for psychiatric rehabilitation services to complement treatment in order to assist individuals disabled by serious mental illness to gain or regain living, learning, working, and socialization skills.

In spite of this recognition and the expansion of programs throughout the Nation, psychiatric rehabilitation is not a well-understood service. More need to be learned about the critical elements of the intervention which accelerate recovery and prevent or minimize long-term disability and loss of functional capacities, the effectiveness of different models for different client groups, and the effectiveness of different approaches to organizing and providing psychiatric rehabilitation services. In particular, more also needs to be learned about how to work with young adults with severe vocational impairments who are notably underrepresented among users of vocational rehabilitation services.

NIMH will, therefore, provide support for research demonstration projects to assess the comparative effectiveness of various community-based psychiatric

rehabilitation approaches that aid recovery, prevent or minimize loss of functional capacities, and help individuals achieve social and vocational functioning in integrated living and work settings of their choice.

Study Questions

CSP research demonstration projects must be designed to address specific questions and produce new, generalizable knowledge regarding the effectiveness of different approaches to providing psychiatric rehabilitation services. Below are examples of major questions that might be examined in research demonstration projects.

- What is the relative effectiveness and cost of different social rehabilitation interventions in assisting different types of individuals to build satisfying social networks, particularly those networks that integrate individuals with serious mental disorders with other members of the community?
- What is the relative effectiveness and cost of different residential rehabilitation interventions in assisting different types of individuals to choose, acquire, and maintain long-term housing?
- What is the relative effectiveness and cost of different vocational rehabilitation interventions (e.g., supported learning, temporary job placements, supported work, job clubs, work-adjustment skills training) in assisting different types of individuals to prepare for, obtain, and maintain employment in integrated work settings?
- What is the relative effectiveness of different approaches for linking psychiatric rehabilitation services to other community support and treatment services in order to assure these are provided in a coordinated manner?
- What is the relative effectiveness and cost of various models of psychiatric rehabilitation in producing positive outcomes for specific subgroups (e.g., young adults, elderly persons, homeless persons, frequent service users, individuals with mental disorders and substance abuse problems)?
- Does appropriate medication management enhance the ability of psychiatric rehabilitation to facilitate the individual's success in achieving community living and employment goals?

Project questions must relate to specific process and client clinical outcome measures. Some examples of outcomes relevant for CSP Psychiatric Rehabilitation Projects are psychiatric symptomatology; level of functioning; self-esteem; independence; employment status; living arrangements; social participation; education; quality of life; client, family, and employer satisfaction with services; and cost.

CSP Community Crisis-Response Research Demonstration Projects

Because many individuals with serious, disabling mental illness experience periodic psychiatric crises, the ability to provide crisis-response services is an essential component of a comprehensive service system. In the last decade, there has been a growing interest in crisis services and a recognition that community crisis-response services have significant potential as alternatives to acute psychiatric hospitalization. Although there is research evidence on the effectiveness of various alternatives to acute hospitalization, there is still little information about the nature, implementation, organization, characteristics of the service users, costs, and clinical outcomes of specific approaches. There is also little information on how individual services (e.g., crisis residential services and mobile outreach) fit into a continuum of crisis-response services and how this continuum relates to a comprehensive service system.

Therefore, NIMH will provide support for research demonstration projects to assess the comparative effectiveness of various approaches to organizing and providing community crisis-response services. In general, community crisis-response services are emergency services that are available 24 hours a day, 7 days a week and provide an immediate response to individuals in psychiatric crisis and to the members of the individual's support system. The service provides three basic functions: (1) Stabilizing individuals in crisis in order to return them to their pre-crisis level of functioning; (2) assisting individuals and others within their support system to resolve situations that may have precipitated the crisis; and (3) linking individuals with services and supports in the community to meet their ongoing needs.

Study Questions

CSP research demonstration projects must be designed to address specific questions and produce new, generalizable knowledge regarding the effectiveness of different approaches to providing community crisis-response services. Below are examples of major questions that research demonstration projects might address.

- What is the comparative effectiveness and cost of various approaches to providing community crisis-response services with regard to assuring timely intervention, development of a treatment plan, effective stabilization, appropriate followup care, and maintenance of individuals in the community or their own homes to the extent possible?
- What is the comparative effectiveness and cost of various models and systems of community crisis-response services in responding to the needs of specific subgroups (e.g., elderly persons, homeless persons, frequent service users, individuals with mental illness and substance abuse)?
- What is the comparative effectiveness and cost of different community crisis-response services in serving individuals in settings such as jails/police stations, homeless shelters, work settings, nursing homes, and hospital emergency rooms?
- What are the diagnostic entities which appear to respond best to specific crisis services offered? Are there specific psychiatric symptoms or clusters of symptoms that appear to be specifically amenable to the specific crisis service?
- What are the essential elements of community-crisis response services and systems that produce positive outcome (e.g., scope of services provided or arranged for, availability of support services in the community, length of time services are provided, characteristics of the users of the service, admission or exist criteria, or organizational structure and location)?
- What staffing patterns are most effective in providing community crisis-response services, and what are the characteristics of effective staff as indicated by positive outcomes?

Project questions must relate to specific process and client outcome measures. Some examples of outcomes relevant for CSP Community Crisis-Response Projects are the number of involuntary commitments to inpatient facilities; psychiatric symptomatology; functional capacities; use of community crisis-response services; numbers of individuals assisted in settings such as jails, homeless shelters, work settings, nursing homes, and hospital emergency rooms; effective return of individuals to pre-crisis states of functioning; ability to maintain individuals in the community or their own homes; client and family satisfaction with services; and cost.

Project Requirements

The requirements of all CSP Research Demonstration Projects are listed below. The application must explicitly indicate how these requirements will be satisfied. Projects must:

• Involve the transfer and application of interventions derived from a research base, be designed to test effectiveness, involve a research design, and generate conclusions that are generalizable to other sites.

• Develop a rigorous research plan that will measure the project's impact and provide a concrete description of the actual service intervention that can be used for replication; Projects are expected to use the most rigorous research design possible as appropriate to the proposed demonstration. For example, in instances where the study question lends itself to a controlled design, a controlled design should be used. The crucial importance of a sound research plan and qualified staff cannot be overemphasized.

• Direct special attention to the unique needs and special concerns of racial and ethnic minority group members and women, so that services and opportunities are appropriate and acceptable to these individuals.

• Demonstrate services that are consistent with the State's comprehensive mental health service plan submitted to NIMH for review in October 1989, in accordance with the requirements of Title V of P.L. Law 99–660, The State Comprehensive Mental Health Plan Act of 1986.

Application Procedures

Applicants should use Form PHS 398 (revised 10/88) to apply for grants. Appliction kits are available from:

The Community Service Systems Branch, Division of Education and Service Systems Liaison, room 11C–22, National Institute of Mental Health, 5600 Fishers Lane, Rockville, Maryland 20857, (301) 443–3653.

To identify this application as a response to an RFA, check "yes" on item 2 page one of Form PHS 398. Also, enter in item 2 the number and title of the RFA including the type of project to be proposed, CSP Research Demonstration Project—Case Management, CSP Research Demonstration Project—Psychiatric Rehabilitation or CSP Research Demonstration Project—Crisis Response. When using the Form PHS 398 to respond to an RFA, applicants must affix the RFA label available in the Form to the bottom of the face page. Failure to use this label could result in delayed processing of the application such that it may not reach the review committee in time for review.

The original and five (5) copies of the application must be received (not postmarked) by the close of business April 23, 1990 at the latest. Applications should be sent to the Division of Research Grants, National Institutes of Health, room 240, 5333 Westbard Avenue, Bethesda, Maryland 20892. IMPORTANT—The mailing envelope (including that provided by an express carrier) must be clearly marked, "NIMH CSP Research Demonstration Project."

Because of the short time available for initial and Advisory Council review, it is requested that one additional copy of the application be sent directly to Edna Hardy-Hill, NIMH Division of Extramural Activities, room 9C–15, Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857.

Application Characteristics

Applications must be complete and contain all information needed for initial and Advisory Council review. No subsequent addenda will be accepted unless specifically requested by the Executive Secretary of the review committee. No site visits will be made.

The application should be written in a manner that is self-explanatory to objective, outside reviewers who may not be familiar with prior related activities of the applicant. The application should be as brief as possible, limited to 20 pages single-spaced (section 2, A–D), and contain the necessary information for reviewers to understand the project. Appendices may be attached but must not be used to merely extend the narrative; extensive appendices are not permitted, and applications with unnecessarily extended appendices may be returned. It is important that the relationship between the proposed project and ongoing State and/or local activities be clearly explained. It is also important that the activities that are specific to the proposed project be clearly identified.

To assure that sufficient information is included for scientific and technical merit review, the application should include the following and be organized under the following major headings:

Background

• Detailed description of, and rationale for selecting, the proposed service intervention.

• Description and operational definition of the subject population for the proposed project, including diagnostic criteria and functional levels; the numbers of individuals to be served or affected by the project; and their racial, ethnic, and minority composition.

• Context of the project, including factors such as demographics, per capita income, population density, employment conditions, and level of development of services and supports in the community or communities, highlighting those that will be linked to or coordinated with the proposed service intervention.

• Evidence of support from all agencies and entities to be involved in the project.

Project Implementation Plan

• Description of the project goals, objectives, implementation steps, and timelines (including the steps necessary to implement the research plan) that covers the entire duration of the project.

• Resource utilization plan that identifies all resources needed to accomplish the services development and research components of the project.

• Detailed, justified line item budget for each year of the project, with a clear rationale and indirect costs clearly specified.

• Description of activities to secure continued financial support for the program beyond the Federal demonstration grant, if the project is successful.

• Plan to disseminate project findings to other areas of the applicant's State and, if applicable, region and Nation, if the project is successful.

Research Plan

A research plan that describes how the intervention will be studied and will result in solid documentation of the success or failure of the proposed intervention. It should also include a detailed description of how the intervention will be measured in terms of cost, clinical effectiveness, and impact on the client's quality of life. Specific areas that should be addressed in the plan include:

• Study questions to be addressed.

• Set of hypotheses to be tested, including the rationale for selecting the particular hypotheses.

• Clear description of the population to be studied, including the method to be used to determine inclusion and exclusion criteria.

• Clear description of the population for the control and/or comparison groups, should such groups be part of the design.

• Methodology that will be used to describe the service intervention (e.g., resources, staffing, implementation steps, facilities, programmatic components, training, management, administration).

• Research design and procedures to be used to accomplish the specific aims of the project.

• Availability of previously published data relevant to the research plan.

• Sampling design, if the entire target population will not be included in the evaluation.

• Process and outcome measures of demonstrated validity and reliability.

• Data collection and analysis procedures, including the cost data. (It is preferable that independent raters rather than clinical staff conduct the evaluation of the population studied.)

• Approach for involving primary consumers and family members in all phases of the research plan.

Staffing/Management of Project

• Project staffing for all key staff and consultants, including researcher(s), and discussion of efforts made toward recruiting minorities.

• Position descriptions and résumés for all key staff to be paid by the grant or to have major roles in the project and documentation to assure availability.

• Management plan that identifies the organizational location for the project, lines of authority and responsibility, and how agencies will be involved (as appropriate to the project).

Protection of Human Subjects

Because of the special sensitivity of conducting research on individuals with severe and persistent mental disorders, particular attention must be given by applicants to consideration of informed consent, confidentiality, subject rights and welfare, and subject risks.

Grants funded under this RFA are subject to the regulations of 45 CFR part 46, Protection of Human Subjects, which are enclosed. Applicants must comply with these regulations and, therefore, should carefully read them. Briefly, the regulations require that applicants proposing to conduct nonexempt research involving human subjects must file an Assurance of Compliance with the Office of Protection from Research Risks (OPRR). Research activities that are exempt from these regulations are listed on pages 4–5 of PHS Form 398 (Revised 10/88).

If the applicant organization has an approved Multiple Project Assurance of Compliance on file with the OPRR that covers the specific activity, institutional review board (IRB) approval must be obtained prior to NIMH review of the application. If the applicant organization does not have an approved Multiple Project Assurance of Compliance on file with the OPRR that covers the specific activity, the organization will be required to obtain a single project assurance of compliance and appoint an IRB to review and approve the proposed research activities. This should be done only after the organization is informed by NIMH that the proposed project has been reviewed and approved and is likely to be funded. No DHHS award for nonexempt research involving human subjects will be made to an applicant organization unless the required assurances and certifications, which indicate IRB review and approval of the proposed activity, have been filed with the OPRR.

In addition to the above requirements, the applicant must include information addressing the six points listed on page 21 of PHS Form 398. Briefly, the information required includes a description of the proposed involvement of human subjects, an identification of sources of research materials, plans for recruitment of subjects and consent procedures, potential risks, protection from potential risks, and anticipated benefits to subjects.

Progress Reports and Final Report Requirements

Each year, grantees must provide reports describing their progress, problems encountered in implementing the research demonstration, proposed strategies for resolving the problems, and early findings. In addition, copies of all data collection instruments, outcome measures, and reports that are generated must be submitted.

At the end of the period of support, three copies of a final report must be submitted to NIMH within 90 days. The final report should include a complete description of the project and service intervention, the characteristics of the individuals served, the findings, an interpretation and discussion of the findings, description of dissemination achieved and planned, and any materials (e.g., training manuals) that were developed during the course of the project.

Terms and Conditions of Support

Period of Support

Applicants may request a maximum of 3 years of support to cover both direct and indirect costs. Annual awards will be made, subject to continued availability of funds and progress achieved.

Allowable Costs

Applicants must include the following assurance in their applications: "Not more than 10 percent of grant funds will be expended for administrative expenses."

Grants are intended to assist in meeting the costs of planning, developing, and implementing the research demonstration activities necessary to support attainment of project objectives. Applicants are expected to determine the costs of the project for the proposed project period. Grant funds are to be additive, not substitutive; they are not to be used to replace existing resources.

Grant funds may be used for expenses clearly related and necessary to carry out the proposed project, including both direct and indirect costs which are specifically identified with the proposed project. Grant support for salaries, wages, and fringe benefits of professional and other supporting staff engaged in project activities may be requested. However, grant support for salaries and wages of staff who are engaged part-time in grant-supported activities may not exceed the compensation for the fraction of their time in activities within the scope of the approved project. Sufficient grant funds should be requested to assure adequate resources to conduct the research component of the project.

Other items of expenditures for which applicants may request grant support include:

• Travel and training directly related to carrying out activities under the approved project (The project director and principal researcher will be asked to participate in one meeting each year to share information and discuss the potential for collection of common data elements. The meetings will be held in the Washington, DC, area or other designated central location.)

• Supplies, communications, and rental of space directly related to approved project activities.

• Contracts to local government, nonproft agencies and organizations, public institutions, and consultants necessary for performance of activities under the approved project.

• Other such items necessary to support project activities, as approved by NIMH.

Grants must be administered in accordance with the PHS Grants Policy Statement (revised January 1, 1987), which is available for $4.50 from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. When ordering copies, the GPO stock number, GPO 017–020–00092–7, should be referenced. Federal regulations, 45 CFR part 92, are applicable to these awards.

Review Procedures

A dual review system is used to insure a knowledgeable and objective review of the quality of the applications. The first level, peer review for technical and scientific merit, is primary conducted by non-Federal experts comprising the initial review group (IRG). The final review is conducted by the National Advisory Mental Health Council. Only applications

recommended for approval by the council may be considered for funding. No site visits will be made.

Review Criteria [1]

Each grant application is evaluated on its own merits, based on the review criteria listed below.

- Significance of the research demonstration and study questions to be addressed and potential for producing new knowledge generalizable to other service settings.
- Extent to which the proposed service intervention has a clear conceptual basis and is consistent with the state of knowledge in the field.
- Extent to which the proposed service intervention is innovative.
- Quality and feasibility of the proposed project implementation plan and management plan.
- Adequacy and availability of sufficient resources to conduct the project and evidence of support from all agencies and entities to be involved in the project.
- Attention to racial, ethnic, and minority population issues and concerns and the special needs of women.
- Quality of the plan to disseminate project findings.
- Adequacy of discussion of activities to secure continued financial support for the program beyond the Federal demonstration grant.
- Quality and rigor of the research design and methodology, including clear set of hypotheses to be tested, appropriateness of control or comparison groups, reliability and validity of instruments to assess key variables, feasibility of obtaining needed data, description and appropriateness of the sampling design if the entire target population will not be included in the project, methods to identify and minimize biases and threats to validity, and adequacy of the data analysis strategy.
- Quality of plan for involving primary consumers and family members in all phases of the research plan.
- Collaboration between the State mental health agency and an appropriate entity within the academic/scientific sector.
- Capability and experience of the project director and other key research staff proposed for the project, and, for unfilled positions, adequacy of required qualifications and assurances that the positions will be filled by capable individuals.

Receipt and Review Schedule

Receipt of applications	Initial review	Council review	Earliest start date
April 23, 1990	June/July 1990	September 1990	September 1990

Applications received after April 23, 1990 will not be reviewed.

Award Criteria

In the decision to fund approved applications, the following criteria will be considered:

- Quality of the proposed project as determined by the review process.
- Consistency with the State's mental health service plan submitted to NIMH for revicew in October 1989, in accordance with the requirements of title V of Public Law 99–660.
- National significance of the proposed project in terms of generalizability to multiple localities and potential for making a significant contribution to the knowledge base on community support services.
- Rural distribution (15 percent of appropriated funds will be made available for projects in rural areas).
- Geographical distribution.
- Availability of funds.

For Further Information

Neal Brown, Chief, Community Support and Advocacy Branch (CSAB), Division of Education and Service Systems Liaison (DESSL), National Institute of Mental Health, Parklawn Building, room 11C–22, 5600 Fishers Lane, Rockville, Maryland 20857 (301) 443–3653.

(The Catalog of Federal Domestic Assistance number for this program is 13.125)

Joseph R. Leone,

Associate Administrator for Management Alcohol, Drug Abuse, and Mental Health Administration.

[FR Doc. 90–2664 Filed 2–5–90; 8:45 am]

BILLING CODE 4160–20–M

Centers for Disease Control

[Announcement 015]

Public Health Conference Support Grant Program

Introduction

The Centers for Disease Control (CDC) announces the availability of funds in Fiscal Year 1990 for the Public Health Conference Support Grant Program.

Authority

This program is authorized under section 301 of the Public Health Service Act. Program Regulations are set forth in 42 Code of Federal Regulations, part 52, entitled "Grants for Research Projects."

Eligible Applicants

Eligible applicants include nonprofit and for-profit organizations. Thus, universities, colleges, research institutions, hospitals, public and private organizations, State and local health departments and small, minority and/or woman-owned businesses are eligible for these grants.

Availability of Funds

Approximately $200,000 will be available in Fiscal Year 1990 to fund approximately 12 awards. The awards will range from $1,000 to $30,000 with the average award being approximately $15,000. The award will be funded with a 12-month budget and project period. The funding estimate outlined above may vary and is subject to change.

The following are examples of the most frequenty encountered costs which may or may not be charged to the grant:

(1) Grant funds may be used for direct cost expenditures: salaries, speaker fees, rental of necessary equipment, registration fees, transportation costs (not to exceed economy class fare) and travel of non-Federal employees.

(2) Funds may not be used for the purchase of equipment, payments of honoraria, indirect costs, organization dues, entertainment/personal expenses, cost of travel and payment of a full-time Federal employee or for per diem or

[1] Applicants must comply with the intergovernmental review requirements of Executive Order 12372, as implemented through DHHS regulations at 45 CFR part 100. Through this process, States, in consultation with local governments, are provided the opportunity to review and comment on applications for Federal financial assistance. Applicants should contact the State's single point of contact (SPOC) as early as possible to determine the applicable procedure.

expenses other than local mileage for local participants.

Although the practice of handing out novelty items at meetings is often employed in the private sector to provide participants with souvenirs, Federal funds cannot be used for this purpose.

Purpose

The purpose of the conference support grants is to provide partial support for specific non-Federal conferences in the areas of health promotion and disease prevention information/education programs.

Program requirements

The programmatic areas of interest in which applications are being solicited by CDC for conferences are: (1) Disease prevention; (2) chronic disease prevention; (3) infectious disease prevention; (4) environmental health; (5) occupational safety and health; (6) health education and promotion; (7) laboratory practices; and (8) injury control.

Because CDC's mission and programs relate to the prevention of disease, disability, and premature death, conferences focusing on such areas will be of greatest interest for CDC funding. Those topics concerned with health care issues and areas other than prevention should be directed to other public health agencies.

Evaluation Criteria

1. Relevance of conference to CDC's mission and program activities. (25%)
2. Likelihood of accomplishing conference of objectives as they relate to disease prevention and health promotion goals. (20%)
3. Capability of the proposed staff in relationship to the type of conference. (15%)
4. Feasibility of the project in terms of operational plan. (15%)
5. Soundness of method of evaluating the results of the conference in terms of objectives. (15%)
6. Adequacy of applicant's resources available for the project. (10%)
7. The appropriateness of the budget request. (Not Scored)

Executive Order 12372 Review

Applications are not subject to review as governed by Executive Order 12372, Intergovernmental Review of Federal Programs.

Catalog of Federal Domestic Assistance

The Catalog of Federal Domestic Assistance number is 13.283.

Application Submission and Deadline

The original and two copies of the Application Form PHS 5161–1 shall be submitted in accordance with the schedule below. The schedule also sets forth the anticipated award date:

Application deadline	Anticipated award date
May 1	August 1

Applications must be submitted on or before the deadline date to: Mr. Henry S. Cassell, III, Grants Management Officer, Grants Management Branch, Procurement and Grants Office, Centers for Disease Control, 255 East Paces Ferry Road, NE., room 300, Mailstop E–14, Atlanta, Georgia 30305

1. *Deadline:* Applications shall be considered as meeting the deadline if they are either:

a. Received on or before the deadline date; or

b. Sent on or before the deadline date and received in time for submission to the independent review group. (Applicants should request a legibly dated postmark or obtain a legibly dated receipt from a commercial carrier or the U.S. Postal Service. Private metered postmarks shall not be acceptable as proof of timely mailing.)

2. *Late Applications:* Applications which do not meet the criteria in 1.a. or 1.b. will be considered late applications. Late applications will not be considered in the current competition and will be returned to the applicant.

Where to Obtain Additional Information

A complete program description, information on application procedures, and an application package may be obtained from Ms. Carole J. Tully, Grants Management Specialist, Grants Management Branch, Procurement and Grants Office, Centers for Disease Control, 255 East Paces Ferry Road, NE., room 300, Atlanta, Georgia 30305, (404) 842–6630 or FTS 236–6630.

Please refer to Announcement Number 015 when requesting information and submitting your application in response to the announcement.

Dated: January 29, 1990.

Robert L. Foster,

Acting Director, Office of Program Support, Centers for Disease Control.

[FR Doc. 90–2672 Filed 2–5–90; 8:45 am]

BILLING CODE 4160–18–M

Public Health Service

Special Project Grants and Cooperative Agreements; Maternal and Child Health Services; Federal Set-Aside Program

AGENCY: Health Resources and Services Administration, PHS, DHHS.

ACTION: Notice of availability of funds.

SUMMARY: The Bureau of Maternal and Child Health and Resources Development (BMCHRD), Health Resources and Services Administration (HRSA), announces that Fiscal Year (FY) 1990 funds are available for grants and cooperative agreements for the following activities: Maternal and Child Health (MCH) special projects of regional and national significance (SPRANS) which contribute to the health of mothers, children, and children with special health needs; MCH research; training in MCH; genetic disease testing, counseling and information services; and hemophilia diagnostic and treatment centers. Awards will be made under the program authority of Section 502(a) of the Social Security Act, the MCH Federal set-aside program. The HRSA, through this notice, invites potential applicants to request application packages for the particular program category in which they are interested, and to submit their applications for funding consideration. Approximately $20 million is available to support new and competing renewal projects under the MCH Federal set-aside program. Funds for the MCH Federal set-aside program are appropriated by Public Law 101–166.

The regulation implementing the Federal set-aside program was published in the March 5, 1986 issue of the **Federal Register** at 51 FR 7726 (42 CFR part 51a).

DATES: Deadlines for receipt of applications differ for the several categories of grants and cooperative agreements; these deadlines are as follows:

(1) Research: (a) Cycle One: March 1, 1990. (b) Cycle Two: August 1, 1990.

(2) Training: (a) Long term training: April 2, 1990. (b) Continuing education: July 2, 1990.

(3) Genetic disease testing, counseling and information: April 23, 1990.

(4) Hemophilia diagnostic and treatment centers: April 11, 1990.

(5) Special MCH improvement projects of regional and national significance relevant to MCH in the following areas:

(a) Children with special health care needs: April 19,1990.

The following categories of projects will be supported:

1. State projects to help develop and improve statewide systems of family-centered, culturally sensitive, community-based and coordinated care.

2. Projects which focus on current and emerging issues related to children with special health care needs and their families.

(b) Maternal and infant health (projects contributing to the improvement of maternal and infant health): April 10, 1990.

(c) Early childhood health (projects to improve and maintain the physical, psychological, oral and nutritional health of infants and children up to entry into first grade): April 5, 1990.

(d) Child and adolescent health: April 5, 1990. These projects are designed to enhance the health of chidlren, adolescents, and their families through effective and efficient approaches that prevent illness and injury, address existing health problems, and promote physical and psychosocial well being.

(e) Cooperative agreements: April 12, 1990. It is anticipated that substantive Federal programmatic involvement will be required in the cooperative agreements described below. This involvement will be concerned with assuring that the communications, consultations and information services undertaken by the grantees remain consistent with and promote Federal legislation, regulations and policies, especially policies contained in the Public Health Service year 2000 Objectives. Additional details on the degree of Federal programmatic involvement will be included in the program guidance for cooperative agreement applications.

1. A series of related cooperative agreements will support organizations representing governmental, professional and private sector interests in improving maternal and child health. Agreements will be entered into for the following purposes: Disseminating programmatic information from the Office of Maternal and Child Health (OMCH) in order to maximize impact in the field; facilitating input from key information sources to guide Federal programs; and promoting enhanced understanding of State/local system functioning and provider concerns to foster collaboration in maternal and child health.

2. One cooperative agreement will provide health and related consultation services for the Head Start Services Program. This project will assist local Head Start programs in implementing effective health and related activities.

3. One cooperative agreement will support Central Office staff activities to gather, classify, store and disseminate information on maternal and child health, particularly information about and developed by OMCH-supported SPRANS Projects.

(f) Child Health systems development program: April 10, 1990. Grants will assist localities and States to demonstrate public/private partnerships to assure appropriate primary care for all children in a given geopolitical area. These grants are intended to foster integration and coordination of resources to assure access to and receipt of appropriate care, but will not support actual clinical services.

(g) Healthy tomorrows: April 9, 1990. Healthy tomorrows partnerships for children grants will support preventive health projects for children at the local level. The initiative encourages additional support from the private sector and from foundations to form community-based partnerships to coordinate health resources for pregnant women, infants and children.

(h) Field-initiated projects: July 2, 1990. Field initiated proposals are limited to categories of projects not covered under other MCH program funding categories. These proposals will address other innovative and unique approaches to improving the health of mothers, children and children with special health care needs. Application will be accepted at any time up to July 2, 1990. Panels will be convened usually each quarter or otherwise from time to time as necessary to review these applications.

To receive consideration, all applications must be sent to the Grants Management Officer at the address below, and must be received by the close of business on the dates indicated. Applications shall be considered as meeting the deadline if they are either (1) received on or before the deadline date; or (2) postmarked on or before the deadline date and received in time for submission to the review committee. A legibly dated receipt from a commercial carrier or the U.S. Postal Service will be accepted in lieu of a postmark. Private metered postmarks will not be accepted as proof of timely mailing. Grant applications received after the deadline date will be returned.

FOR FURTHER INFORMATION CONTACT: Requests for technical or programmatic information should be directed to the Office of the Associate Director for Maternal and Child Health, BMCHRD, HRSA, Room 9-11, Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857. Requests for application materials should be made in writing to the Grants Management Officer, Office of Program Support, BMCHRD, Suite 100-A, 12300 Twinbrook Parkway, Rockville, Maryland 20852. Requests should specify the category or categories of activities for which an application is requested so that the appropriate forms, information and materials may be provided. Applicants for research projects will use Form PHS 398, approved by the Office of Management and Budget (OMB) under control number 0925-0001. Applicants for training projects will use Form PHS 6025-1, approved by OMB under control number 0915-0060. Applicants for all other projects will use application Form PHS 5161-1 with revised facesheet DHHS Form 424, approved by OMB under control number 0348-0006.

SUPPLEMENTARY INFORMATION:

Program Background and Objectives

Under section 502(a) of the Social Security Act, between 10 and 15 percent of the funds appropriated for title V of the Act in each fiscal year are to be retained by the Secretary for the purposes specified above. Historically, the Secretary has set aside the full 15 percent each year. Support for projects covered by this announcement will come from these funds. Consistent with the statutory purpose of improving maternal and child health, the Department will review applications for funds under the above mentioned categories as competing applications and will fund those which, in the Department's view, best promote improvements in maternal and child health (for example, applications which enhance efforts to reduce the unacceptably high rates of infant mortality, which increase the availability of and access to services for handicapped and chronically ill children and young adults, and which enhance the health and development of adolescents).

Eligible Applicants

The statute at section 502(a)(2) provides that training grants may be made only to public or nonprofit private institutions of higher learning and that research grants may be made only to public or nonprofit private agencies and organizations engaged in research in maternal and child health or programs for children with special health care needs. Any public or private entity, including an Indian tribe or tribal organization (as defined at 25 U.S.C. 450b), is eligible to apply for grants or cooperative agreements in all other program categories.

Review Criteria

Applications for grants will be reviewed and evaluated according to:

1. The quality of the project plan or methodology.

2. Documentation of the need for the training and technical assistance.

3. The cost-effectiveness of the proposed project relative to the number of persons proposed to be benefited, served or trained.

4. The extent to which the project will contribute to service system improvement for children and adolescents with special health needs and their families, including children with physical and/or mental disabilities, children with chronic illnesses, children with serious emotional disturbances, and children at risk for developing these or related disabilities as a result of homelessness or exposure to AIDS infection.

5. The extent to which the project will serve all regions of the country including urban and rural settings and any special circumstances associated with providing training in various areas.

6. The effectiveness of procedures to collect the cost of care and services from third-party payment sources (incluidng government agencies) which are authorized or under legal obligation to make such payment for any service (including diagnostic, preventive and treatment services).

7. The extent to which the project will be integrated with the administration of the Maternal and Child Health Services block grants and other related programs in the respective State(s).

8. The soundness of the project's management, considering the qualifications of the staff of the proposed project and the applicant's facilities and resources.

9. The extent to which the project gives attention to overcoming cultural barriers to services for culturally distinct populations served by the project.

Executive Order 12372

The MCH Federal set-aside program has been determined to be a program which is not subject to the provisions of Executive Order 12372 concerning intergovernmental review of Federal programs. The OMB Catalog of Federal Domestic Assistance number is 13.110.

Dated: December 6, 1989.

John H. Kelso,

Acting Administrator.

[FR Doc. 90-2665 Filed 2-5-90; 8:45 am]

BILLING CODE 4160-15-M

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[CA-060-00-7122-00DO-86]

Availability of Draft Environmental Impact Statement; North County Landfill Project, San Diego County, CA

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of availability.

SUMMARY: In accordance with section 202 (2) (c) of the National Environmental Policy Act of 1969, a Draft Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) for the North County Landfill Project, San Diego County, California, has been prepared jointly by the Bureau of Land Management and the County of San Diego. The EIS/EIR describes and analyzes the potential significant environmental effects of operating a Class III landfill at one or more alternative landfill sites.

Copies will be available at the following public libraries:

County of San Diego Public Libraries

North County Bookmobile	Borrego Springs
Cardiff	Encinitas
Fallbrook	Julian
Ramona	Rancho Santa Fe
San Marcos	Solana Beach
Valley Center	Vista

Other Public Libraries

Aaalvikat	Escondido
Oceanside	Carlsbad

Additional copies will be available for review at the following BLM location: Palm Springs–South Coast Resource Area Office, 400 South Farrell Drive, Suite B–205, Palm Springs, California 92262.

Also, the County of San Diego will have copies available for review and purchase at the following County office: Department of Public Works, 5555 Overland Avenue, San Diego, California, 92123.

Technical appendices and maps used in developing the Draft EIR/EIS are available at the above referenced locations.

DATES: Comments relating to the identification of environmental issues will be accepted through March 26, 1990. Comments on the Draft EIS will be accepted through oral or written comments and may also be presented at three up-coming public meetings. These meetings will be held in the communities of Fallbrook, Pala, and Warner Springs. The dates, times, and locations have yet to be determined. A written notice of the meetings will be mailed out to all known interested parties who are on the mailing list. Press releases will also be prepared to announce the meeting dates, times and locations.

ADDRESSES: Send comments to BLM, Palm Springs–South Coast Resource Area, 400 S. Farrell Drive, Suite B–205, Palm Springs, California 92262.

FOR FURTHER INFORMATION CONTACT: Russell L. Kaldenberg, Area Manager Palm Springs-South Coast Resources Area, (619) 323–4421).

SUPPLEMENTARY INFORMATION: The Draft EIR/EIS analyzes three alternative sites for the construction and operation of Class III sanitary landfills. These sites are referred to as the Aspen Road site (located east of Fallbrook and West of Interstate 15; on portions of sections 3 and 10 of Township 9 South, Range 3 West of the U.S.G.S. 7.5 Minute Temecula Quadrangle), the Blue Canyon site (located on BLM and U.S. Forest Service USFS) land south of Sunshine Summit, off State Route 79; on portions of sections 1, 11, and 12 of Township 10 South, Range 2 East and unsectioned portions of Township 10 South, Range 3 East of the U.S.G.S. 7.5 minute Warner Springs Quaderangle), and the Gregory Canyon site (located south of State Route 76, 3.5 miles east of Interstate 15; on sections 4 and 5 of Township 10 South and sections 32 and 33 of Township 9 South, Range 2 West of the U.S.G.S. 7.5 Minute Pala Quadrangle). Additionally, the no action alternative, and the consecutive operation of all three sites, which is the proposed action, are addressed. Implementation of a Blue Canyon alternative would require a land exchange between the County of San Diego and the BLM and USFS. The BLM has indicated they would prefer to exchange parcels in or adjacent to the Beauty Mountain Wilderness Study Area. The USFS has not indicated a preference at this time. The proposed action to proceed with the consecutive development of all three sites would begin with either Aspen Road or Gregory Canyon, depending on which landfill could be permitted first. Blue Canyon would likely be the final site to be developed. Implementation of this alternative would provide for over 50 years of landfill capacity in an Diego's North County. Public participation has occurred throughout the environmental process. The following legally required Notices were given:

Notice of Preparation (NOP) of a joint Federal-State (EIS/EIR) was mailed to approximately 650 individuals and agencies on July 11, 1989 (California Environmental Quality Act, State CEQA Guidelines section 15082.

Notice of Intent (NOI) to prepare a joint State-Federal EIR/EIS was published in the **Federal Register** on July 20, 1989 940 CFR part 1508.22.)

Notice of Completion (NOC) of a joint State-Federal Draft EIS/EIR was mailed to approximately 650 individuals and agencies on January 26, 1990. The NOC was published in the Diego Daily Transcript on January 25, 1990. (CEQA Guildelines section 15085). The NOC mailing was followed up with a mailing of the Draft EIR/EIS Executive Summary to all 650 names on the mailing list, beginning Janaury 29, 1990.

Finally, four Scoping Meetings were held between April 25, 1989 and June 5, 1989. The scoping meetings were noticed through direct mail and advertisements in local newspapers of general circulation. Any comments presented throughout the process of scoping and early consultation have been considered in preparation of the Draft EIS/EIR.

Dated: January 30, 1990.

James W. Abbott,

Acting Area Manager.

[FR Doc. 90-2683 Filed 2-5-90; 8:45 am]

BILLING CODE 4310-40-M

(UT-050-00-4212-08)

Henry Mountain Management Framework Plan

AGENCY: Bureau of Land Management (BLM), Utah, Interior.

ACTION: Notice of intent to amend the Henry Mountain Management Framework Plan.

SUMMARY: This notice of intent is to advise the public that the Bureau of Land Management (BLM) intends to amend an existing planning document.

SUPPLEMENTARY INFORMATION: The BLM is proposing to amend the Henry Mountain Management Framework Plan which includes public lands in Garfield County, Utah. The purpose of the amendment would be to identify certain lands as suitable for a State indemnity selection.

The lands to be identified for State indemnity selection comprise 640 acres, described as follows:

Salt Lake Meridian, Utah

T. 37 S., R. 11 E., sec. 20

The existing plan does not identify these lands for disposal or acquisition. However, because of the resource values and objectives involved, the public interest may be well served by State indemnity selection of these lands.

An environmental analysis has been made which shows that the proposed action would not result in any significant impacts to the human environment, and allowing the State indemnity selection would result in substantial improvement in the land management situation and provide a benefit to the local, regional, and national interest.

For 30 days from the date of publication of this notice, the BLM will accept comments on this proposal.

Comments on the proposed plan amendment should be sent to Roy Edmonds, 900 North 150 East, Richfield, Utah 84701.

Existing planning documents and information are available at the above address, as well as the Henry Mountain Resource Area Office, P.O. Box 99, Hanksville, Utah 84734, phone: (801) 542-3461.

FOR FURTHER INFORMATION CONTACT: Sheldon G. Wimmer, Henry Mountain Resource Area Manager.

Dated: January 30, 1990.

James M. Parker,

State Director.

[FR Doc. 90-2703 Filed 2-5-90; 8:45 am]

BILLING CODE 4310-DQ-M

[NM-040-00-4212-11; KS NM 68895]

Recreation and Public Purposes Classification; Kansas

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of realty action; Recreation and Public Purposes Act Classification; Kansas.

SUMMARY: The following public lands have been found suitable for conveyance for recreational or public purposes to Kansas Department of Wildlife and Parks (KDWP). The lands are to be classified for conveyance under the Recreation and Public Purposes (R&PP) Act, as amended (43 U.S.C. 869 et seq.).

6th Principal Meridian

Parcel No.	Legal description	Acreage
DC-7	T. 1 S., R. 29 W., sec. 1, SW¼SE¼.	40.00
DO-8	T. 2 S., R. 19 E., sec. 24, Lot 7.	3.68
LV-22	T. 8 S., R. 22 E., sec. 24, within E½SW¼, and E½NW¼.	33.40
GE-10	T. 11 S., R. 5 E., sec. 22, Lot 6.	5.70
RI-21	T. 11 S., R. 6 E., sec. 13, Part of E½.	
	T. 11 S., R. 7 E., sec. 18, Part of W½.	77.51
LO-16	T. 13 S., R. 37 W., sec. 30, Lot 9; sec. 31, Lots 7 & 8.	24.95
LO-15	T. 14 S., R. 32 W., sec. 14, SW¼NW¼.	40.00
HM-12	T. 23 S., R. 42 W., sec. 28, Lot 5.	8.10
KN-14	T. 24 S., R. 38 W., sec. 28, SE¼NW¼.	40.00
HM-11	T. 24 S., R. 40 W., sec. 20, Lot 1.	11.00
KN-13	T. 25 S., R. 37 W., sec. 30, Lots 3 & 4, S½NE¼, E½SW¼, SE¼.	400.30
CM-3	T. 31 S., R. 16 W., sec. 1, Lot 4.	39.80
CL-2	T. 31 S., R. 23 W., sec. 27, SW¼NE¼.	40.00
MD-17	T. 33 S., R. 28 W., sec. 28, SW¼SE¼.	40.00
CW-6	T. 34 S., R. 3 E., sec. 7, Lot 1.	0.38
CM-5	T. 34 S., R. 16 W., sec. 8, NW¼SW¼.	40.00
CM-4	T. 34 S., R. 16 W., sec. 8, SE¼NW¼.	40.00
MD-18	T. 34 S., R. 30 W., sec. 19, Lot 3.	38.78
SW-19	T. 35 S., R. 31 W., sec. 9, W½NE¼.	80.00
ST-20	T. 35 S., R. 38 W., sec. 19, Lots 1 & 2; sec. 20, Lots 1 & 2.	
	T. 35 S., R. 39 W. sec. 24, Lot 1.	10.79

Aggregating 1,014.39 acres more or less.

These lands were identified as uneconomical or unfeasible to manage and conveyance is consistent with current Bureau of Land Management land use planning. KDWP has filed an R&PP application to maintain the lands in public ownership for enhancement of wildlife habitat and recreation. The patent, when issued, will be subject to the following terms, conditions and reservations:

1. Provisions of the Recreation and Public Purposes Act and to all applicable regulations of the Secretary of the Interior.

2. A right-of-way for ditches and canals constructed by the authority of the United States (Parcels west of 100th Meridian).

3. All minerals shall be reserved to the United States, together with the right to prospect for, mine, and remove the minerals.

4. All valid existing rights documented on the official public land records at the time of patent issuance.

5. Restrictions under Executive Orders 11990 and 11988 for the protection and management of wetlands and floodplains.

6. KDWP agrees that they take the real estate subject to the existing grazing use of operator No. 300761, allotment No. 00486, expiring February 28, 1991, operator No. 300726, allotment No. 00487, expiring February 28, 1991,

and operator No. 300764, allotment No. 00469, expiring February 28, 1992. The right to graze domestic livestock on the real estate according to the conditions and terms of the grazing authorizations listed expires on the respective dates. KDWP is entitled to receive annual grazing fees from these parties in an amount not to exceed that which would be authorized under the Federal grazing fee published annually in the Federal Register.

SUPPLEMENTARY INFORMATION: Upon publication of this notice in the Federal Register, the lands will be segregated from all other forms of appropriation under the public land laws, except for recreation and public purposes and leasing under the mineral leasing laws. For a period of 45 days from the date of publication of this notice, interested persons may submit comments regarding the proposed conveyance or classification of the lands to the District Manager, Tulsa District Office, 9522–H E. 47th Place, Tulsa, Oklahoma 74145. Any adverse comments will be reviewed by the State Director. In the absence of any adverse comments, the classification will be come effective 60 days from the date of publication of this notice.

Parcel LV–22 will be conveyed pending cadastral survey.

FOR FURTHER INFORMATION CONTACT: Paul Tanner, Area Manager, or John Ledbetter, Realty Specialist, Oklahoma Resource Area, (405) 231–5491.

Jim Sims,

District Manager.

[FR Doc. 90–2680 Filed 2–5–90; 8:45 am]

BILLING CODE 4310–FB–M

[UT–020–00–4912–13; U–64798]

Salt Lake District; Realty Action

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of realty action, Bureau motion noncompetitive public land sale in Utah County.

SUMMARY: The following described land has been determined to be suitable for disposal by direct sale under the provisions of section 203 of the Federal Land and Policy Management Act (FLPMA) of 1976 (90 stat. 2743,43 U.S.C. 1701, 1713) at not less than the fair market value of $84,000. The land will be offered for sale after the 60 day waiting period from the publication of this notice.

T8S., R1E., SLM, Utah

Section 15: NW¼ Containing 160 acres

The land described is hereby segregated from appropriation under the public land laws, including the mining laws, pending disposition of this action or 270 days from the date of publication of this notice, whichever occurs first.

This tract was identified for disposal in the Proposed Resource Management Plan (RMP)/Final Environmental Impact Statement for the Pony Express Resource Area dated September 1988 and became final January 12, 1990.

The land is being offered to South Shore Farms, the only adjoining private landowner at the fair market value.

It has been determined that the subject parcel contains known mineral value for salable minerals (sand and gravel) and is prospectively valuable for oil and gas and geothermal steam. Since the reservation of the salable minerals would unreasonably interfere with the expected surface use the salable minerals will be conveyed at the appraised value. This value is reflected in the fair market value shown above.

The patent, when issued, will contain a reservation of leasable minerals and ditches and canals.

ADDRESSES: Detailed information concerning any reservation or conditions of the sale and supporting documents are available for review at: Bureau of Land Management, Salt Lake District, 2370 South 2300 West, Salt Lake City, Utah 84119.

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 Salt Lake District Manager at the above address. In the absence of timely objections, this proposal shall become the final determination of the Department of the Interior.

FOR FURTHER INFORMATION CONTACT: Terry Catlin, (801) 977–4372.

Deane H. Zeller,

Salt Lake District Manager.

[FR Doc. 90–2704 Filed 2–5–90; 8:45 am]

BILLING CODE 4310–DQ–M

[MT–930–00–4214–10; MTM 30912]

Proposed Withdrawal and Opportunity for Public Meeting; Montana

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice.

SUMMARY: The U.S. Department of the Interior, Fish and Wildlife Service, has filed an application to withdraw approximately 980,000 acres of public lands and interests in lands from location and entry under the United States mining laws, but not from leasing under the mineral leasing laws. The lands and interests involved are now withdrawn and reserved from appropriation under the public land laws for protection of the Charles M. Russell National Wildlife Refuge by Public Land Order No. 5635 dated April 25, 1978, formerly the Fort Peck Game Range established by Executive Order No. 7509 dated December 11, 1936.

DATES: Comments should be received on or before May 7, 1990. A public meeting will be held at 7 p.m. on March 21, 1990.

ADDRESSES: The meeting will be held in the conference room of the BLM Lewistown District Office, 80 Airport Road, Lewistown, Montana.

FOR FURTHER INFORMATION CONTACT: James Binando, BLM Montana State Office, P.O. Box 36800, Billings, Montana 59107, 406–255–2935.

SUPPLEMENTARY INFORMATION: On March 4, 1975, U.S. Department of the Interior filed an application to withdraw from location and entry under the United States mining laws the federal lands and interests within the Charles M. Russell National Wildlife Refuge boundary found in the following townships subject to valid existing rights:

Principal Meridian

Charles M. Russell National Wildlife Refuge

T. 18–26 N., R. 23–43 E.

These areas aggregate approximately 980,000 acres in Fergus, Garfield, McCone, Petroleum, Phillips, and Valley Counties.

For a period of 90 days from the date of publication of this notice, all persons who wish to submit comments in connection with the proposed withdrawal may present their views in writing to the Chief, Branch of Land Resources, at the address listed above.

The lands will remain segregated until October 21, 1991, unless the application is deneid or canceled or the withdrawal is approved prior to that date.

The application will be processed in accordance with the regulations set forth in 43 CFR 2300.

Dated: Janaury 29, 1990.

James Binando,

Acting Deputy State Director, Division of Lands and Renewable Resources.

[FR Doc. 90–2656 Filed 2–5–90; 8:45 am]

BILLING CODE 4310–DN–M

INTERSTATE COMMERCE COMMISSION

[Ex Parte No. 274 (Sub-No. 13B)]

Policy Statement on Rails to Trails Conversions

AGENCY: Interstate Commerce Commission.

ACTION: Notice of policy statement and request for comments.

SUMMARY: As part of its action on the ICC's 1990 budget, Congress directed the Commission (S. Rept. No. 101–121, 101st Cong., 1st Sess. (1989) at 122–123) to report on the conversion of rail corridors to trails and prepare a policy statement on this subject for public review and comment. This notice announces our policy on rails-to-trails (R–T) conversions and requests public comment.

DATES: Notices of intent to participate are due on February 16, 1990. Comments on the policy statement are due on February 26, 1990. A service list will be prepared before replies are due. Replies are due on March 8, 1990.

ADDRESSES: Send notices of intent to participate and comments, both referring to Ex Parte No. 274 (Sub-No. 13B), to: Office of the Secretary, Case Control Branch, Interstate Commerce Commission, Washington, DC 20423.

FOR FURTHER INFORMATION CONTACT: Joseph H. Dettmar, (202) 275–7245 [TDD for hearing impaired: (202) 275–1721].

SUPPLEMENTARY INFORMATION: The Senate Committee on Appropriations report directed us to "develop a report to the Committee on the conversion of rail corridors to trails, including suggestions as to how those conversions could be accelerated," by April 1, 1990. As part of that report we are to prepare a "policy statement concerning rails to trails conversions, which should be available for public review and comment, and a summary of public comments which are received."

Congress enacted the National Trails System Act in 1968 (the Trails Act) to establish a nationwide system of trails, in order to "provide for the ever increasing outdoor recreation needs of an expanding population and . . . promote the preservation of, public access to, travel within, and enjoyment and appreciation of the open-air, outdoor areas and historic resources of the Nation." 16 U.S.C. 1241(a). As originally enacted, it did not have specific provisions dealing with railroad rights-of-way.

In 1983, Congress added section 8(d), codified at 16 U.S.C. 1247(d), to promote two declared policies: (1) Preserving unused railroad rights-of-way for possible future railroad use and (2) promoting trail use in the interim. *See* H.R. Rep. No. 28, 98th Cong., 1st Sess. 8–9 (1983).

The passage of section 1247(d) followed a history of Congressional concern about the loss of rail corridors as a national transportation resource.[1] However, legal questions, particularly involving land titles, had made it difficult to use these provisions, since railroads often do not own the ground that lies underneath their rail. Especially in the West, railroads had acquired thousands of miles of rail right-of-way through easements. Under the law of some states, such easements automatically expire and the land reverts to the original landowner if rail use is discontinued.

Section 1247(d) permits preservation of rights-of-way that would otherwise be abandoned. If a local government or private organization agrees to maintain the right-of-way for possible future railroad use (and to assume all liability in connection with the trail use and responsibility for the corridor, including paying taxes), it may use the right-of-way on an interim basis as a trail. Section 1247(d) expressly provides that "such interim use shall not be treated, for purposes of any law or rule of law, as an abandonment of the use of such rights-of-way for railroad purposes." Thus the Trails Act retains the property as a possible future rail line—this is described as "rail banking"—while allowing it to be used in the interim as a recreational trail.

Adjoining property owners have argued that section 1247(d) is unconstitutional, both on its face and as applied by the Commission.[2] They maintain that section 1247(d) results in an unconstitutional taking of the property rights of landowners who expected to regain access to their property when the rail service ceased.[3] Litigation on these issues has presented a basic conflict between private property interests and recreational and so-called "greenway" interests.[4] In addressing these issues and in implementing the Trails Act, the Commission has aggressively sought to carry out the will of Congress.

The Commission adopted rules implementing the R–T provisions of the Trails Act, in Ex Parte No. 274 (Sub-No. 13), *Rail Abandonments—Use of Rights-of-Way As Trails*, 2 I.C.C.2d 591 (1986), which are codified at § 1152.29 of Title 49 of the Code of Federal Regulations. It has applied these rules in numerous cases,[5] and defended them on judicial review. Those rules, together with the agency and court decisions, express the Commission's general policy concerning the Trails Act. This statement will summarize that policy and discuss the issues that have created controversy in this area.

1. *Railroad participation in the Trails Act is voluntary.* In developing procedures to implement section 1247(d), the Commission faced the threshold issue of whether we can impose a rail banking and trails use arrangement where the abandoning railroad is unwilling. Some trail users would like us to read section 1247(d) as requiring us to do so. Based on the language of section 1247(d) read as a whole and the statutory scheme, we concluded that the statute cannot fairly be construed to coerce unwilling railroads into trails use agreements. Rather, the statute's purpose is to provide for voluntary rail banking and facilitate use of rights-of-way as trails. Therefore, following a full notice and comment rulemaking proceeding in which all interested

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[1] The Regional Rail Reorganization Act of 1973, 45 U.S.C. 701 *et seq.*, had included as one of its goals "the preservation * * * of existing patterns of service by railroads (including short-line and terminal railroads), and of existing railroad trackage in areas in which fossil fuel natural resources are located * * *." 45 U.S.C. 716(a). In the Railroad Revitalization and Regulatory Reform Act of 1976 ("4–R Act"), section 809(a), Congress had directed the Secretary of Transportation to study the possibility of "establishing a rail bank consisting of selected * * * rights of way, as a means of assuring their availability for potential railroad use in the future * * *." Moreover, section 809(c) of the 4–R Act (now 49 U.S.C. 10906) authorized the ICC to prohibit railroads from disposing of rail property for up to 180 days after the effective date of the order permitting abandonment unless the property had first been offered, upon reasonable terms, for sale for public purposes.

[2] Every court that has considered the matter has found Section 1247(d) to be a valid exercise of the commerce clause power and not an impermissible impairment of contracts. The courts have also rejected the suggestion that rail banking is an unrealistic legislative fiction. *See Glosemeyer* v. *MKT*, 879 F.2d 316 (8th Cir. 1989), *pet. for cert. pending (Glosemeyer II)*, *aff'g Glosemeyer* v. *MKT*, 685 F. Supp. 1108 (E.D. Mo. 1988) *(Glosemeyer I)*; *National Wildlife Federation* v. *ICC*, 850 F.2d 694 (D.C. Cir. 1988) *(NWF)*; *Preseault* v. ICC, 853 F.2d 145 (2d Cir. 1988), *cert. granted*, 109 S.Ct. 1929 (1989).

[3] The Trails Act also applies to land the railroad owned in fee simple. However, there were already provisions in 49 U.S.C. 10906 for acquisition of abandoned rights-of-way for other public purposes, including trails. The 1983 amendment to the Trails Act was directed in large part to the fact that section 10906 did not prevent reversionary property rights from vesting.

[4] The question of whether R–T conversion constitutes a taking without compensation in violation of the Fifth Amendment was not directly addressed in the 1983 provision or its legislative history.

[5] We have also received and responded to numerous inquiries from the public regarding the Trails Act and its implementation, thereby facilitating the process.

parties had an opportunity to participate, we determined that section 1247(d) does not permit us to impose an interim trail use arrangement upon either a railroad or trails group; they must enter into the arrangement voluntarily. 2 I.C.C.2d 591, 598.[6]

2. *Compensation is available to holders of reversionary property interests.* The most difficult and controversial issue facing us under the Trails Act has related to reversionary property interests. In our rules we initially took the position that the interests of adjacent or reversionary landowners never require protection or compensation under the Fifth Amendment because an interim trail use arrangement is only a temporary postponement of the vesting of reversionary interests. In *NWF, supra,* the court rejected that reasoning and remanded our rules for further consideration of this issue.[7]

On remand, we concluded that compensation to reversionary interest holders may be available in certain instances.[8] We did not attempt to establish the parameters for when a compensable taking occurs, since procedures are available under the Tucker Act (28 U.S.C. 1491) to address any taking claims that landowners might have.[9] We emphasized that the Claims Court has the expertise to decide takings questions and is in the best position to do so.[10]

Regardless of which position prevails, it seems clear that the ICC is not the forum to decide the controversial takings questions, which extend far beyond the Commission's limited role in implementing the Trails Act. We proceed now to discuss that role.

3. *The Commission's role is ministerial.* Under the procedures established by the Commission, if a prospective trail user requests an interim trail arrangement and the carrier indicated its willingness to negotiate such an arrangement, the Commission issues a "Certificate of Interim Trails Use or Abandonment" (CITU) or, in exemption cases, a "Notice of Interim Trails Use" (NITU).[11] *See* 2 I.C.C.2d at 628–630.[12] Under the NITU or CITU, the parties have time to negotiate an interim trail use arrangement.[13] During those negotiations, the railroad may discontinue service, cancel its tariffs, and salvage the track and other equipment. If no trail use agreement is reached, the CITU or NITU automatically converts into authority for a full abandonment. On the other hand, if a trail use agreement is reached, it is automatically authorized by the CITU or NITU.[14]

The Commission views the issuance of a NITU or CITU as a ministerial act. We do not analyze, approve, or set the terms of the interim trails use arrangement. Nor do we rule on the "qualifications" of a particular trail proponent, other than its willigness to assume full financial responsibility and liability for the line and to agree to the railbanking condition for potential future reactivation of rail service.[15] Thus, the Commission's procedures are straightforward and simple.

Because our role is ministerial and we lack discretion to deny or condition a trails use proposal (other than to ensure that the statutory qualifications are met), there is no need for us to engage in an environmental analysis of a prospective trails use arrangement, and we do not prepare an environmental assessment for the issuance of a CITU or NITU.[16]

4. *We presume the legitimacy of rail banking in every case.* Given our ministerial role, and Congress' clear intent to preserve as many corridors as possible as an important natural resource,[17] we have rejected the argument that we cannot authorize an interim trail use arrangement unless the future need for rail service on a given line is reasonably foreseeable.[18] Rather, as we stated in our February 1989 policy statement (at 5 I.C.C. 2d at 374–375):

> the legitimacy of rail banking can be presumed in every case. * * * Congress did not distinguish between short- and long-term rail banking, and therefore, we do not believe that specific contingency plans for reactivation of a line are necessary to justify retention of a potentially valuable national asset. In any event, the fact that the railroad agrees to trail use is indication in and of itself that the corridor may be valuable in the future for transportation. [19]

5. *Our procedures are not burdensome.* Our rules, at 49 CFR 1152.29, require only the information needed to process Trails Act requests and issues CITUs and NITUs. Indeed, we have declined to impose reporting requirements and make certain other changes that we found would be unduly time consuming, expensive and burdensome, given our limited involvement in trails use proposals and the purpose of the Trails Act to encourage and facilitate interim trail use. We explained that state and local public health and safety regulation can address landowner concerns about such issues as vandalism, maintenance, and noise. *See Rail Abandonments—Use of Rights-of-Way as Trails—Supplemental Trails Act Procedures* (decision served May 26, 1989), petition for administrative review pending. In short, we have done everything possible to promote and expedite the Trails Act process.

6. *We are implementing the 1988 amendment to the Trails Act.* In the National Trails System Improvements Act of 1988, Public Law 100–470

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[6] This interpretation and implementation of Section 1247(d) has been specifically upheld on judicial review. *Washington State Dept. of Game* v. *ICC,* 829 F.2d 877, 881–882 (9th Cir. 1987); *NWF, supra,* 850 F.2d at 699–702; *Connecticut Trust for Historic Preservation* v. *ICC,* 841 F.2d 479, 482–483 (2d Cir. 1988).

[7] However, in *Preseault, supra,* a different circuit court adopted and applied our original reasoning.

[8] *Rail Abandonment-Trails Act-Policy Statement,* 5 I.C.C.2d 370 (1989), pending review in *Victoria Beres* v. *ICC,* U.S.C.A. D.C. Cir. No. 89–1178.

[9] Under the Tucker Act, an individual claiming that the federal government has taken his or her property can seek just compensation in the United States Claims Court. *See, e.g., Ruckelshaus* v. *Monsanto,* 467 U.S. 986 (1984). Compensation may also be sought in the district court for claims not exceeding $10,000. 28 U.S.C. 1346(a)(2).

[10] That position is consistent with the Eighth Circuit's recent decision in *Glosemeyer II* and with *Glosemeyer I.* However, the issue is still in litigation and review of *Preseault, supra, see* 109 S. Ct. 1929 (1989) (oral argument held Nov. 1, 1989).

[11] This authority has been delegated to the Director of the Office of Proceedings, which helps to ensure prompt issuance.

[12] We believe that the Commission has no discretion under the Trails Act to deny or condition an interim trail use arrangement. When Section 1247(d) is properly invoked, we have no choice but to issue a NITU or CITU. In mandatory language, Section 1247(d) commands the Commission (emphasis added): "If a [trail group] is prepared to assume full responsibility [for the property] * * *, then the Commission shall [make its use of the property contingent upon its assumption of responsibility] and shall not permit abandonment. * * *."

[13] Where more than one group has requested an interim trial use arrangement, the railroad may choose which of them, if any, it wishes to deal with. *See* 2. I.C.C.2d at 608.

[14] Upon termination of the trial use arrangement, if the railroad does not wish to reinstate service (or continue to retain the line for possible future use), it must file a petition to have the ICC reopen the abandonment proceeding and issue full abandonment authority.

[15] *See* Docket No. AB–167 (Sub-No. 1089X), *Consolidated Rail Corporation—Abandonment Exemption—Lycoming and Tioga Counties, PA* (not printed), served June 13, 1989.

[16] *See Iowa Southern R. Co.—Exemption-Abandonment,* 5 I.C.C.2d 496 (1989), judicial review pending in *Todd Goos* v. *ICC,* U.S.C.A. 8th Cir. No. 89–2412.

[17] *See* H.R. Rep. No. 28, *supra* at 8–9.

[18] *Accord Glosemeyer II, supra,* 879 F.2d at 321–322. *See also NWF, supra,* 850 F.2d at 706–707.

[19] When a railroad enters into a Trails Act arrangment, we retain jurisdiction (that would otherwise have been lost) over the right-of-way and the railroad forgoes the ability to dispose of the property in any other way. Thus, a railroad presumably would not agree to the arrangement if it had no interest in "rail banking" the line. *See* 5 I.C.C.2d at 375 n.5.

(October 4, 1988), Congress directed that trails use be encouraged for lines in which the Federal government holds the reversionary interest. The U.S. Department of the Interior, with the U.S. Department of Agriculture, have primary responsibility to implement this new provision, and they have been working with our staff and with trails groups to do so. After some time, they decided that railroad participation is necessary to identify the properties subject to this statute adequately and efficiently. Accordingly, in June 1989, trail proponents asked the Commission to establish rules to provide for this identification process. In October 1989 we solicited comments on that proposal. The comment period expired January 17, 1990 and we are preparing a decision on the proposal.

7. *The Commission has applied the Trails Act broadly.* The Commission has read the Trails Act mandate broadly,[20] in light of Congress' direction to "encourage the development of additional trails." [21] Accordingly, we have accepted late-filed Trails Act requests whenever possible.[22] Moreover, we have always extended the negotiating period (at times over landowners' objections) where the parties need longer than the 6-month period provided by our rules.[23]

In sum, we have declined to burden the Trails Act process unnecessarily, either by rule or by adjudication, and have consistently resisted efforts to defeat or limit the Trails Act process.

This policy statement will not significantly affect either the quality of the human environment or conservation of energy resources.

This policy statement will be served directly on: the American Farm Bureau Federation, Association of American Railroads, National Association of Reversionary Property Owners, American Hiking Society, National Wildlife Federation, and Rails to Trails Conservancy.

Authority: 16 U.S.C. 1247(d); 49 U.S.C. 10321; 5 U.S.C. 553.

Decided: January 29, 1990.

By the Commission, Chairman Gradison, Vice Chairman Phillips, Commissioners Simmons, Lamboley, and Emmett.

Noreta R. McGee,

Secretary.

[FR Doc. 90-2690 Filed 2-5-90; 8:45 am]

BILLING CODE 7035-01-M

[Finance Docket No. 31591]

Exemption; Wheeling Acquisition Corp.—Acquisition and Operation Exemption—Lines of Norfolk & Western Railway Co.

Exemption; Wheeling Acquisition Corporation (WAC), a non-carrier, has filed a notice of exemption to: (1) Acquire (by purchase and sublease) and operate approximately 576 miles of rail line owned by Norfolk & Western Railway Company; and (2) acquire and operate approximately 264 miles of incidental trackage rights over lines owned or leased by N&W. The properties include the following lines and trackage rights in Ohio, Pennsylvania, West Virginia, and Maryland:

Lines Owned by N&W (454.3 route miles): Yeomans (MP T-54.7) to Terminal Jct., OH (MP T-214.0); Cleveland Belt Line Jct. (MP CZ-2.1) to Harmon, OH (MP CZ-73.6); Carey (MP AY-53.0) to Mogadore, OH (MP AY-169.3); Huron Jct. (MP H-0.0) to Shinrock, OH (MP H-10.6); Orrville Jct. (MP MB-0.0) to Orrville, OH (MP MB-1.4); Dalton (MP MB-7.0) to Run Jct., OH (MP MB-22.1); Adena (MP A-0.0) to Saginaw Mine, OH (MP A-14.8); AC&NA Jct. (MP AC-0.0) to Georgetown, OH (MP AC-10.9); Warrenton (MP SB-0.0) to Steubenville, OH (MP SB-13.2); Falls Jct. (MP CF-0.0) to Solon, OH (MP CF-1.9); Canton Yard (MP CC-0.0) to Carrollton, OH (MP CC-27.7); Minerva Jct. (MP MM-0.0) to Minerva, OH (MP MM-3.0); Waco (MP BL-0.0) to Nimishillen Creek, OH (MP BL-3.7); Brittain, OH (MP BS-0.9) to MP BS-2.0; The Mogadore Lead (1.3 miles); and the former CSXT track at Medina, OH (2.5 miles).

Lines Subleased From N&W (121.5 route Miles): Pierce (MP PC-0.0) to Clairton, PA (MP PC-5.7); Longview (MP LM-0.0) to Mifflin, PA (MP LM-3.5); West Belt Jct. (MP WE-0.0) to West End, PA (MP WE-2.3); and Connellsville, PA (MP C-1.2) to Pittsburgh Jct., OH (MP C-111.2).

Trackage Rights Over N&W (35.7 route miles): Yeomans (MP T-54.7) to Chatfield, OH (MP S-73.6); Yeomans (MP T-54.7) to Parkertown, OH (MP S-102.0); Yeomans (MP T-54.7) to Flat Rock, OH (MP S-93.4); Cleveland Belt Line Jct. (MP CB-0.0) to Knob, OH (MP CB-5.4); and MP CZ-1.7 to MP CZ-2.1 at Cleveland, OH.

Assignment of N&W Trackage Rights Over Other Carriers (228.4 route miles): over Consolidated Rail corporation from Wellington to Cleveland, OH (32.1 miles); and over CSX Transportation, Inc., from Connellsville, PA to Hagerstown, MD (176.2 miles); and from Connellsville to Westmoreland, PA (20.1 miles).

The transaction is proposed to be consummated as soon as practicable after the notice becomes effective. WAC will also issue securities in connection with the acquisitions covered by this notice. Because WAC will be a Class II carrier, this securities issuance is exempt under 49 CFR 1175.1

Comments must be filed with the Commission and served on Robert H. Wheeler, Oppenheimer Wolff & Donnelly, Two Illinois Center, suite 2400, 233 North Michigan Avenue, Chicago, IL 60601.

WAC must preserve intact all sites and structures 50 years old or older until completion of the section 106 process of the National Historic Preservation Act, 16 U.S.C. 470.[1]

This notice is filed under 40 CFR 1150.31 and 1150.35. If the notice contains false or misleading information, the exemption is void *ab initio*. Petitions to revoke the exemption under 49 U.S.C. 10505(d) may be filed at any time. The filing of a petition to revoke will not automatically stay the transaction.

Decided: January 30, 1990.

By the Commission, Jane F. Mackall, Director, Office of Proceedings.

Kathleen M. King,

Acting Secretary.

[FR Doc. 90-2572 Filed 2-5-90; 8:45 am]

BILLING CODE 7035-01-M

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[20] *See generally* Docket No. AB-265 (Sub-No. 1X), State of Vermont and Vermont Railway, Inc. Discontinuance of Service Exemption in Chittenden County, VT, 3 I.C.C.2d 903 (1987), pending review in *Preseault, supra*; Finance Docket No. 30724 (Sub-No. 1), Wisconsin and Calumet Railroad Company, Inc.—Notice to Terminate Modified Certificate and to Invoke Interim Trail Use (not printed), served August 8, 1989.

[21] H.R. Rep. No. 28, *supra*, at 8.

[22] *See, e.g.*, Docket No. AB-3 (Sub-No. 60X), Missouri Pacific Railroad Company—Exemption—Abandonment in Shawnee and Osage Counties, KS (not printed), served October 26, 1989; Docket No. AB-7 (Sub-No. 63), Stanley E.G. Hillman Trustee of the Property of Chicago, Milwaukee, St. Paul and Pacific Railroad Company, Debtor, Abandonment Near Tomahawk and Heafford Junction in Lincoln County, WI (not printed), served November 9, 1988; Docket No. AB-12 (Sub-No. 118X), Southern Pacific Transportation Company—Exemption—Abandonment of Service in San Mateo County, CA (not printed), served December 15, 1989.

[23] *See* Docket No. AB-3 (Sub-No. 63), Missouri Pacific Railroad Company—Abandonment in Okmulgee, Okfuskee, Hughes, Pontotoc, Coal, Johnston, Atoka, and Bryan Counties, OK (not printed), served January 2, 1990.

[1] WAC certifies that it has identified to the appropriate State Historic Preservation Officers all sites and structures 50 years old or older that will be subject to the transaction.

[Docket No. AB-174 (Sub-No. 2X)]

The Central Vermont Railway, Inc.; Abandonment Exemption of Rail Line in Franklin County, VT

AGENCY: Interstate Commerce Commission.

ACTION: Notice of exemption.

SUMMARY: The Interstate Commerce Commission exempts from the prior approval requirements of 49 U.S.C. 10903–10904 the abandonment by the Central Vermont Railway, Inc., of 9.4 miles of rail line in Franklin County, VT, subject to standard labor protective conditions and a public use condition.

DATES: Provided no formal expression of intent to file an offer of financial assistance has been received, this exemption will be effective on March 8, 1990. Formal expressions of intent to file an offer [1] of financial assistance under 49 CFR 1152.27(c)(2) must be filed by February 16, 1990, petitions to stay must be filed by February 21, 1990, and petitions for reconsideration must be filed by March 5, 1990.

ADDRESSES: Send pleadings referring to Docket No. AB–174 (Sub-No. 2X) to:

(1) Office of the Secretary, Case Control Branch, Interstate Commerce Commission, Washington, DC 20423, and

(2) Petitioner's representative: Robert I. Schellig, Jr., Grand Trunk Western, Railroad Company, 1333 Brewery Park Blvd., Detroit, MI 48207–2699.

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: January 29, 1990.

By the Commission, Chairman Gradison, Vice Chairman Phillips, Commissioners Simmons, Lamboley, and Phillips.

Noreta R. McGee,

Secretary.

[FR Doc. 90–2689 Filed 2–5–90; 8:45 am]

BILLING CODE 7035-01-M

[1] See Exempt. of Rail Abandonment—Offers of Finan. Assist., 4 I.C.C.2d 164 (1987).

DEPARTMENT OF JUSTICE

Lodging of Consent Decree Pursuant to the Clean Water Act

In accordance with the Department Policy, 28 CFR 50.7, notice is hereby given that a consent decree in *Harold Glen Carroll* v. *John O. Marsh, Jr., Secretary of the Army, et al.,* Civil Action No. 87–634-Civic-5 (E.D.N.C.) was lodged with the United States District Court for the Eastern District of North Carolina on January 16, 1990.

The proposed consent decree concerns alleged violations of sections 301 and 404 of the Clean Water Act, 33 U.S.C. 1311 and 1344, as a result of the discharge of fill material into wetlands adjacent to Buffalo Creek in Johnston County, North Carolina. The Site of the violations is owned by Carroll and is also known as a portion of "Glen Echo Mobile Home Park, Phase II." The fill materials consisted of soil and rock and were discharged into the wetlands area through the use of earth-moving equipment employed by Carroll without authorization from the U.S. Army Corps of Engineers in accordance with 33 U.S.C. 1344.

The consent decree requires Carroll to restore the wetlands area by removing all unauthorized fill material to an uplands area of the property and by planting appropriate vegetation to restore the area to its original condition. The decree allows Carroll to retain and maintain a portion of the fill road through the area and to install necessary culverts to allow proper drainage under the road. The decree further requires Carroll to pay a civil penalty of $2,500 for his violations of the Clean Water Act and to pay $500 of defendants' court courts incurred as a result of this action.

The Department of Justice will receive until February 25, 1990, written comments relating to the consent decree. Comments should be addressed to the Assistant Attorney General, Land and Natural Resources Division, U.S. Department of Justice, Attention: Robert LeFevre, Esquire, room 7113, 10th St. & Constitution Avenue NW., Washington, DC 20530, and should refer to *Harold Glen Carroll* v. *John O. Marsh, Jr., Secretary of the Army, et al.,* DJ Reference No. 90–5–1–1–2981.

The consent decree may be examined at the Clerk's Office, United States District Court, 776 U.S. Post Office and Federal Building, 310 New Bern Avenue, Raleigh, North Carolina 27601.

Richard B. Stewart,

Assistant Attorney General, Land and Natural Resources Division.

[FR Doc. 90–2658 Filed 2–5–90; 8:45 am]

BILLING CODE 4410-01-M

Lodging of a Consent Decree Pursuant to the Clean Water Act

In accordance with Departmental policy, 28 CFR 50.7, notice is hereby given that on January 26, 1990, a Consent Decree in *United States* v. *City of Rock Springs, Wyoming,* Civil Action No. C88–0383K, was lodged with the United States District Court for the District of Wyoming.

The United States' Complaint was filed under sections 301(a), 307(a), and 402 of the Clean Water Act, 42 U.S.C. 1311(a), 1317(a), and 1342(b), for injunctive relief and civil penalties. The Defendant operates a publicly owned wastewater treatment works in Rock Springs, Wyoming. The United States alleges in its Complaint that Rock Springs has been in violation of section 402 of the Clean Water Act for instances where there have been exceedences of the effluent limitations contained in the City's National Pollutant Discharge Elimination System ("NPDES") permit, and that the City failed to submit in a timely fashion an approvable pretreatment plan for industrial users of the City's wastewater treatment plant ("WWTP").

The Consent Decree sets forth a compliance program for Rock Springs to abate all of its violations, and requires the City to pay a civil penalty of $20,000. The alleged violations of the NPDES permit are to be abated primarily through the installation of a chlorine contact chamber at the WWTP.

The Department of Justice will receive for a period of thirty days from the date of this publication comments relating to the proposed Consent Decree. Comments should be addressed to the Assistant Attorney General, Land and Natural Resources Division, Department of Justice, Washington, DC 20530, and should refer to *United States* v. *Nicolet, Inc.,* DOJ Ref. No. 90–11–3–84. The proposed Consent Decree may be examined at the office of the United States Attorney, District of Wyoming, 2120 Capitol Avenue, room 4002, Cheyenne, Wyoming 82003. Copies of the Consent Decree may be examined at the Environmental Enforcement Section, Land and Natural Resources Division, Department of Justice, room 1517, Ninth and Pennsylvania Avenue, NW., Washington, DC 20530. A copy of the proposed Consent Decree may be obtained in person or by mail from the Environmental Enforcement Section, Land and Natural Resources Division, Department of Justice. Copying costs are $.10 per page. the Consent Decree is 24 pages long, thus a request for a copy of the Consent Decree must be

accompanied with a check or money order made out to the Treasurer of the United States for $2.40.

Richard B. Stewart,

Assistant Attorney General, Land and Natural Resources Division.

[FR Doc. 90-2657 Filed 2-5-90; 8:45 am]

BILLING CODE 4410-01-M

DEPARTMENT OF LABOR

Office of the Secretary

Agency Recordkeeping/Reporting Requirements Under Review by the Office of Management and Budget (OMB)

Background

The Department of Labor, in carrying out its responsibilities under the Paperwork Reduction Act (44 U.S.C. chapter 35), considers comments on the reporting and recordkeeping requirements that will affect the public.

List of Recordkeeping/Reporting Requirements Under Review

As necessary, the Department of Labor will publish a list of the Agency recordkeeping/reporting requirements under review by the Office of Management and Budget (OMB) since the last list was published. The list will have all entries grouped into new collections, revisions, extensions, or reinstatements. The Departmental Clearance Officer will, upon request, be able advise members of the public of the nature of the particular submission they are interested in.

Each entry may contain the following information:

The Agency of the Department issuing this recordkeeping/reporting requirement.

The title of the recordkeeping/reporting requirement.

The OMB and Agency identification numbers, if applicable.

How often the recordkeeping/reporting requirement is needed.

Who will be required to or asked to report or keep records.

Whether small businesses or organizations are affected.

An estimate of the total number of hours needed to comply with the recordkeeping/reporting requirements and the average hours per respondent.

The number of forms in the request for approval, if applicable.

An abstract describing the need for and uses of the information collection.

Comments and Questions

Copies of the recordkeeping/reporting requirements may be obtained by calling the Departmental Clearance Officer, Paul E. Larson, telephone (202) 523-6331. Comments and questions about the items on this list should be directed to Mr. Larson, Office of Information Management, U.S. Department of Labor, 200 Constitution Avenue, NW., room N-1301, Washington, DC 20210. Comments should also be sent to the Office of Information and Regulatory Affairs, Attn: OMB Desk Officer for (BLS/DM/ESA/ETA/OLMS/MSHA/OSHA/PWBA/VETS), Office of Management and Budget, room 3208, Washington, DC (Telephone (202) 395-6880).

Any member of the public who wants to comment on a recordkeeing/reporting requirement which has been submitted to OMB should advise Mr. Larson of this intent at the earliest possible date.

New Collection

Bureau of Labor Statistics

Survey of Employer Layoff and Recall Practices

Once

Farms; businesses or other for-profit; non-profit institutions.

948 responses; 400 hours; 25 minutes per response; 1 form.

The BLS Survey of Employer Layoff and Recall Practices is a one-time retrospective survey of layoff and recall activities in establishments having a single-event layoff of at least 50 workers from July through December 1988 in 42 States. The findings will address issues of worker dislocation and reemployment strategies.

Revision

Employment and Training Administration

Employment Service Program Reporting System

1205—0240; ETA 8001, 9002, VETS 200 A&B, 300, SF 269 & 269A

Quarterly

Form No.	Affected public	Respondents	Frequency	Average time per response
ETA 9002	State or Local Govts	54	4	2½ hrs.
VETS 200A	do	54	4	45 minutes.
VETS 200B	do	54	4	45 minutes.
VETS 300	do	54	4	1 hour.
ETA 9001	do	25	4	2 hours.
WIN Data Collection	do	25	4	11 hours.
Recordkeeping	do	54	1	12 hours.

3,028 total hours.

Employment Service Program Report System is to provide data on State public employment service agency program activity and expenditures, including services to veterans, for use at the Federal level by the U.S. Employment Service and the Veterans Employment and Training Service in program administration and to provide reports to the President and Congress.

Signed at Washington, DC this 1st day of February, 1990.

Paul E. Larson,

Departmental Clearance Officer.

[FR Doc. 90-2705 Filed 2-5-90; 8:45 am]

BILLING CODE 4510-30

Employment and Training Administration

Labor Certification Process for the Temporary Employment of Aliens in Agriculture and Logging in the United States: 1990 Agricultural Adverse Effect Wage Rates; and Allowable Charges for Agricultural and Logging Workers' Meals

AGENCY: U.S. Employment Service, Employment and Training Administration, Labor.

ACTION: Notice of adverse effect wage rates (AEWRs) and allowable charges for meals for 1990.

SUMMARY: The Director, U.S. Employment Service, announces 1990 adverse effect wage rates (AEWRs) for employers seeking nonimmigrant alien (H-2A) workers for temporary or seasonal agricultural labor or services and the allowable charges employers seeking nonimmigrant alien workers for temporary or seasonal agricultural labor or services or logging work may levy upon their workers when they provide three meals per day.

AEWRs are the minimum wage rates which the Department of Labor has determined must be offered and paid to U.S. and alien workers by employers of nonimmigrant alien agricultural workers

(H–2A visaholders). AEWRs are established to prevent the employment of these aliens from adversely affecting wages of similarly employed U.S. workers.

The Director also announces the new rates which covered agricultural and logging employers may charge their workers for three daily meals.

EFFECTIVE DATE: February 6, 1990.

FOR FURTHER INFORMATION CONTACT: Mr. Thomas M. Bruening, Chief, Division of Foreign Labor Certifications, U.S. Employment Service, Employment and Training Administration, Department of Labor, room N4456, 200 Constitution Avenue NW., Washington, DC 20210. Telephone: (202) 535–0163 (this is not a toll-free number).

SUPPLEMENTARY INFORMATION: The Attorney General may not approve an employer's petition for admission of temporary alien agricultural (H–2A) workers to perform agricultural labor or services of a temporary or seasonal nature in the United States, unless the petitioner has applied to the Department of Labor (DOL) for an H–2A labor certification showing that: (1) There are not sufficient U.S. workers who are able, willing, and qualified and who will be available at the time and place needed to perform the labor or services involved in the petition; and (2) the employment of the alien in such labor or services will not adversely affect the wages and working conditions of workers in the United States similarly employed. 8 U.S.C. 1101(a)(15)(H)(ii)(a), 1184(c), and 1186.

On June 1, 1987, DOL published an interim final rule at 20 CFR part 655, subpart B, for the H–2A program. 52 FR 20496. The regulations require that covered employers offer and pay their U.S. and H–2A workers no less than the applicable hourly adverse effect wage rate (AEWR). 20 CFR 655.102(b)(9) (1989); see also 20 CFR 655.107, 54 FR 28037 (July 5, 1989). Reference should be made to the preamble to the July 5, 1989, final rule (54 FR 28037), which explains in great depth the purpose and history of AEWRs, DOL's discretion in setting AEWRs, and the new AEWR computation methodology at 20 CFR 655.107(a). See also 52 FR 20496, 20502–20505 (June 1, 1987).

Shortly after publication of the July 5, 1989, final rule, the AFL–CIO filed suit challenging the regulation. *AFL–CIO* v. *Dole*, Civil Action No. 89–2315 (.D.C.C. August 17, 1989) (complaint filed).[1] The U.S. District Court for the District of Columbia presently is considering arguments on that challenge to the July 5, 1989, final 20 CFR 655.107, 54 FR 28037.

Despite this litigation, DOL has the responsibility to administer the H–2A program. Inasmuch as the U.S. District Court declined to stay the implementation of the AEWR computation methodology in 20 CFR 655.107(a), 54 FR 28037, July 5, 1989, that methodology remains in effect.

The H–2A program regulations require the Director of the U.S. Employment Service to publish USDA wage data as AEWRs and publish allowable charges logging employers and H–2A agricultural employers may levy upon their workers for the provision of three meals per day. 20 CFR 655.107(a), 54 FR 28037 (July 5, 1989); 20 CFR 655.102(b)(4); 20 CFR 655.111(a); 20 CFR 655.202(b)(4); and 20 CFR 655.211(a). USDA recently announced its wage data in the publication *Farm Labor*. These data produce higher AEWRs for the majority of States. DOL recognizes that the AEWRs published in this notice may be affected by the U.S. District Court's pending decision on the merits of the above-referenced litigation. However, sound administration of the H–2A program requires the use of the current U.S. Department of Agriculture (USDA) data as they become available. For this reason, DOL is establishing 1990 AEWRs.

A. Adverse Effect Wage Rates (AEWRs) for 1990

Adverse effect wage rates (AEWRs) are the minimum wage rates which DOL has determined must be offered and paid to U.S. and alien workers by employers of nonimmigrant (H–2A) agricultural workers. DOL emphasizes, however, that such employers must pay the highest of the AEWR, the applicable prevailing wage or the statutory minimum wage, as specified in the regulations. 20 CFR 655.102(b)(9). Except as otherwise provided in 20 CFR part 655, subpart B, the regionwide AEWR for all agricultural employment (except those occupations deemed inappropriate under the special circumstances provisions of 20 CFR 655.93) for which temporary alien agricultural labor (H–2A) certification is being sought is equal to the annual weighted average hourly wage rate for field and livestock workers (combined) for the region, as published annually by USDA (USDA does not provide data on Alaska). 20 CFR 655.107(a) (1989), 54 FR 28037 (July 5, 1989).

The regulation at 20 CFR 655.107(a) requires the Director, U.S. Employment Service, to publish USDA field and livestock worker (combined) wage data as AEWRs in a **Federal Register** notice. Accordingly, the 1990 AEWRs for work performed on or after the effective date of this notice, are set forth in the table below:

TABLE.—1990 ADVERSE EFFECT WAGE RATES (AEWRS)

State	1990 AEWR
Alabama	$4.29
Arizona	4.61
Arkansas	4.04
California	5.90
Colorado	4.51
Connecticut	4.98
Delaware	4.89
Florida	5.16
Georgia	4.29
Hawaii	7.70
Idaho	4.49
Illinois	4.88
Indiana	4.88
Iowa	5.03
Kansas	5.17
Kentucky	4.45
Louisiana	4.04
Maine	4.98
Maryland	4.89
Massachusetts	4.98
Michigan	4.45
Minnesota	4.45
Mississippi	4.04
Missouri	5.03
Montana	4.49
Nebraska	5.17
Nevada	4.51
New Hampshire	4.98
New Jersey	4.89
New Mexico	4.61
New York	4.98
North Carolina	4.33
North Dakota	5.17
Ohio	4.88
Oklahoma	4.65
Oregon	5.42
Pennsylvania	4.89
Rhode Island	4.98
South Carolina	4.29
South Dakota	5.17
Tennessee	4.45
Texas	4.65

[1] An earlier suit challenging the June 1, 1987, interim final 20 CFR 655.107 has been dismissed. *AFL–CIO* v. *Dole*, No. 89–5011 (D.C. Cir. August 9, 1989) (order dismissing case as moot).

TABLE.—1990 ADVERSE EFFECT WAGE RATES (AEWRs)—Continued

State	1990 AEWR
Utah	4.51
Vermont	4.98
Virginia	4.33
Washington	5.42
West Virginia	4.45
Wisconsin	4.45
Wyoming	4.49

B. Allowable Meal Charges

Among the minimum benefits and working conditions which DOL requires employers to offer their alien and U.S. workers in their applications for temporary logging and H–2A agricultural labor certification is the provision of three meals per day or free and convenient cooking and kitchen facilities. 20 CFR 655.102(b)(4) and 655.202(b)(4). Where the employer provides meals, the job offer must state the charge, if any, to the worker for meals.

DOL has published at 20 CFR 655.102(b)(4) and 655.111(a) the methodology for determining the maximum amounts covered H–2A agricultural employers may charge their U.S. and foreign workers for meals. The same methodology is applied at 20 CFR 655.202(b)(4) and 655.211(a) to covered H–2B logging employers. These rules provide for annual adjustments of the previous year's allowable charges based upon Consumer Price Index (CPI) data.

Each year the maximum charges allowed by 20 CFR 655.102(b)(4) and 655.202(b)(4) are changed by the same percentage as the twelve-month percent change in the CPI for All Urban Consumer for Food (CPI–U for Food) between December of the year just past and December of the year prior to that. Those regulations and 20 CFR 655.111(a) and 655.211(a) provide that the appropriate Regional Administrator (RA), Employment and Training Administration, may permit an employer to charge workers no more than a higher maximum amount for providing them with three meals a day, if justified and sufficiently documented. Each year, the higher maximum amounts permitted by 20 CFR 655.111(a) and 655.211(a) are changed by the same percentage as the twelve-month percent change in the CPI–U for Food between December of the year just past and December of the year prior to that. The regulations require the Director, U.S. Employment Service, to make the annual adjustments and to cause a notice to be published in the **Federal Register** each calendar year, announcing annual adjustments in allowable charges that may be made by covered agricultural and logging employers for providing three meals daily to their U.S. and alien workers. The 1989 rates were published in a notice on March 3, 1989, at 54 FR 9108.

DOL has determined the percentage change between December of 1988 and December of 1989 for the CPI–U for Food was 5.6 percent. Accordingly, the maximum allowable charges under 20 CFR 655.102(b)(4), 655.202(b)(4), 655.111, and 655.211 were adjusted using this percentage change, and the new permissible charges for 1990 are as follows: (a) For 20 CFR 655.102(b)(4) and 655.202(b)(4), the charge, if any, shall be no more than $6.04 per day, unless the RA has approved a higher charge pursuant to 20 CFR 655.111 or 655.211(b); for 20 CFR 655.111 and 655.211, the RA may permit an employer to charge workers up to $7.56 per day for providing them with three means per day, if the employer justifies the charge and submits to the RA the documentation required to support the higher charge.

Dated: January 30, 1990.

Robert A. Schaerfl,

Director, U.S. Employer Service.

[FR Doc. 90–2706 Filed 2–5–90; 8:45 am]

BILLING CODE 4510–30–M

Notice; Revised Schedule of Remuneration for the UCX Program

Under section 8521(a)(2) of title 5 of the United States Code, the Secretary of Labor is required to issue from time to time a Schedule of Remuneration specifying the pay and allowances for each pay grade of members of the military services. The schedules are used to calculate the base period wages and benefits payable under the program of Unemployment Compensation for Ex-servicemembers (UCX Program).

The revised schedule published with this Notice reflects increases in military pay and allowances which were effective in January 1990.

Accordingly, the following new Schedule of Remuneration, issued pursuant to 5 U.S.C. 8521(a)(2) and 20 CFR 614.12, applies to "First Claims" for UCX which are effective beginning with the first day of the first week which begins after March 31, 1990.

Pay grade	Monthly rate
(1) Commissioned Officers:	
O–10	$7,796
O–9	7,796
O–8	7,792
O–7	7,004
O–6	5,919
O–5	4,992
O–4	4,101
O–3	3,310
O–2	2,618
O–1	1,956
(2) Commissioned Officers with Over 4 Years Active Duty as an Enlisted Member or Warrant Officer:	
O–3E	$3,780
O–2E	3,144
O–1E	2,555
(3) Warrant Officers:	
W–4	$3,704
W–3	3,149
W–2	2,718
W–1	2,264
(4) Enlisted Personnel:	
E–9	$3,441
E–8	2,908
E–7	2,520
E–6	2,161
E–5	1,839
E–4	1,546
E–3	1,361
E–2	1,249
E–1	1,088

The publication of this new Schedule of Remuneration does not revoke any prior schedule or change the period of time any prior schedule was in effect.

Dated: January 31, 1990.

Roberts T. Jones,

Assistant Secretary of Labor.

[FR Doc. 90–2707 Filed 2–5–90; 8:45 am]

BILLING CODE 4510–30–M

Mine Safety and Health Administration

[Docket No. M–90–4–C]

Cyprus Empire Corp.; Petition for Modification of Application of Mandatory Safety Standard

Cyprus Empire Corporation, P.O. Box 68, Craig, Colorado 81625 has filed a petition to modify the application of 30 CFR 75.521 (lightning arresters; ungrounded and exposed power conductors and telephone wires) to its Eagle No. 5 Mine (I.D. No. 05–01370) located in Moffat County, Colorado. The petition is filed under section 101(c) of the Federal Mine Safety and Health Act of 1977.

A summary of the petitioner's statements follows:

1. The petition concerns the requirement that lightning arresters be connected to a low resistance grounding medium on the surface and be separated from neutral grounds by a distance of not less than 25 feet.

2. Three submersible pumps have been installed in dewatering boreholes into sump areas of the mine. These boreholes penetrate an abandoned and

sealed portion of the mine which is flooded.

3. As an alternate method, petitioner proposes to utilize a common ground field for each pump.

4. In support of this request, petitioner states that—

(a) The resistance between the utility service located at each pole and each borehole is less than 4 ohms, and the borehole is at 0 ohms. This difference in potential creates a hazard for step potential at the motor control equipment during a lightning strike;

(b) The utility service ground and the transformer neutral ground are common;

(c) No other system drives its load at each overhead service. No equipment in the mine is powered from the same source as the pumps; and

(d) The use of a common ground field would prevent equipment failure and eliminate the difference in potential between the two ground fields.

5. Petitioner states that the proposed alternate method will provide the same degree of safety for the miners affected as that provided by the standard.

Request for Comments

Persons interested in this petition may furnish written comments. These comments must be filed with the Office of Standards, Regulations and Variances, Mine Safety and Health Administration, room 627, 4015 Wilson Boulevard, Arlington, Virginia 22203. All comments must be postmarked or received in that office on or before March 8, 1990. Copies of the petition are available for inspection at that address.

Dated: January 31, 1990.

Patricia W. Silvey,

Director, Office of Standards, Regulations and Variances.

[FR Doc. 90-2708 Filed 2-5-90; 8:45 am]

BILLING CODE 4510-43-M

[Docket No. M-90-10-C]

Dominion Coal Corp.; Petition for Modification of Application of Mandatory Safety Standard

Dominion Coal Corporation, P.O. Box 70, Vansant, Virginia 24656 has filed a petition to modify the application of 30 CFR 75.1701 (abandoned areas, adjacent mines; drilling of boreholes) to its Dominion No. 8 Mine (I.D. No. 44-06555) and its Dominion No. 13 Mine (I.D. No. 44-06535) both located in Buchanan County, Virginia. The petition is filed under section 101(c) of the Federal Mine Safety and Health Act of 1977.

A summary of the petitioner's statements follows:

1. The petition concerns the requirement that whenever any working place approaches within 50 feet of surveyed abandoned areas or within 200 feet of another mine or any other abandoned areas of the mine which cannot be inspected and which may contain dangerous accumulations of water or gas, boreholes be drilled to a distance of at least 20 feet in advance of the working face of such working place and be continually maintained to a distance of at least 10 feet in advance of the advancing working face.

2. Petitioner requests a modification of the standard to allow for a 20-foot cut to be taken in the face. In further support of this request, petitioner states that—

(a) The provision requiring 20-foot test holes to be drilled at a 45 degree angle at 8-foot intervals in the rib, restricts the depth of a cut that can be extracted with a continuous miner;

(b) A continuous mining machine is designed to take a 20-foot cut without the controls of the mining machine passing the last row of roof supports;

(c) Petitioner proposes to drill five holes in the face of the entry, spaced at 5-foot intervals; one hole in each corner of the entry 20 feet deep and 3 holes in the face of the entry 30 feet deep. The holes drilled in the corner of the entry would be at 30 degree angles to the rib. The hole drilled 5 feet from the left rib would be on a 105 degree angle to the face. The hole in the middle of the entry would be a 90 degree angle to the face and the hole drilled 5 feet from the right rib would be a 75 degree angle to the face with a margin of error of +/−5 degrees. This pattern would provide a 10-foot barrier in all directions to the cut to be taken. This pattern would also prevent the cut being taken from intersecting with any entry driven in an unexplored old works 10 feet or greater in width; and

(d) It is more practical to drill a 30 degree angle as opposed to drilling a 45 degree angle due to the size of the drill and the length of the drill steel, as well as the restricted area available to maneuver the drilling machine.

3. Petitioner states that the proposed alternate method will provide the same degree of safety for the miners affected as that provided by the standard.

Request for Comments

Persons interested in this petition may furnish written comments. These comments must be filed with the Office of Standards, Regulations and Variances, Mine Safety and Health Administration, room 627, 4015 Wilson Boulevard, Arlington, Virginia 22203. All comments must be postmarked or received in that office on or before March 8, 1990. Copies of the petition are available for inspection at that address.

Patricia W. Silvey,

Director, Office of Standards, Regulations and Variances.

[FR Doc. 90-2709 Filed 2-5-90; 8:45 am]

BILLING CODE 4510-43-M

[Docket No. M-90-2-C]

Helvetia Coal Co.; Petition for Modification of Application of Mandatory Safety Standard

Helvetia Coal Company, Box 729, Indiana, Pennsylvania 15701 has filed a petition to modify the application of 30 CFR 75.326 (aircourses and belt haulage entries) to its Lucerne No. 6 Extension Mine (I.D. No. 36-07691) located in Indiana County, Pennsylvania. The petition is filed under section 101(c) of the Federal Mine Safety and Health Act of 1977.

A summary of the petitioner's statements follows:

1. The petition concerns the requirement that air coursed through belt haulage entries not be used to ventilate active working places.

2. The average coal seam height in the mine is approximately 50 inches. The average height of the belt entries will be approximately 72 inches. Therefore, the belt entries will be the largest cross sectional area and they will also be the best maintained entries.

3. As an alternate method, petitioner proposes to use belt haulage air to ventilate active working places.

4. In support of this request, petitioner proposes to install an early warning fire detection system utilizing a low-level carbon monoxide (CO) detection system in belt entries used as intake air courses as outlined in the petition.

5. The low-level CO monitoring devices would be capable of providing both visual and audible alarm signals. The visual signal would be activated when the CO level is 10 parts per million (ppm) above ambient air and an audible signal would sound at 15 ppm above ambient air. All persons would be withdrawn to a safe area at 10 ppm and evacuated at 15 ppm. The fire alarm signal would be activated at an attended surface location where there is two-way communication. The CO system would be capable of identifying any activated sensor, monitoring electrical continuity and detecting electrical malfunctions.

6. The CO system would be visually examined at least once during each coal producing shift and tested weekly to ensure the monitoring system is functioning properly. The monitoring

system would be calibrated with known concentrations of CO and air mixtures at least monthly.

7. If the CO system is deenergized for routine maintenance or for failure of a sensor unit, the belt conveyor would continue to operate and qualified persons would patrol and monitor the belt conveyor using hand-held CO detecting devices.

8. The details for the fire detection system would be included as part of the ventilation system and methane and dust control plan.

9. For these reasons, petitioner requests a modification of the standard.

Request for Comments

Persons interested in this petition may furnish written comments. These comments must be filed with the Office of Standards, Regulations and Variances, Mine Safety and Health Administration, Room 627, 4015 Wilson Boulevard, Arlington, Virginia 22203. All comments must be postmarked or received in that office on or before March 8, 1990. Copies of the petition are available for inspection at that address.

Dated: January 31, 1990.

Patricia W. Silvey,

Director, Office of Standards, Regulations and Variances.

[FR Doc. 90–2710 Filed 2–5–90; 8:45 am]

BILLING CODE 4510–43–M

[Docket No. M–90–6–C]

Leeco, Inc.; Petition for Modification of Application of Mandatory Safety Standard

Leeco, Inc., 100 Coal Drive, London, Kentucky 40741–8799 has filed a petition to modify the application of 30 CFR 75.1701 (abandoned areas, adjacent mines; drilling of boreholes) to its Mine No. 62 (I.D. No. 15–16412), its Mine No. 63 (I.D. No. 15–16413) both located in Perry County, Kentucky and its Mine No. 58 (I.D. No. 15–14267) located in Leslie County, Kentucky. The petition is filed under section 101(c) of the Federal Mine Safety and Health Act of 1977.

A summary of the petitioner's statement follows:

1. The petition concerns the requirement that whenever any working place approaches within 50 feet of surveyed abandoned areas or within 200 feet of another mine or any other abandoned areas of the mine which cannt be inspected and which may contain dangerous accumulations of water or gas, boreholes be drilled to a distance of at least 20 feet in advance of the working face of such working place and be continually maintained to a distance of at least 10 feet in advance of the advancing working face.

2. As an alternate method, petitioner proposes to use probe drills capable of drilling long test drill holes in excess of 400 feet to intersect the abandoned workings prior to mining within 200 feet of the abandoned workings using specific techniqies and procedures as outlined in the petition.

3. Petitioner states that the proposed alternate method will provide the same degree of safety for the miners affected as that afforded by the standard.

Request for Comments

Persons interested in this petition may furnish written comments. These comments must be filed with the Office of Standards, Regulations and Variances, Mine Safety and Health Administration, room 627 4015 Wilson Boulevard, Arlington, Virginia 22203. All comments must be postmarked or received in that office on or before March 8, 1990. Copies of the petition are available for inspection at that address.

Patricia W. Silvey,

Director, Office of Standards, Regulations and Variances.

[FR Doc. 90– Filed 2–5–90; 8:45 am]

BILLING CODE 4510–43–M

NATIONAL COMMISSION ON LIBRARIES AND INFORMATION SCIENCE

White House Conference Advisory Committee Meeting

Date and Time: Feb. 14th 1990, 1 p.m. to 9 p.m.; Feb. 15th 1990, 8:30 a.m. to 9 p.m.; Feb. 16th 1990, 9 a.m. to 3 p.m.

Place: Embassy Suites Hotel, 1250 22nd Street NW., Washington, DC 20550. Advisory Committee in Wine Room, Subcommittee meeting locations to be posted in the lobby.

Status: All meetings are open.

Matters to be Discussed: White House Conference on Libraries and Information Services Subcommittee meetings:

Feb. 14, 1990,
—1–3 p.m. Background and Reference Information Development;
—3–5 p.m. Exhibits Planning and Development;
—3–5 p.m. Public Relations and Awareness;
—7–9 p.m. Pre-Conference Activities;
Feb. 15, 1990,
—8:30–9:30 a.m. Results Processing Framework Recommendation.

White House Conference on Library and Information Services Advisory Committee Meeting:

Feb. 15, 1990,
—10 a.m.–9 p.m.,
—Executive Director Selection;
Subcommittee Report,
—Fiscal Report,
—Delegate Credentialing Criteria;
Subcommittee Report,
—Pre-Conference Activities;
Subcommittee Report,
—Exhibits Planning and;
Development Subcommittee Report,
—Public and Private Sector;
Liaison Subcommittee Report,
—Report by Linda Crismond;
Executive Director American Library Association on Support for the White House Conference on Library and Information Services,
—Resources Subcommittee Report,
—Results Processing Framework;
Recommendation Subcommittee Report,
—Public Relations and Awareness Subcommittee Report,
—National Conference Program Planning Subcommittee Report,
—Background and Reference Information Development Subcommittee Report.
Feb. 16, 1990, 9 a.m.–3 p.m.,
—Administrative Update by Mary Alice Hedge Reszetar, Designated Federal Official (DFO).

Persons appearing before, or submitting only written statements to the Advisory Committee are asked to hand over to the Committee prior to presenting testimony, 80 copies of their prepared statement. This will insure that ample copies are available for the members of the Advisory Committee, the attending press and the observers.

Special provisions will be made for handicapped individuals by contacting John W.A. Parsons (1 202) 254 5100, no later than one week in advance of the meeting.

For Further Information Contact: Mary Alice Hedge Reszetar White House Conference on Library and Information Services Designated Federal Official, 1111 18th Street NW., Suite 302, Washington, DC 20036, (1–202) 254–5100.

Dated: January 31, 1990.

Mary Alice Hedge Reszetar,

Associate Director.

[FR Doc. 90–2644 Filed 2–5–90; 8:45 am]

BILLING CODE 7527–01–M

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

Meeting of the Music Advisory Panel

Pursuant to section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92–463), as amended, notice is hereby given that a meeting of the Music Advisory Panel (Professional Training

Section) to the National Council on the Arts will be held on February 22, 1990, from 9 a.m.–6 p.m. and on February 23, from 9 a.m.–5 p.m. in room M14 at the Nancy Hanks Center, 1100 Pennsylvania Avenue NW., Washington, DC 20506.

A portion of this meeting will be open to the public on February 23, 1990, from 4 p.m.–5 p.m. The topic for discussion will be policy issues and guideline review.

The remaining portions of this meeting on February 22, 1990, from 9 a.m.–6 p.m. and February 23 from 9 a.m.–4 p.m. are for the purpose of Panel review, discussion, evaluation, and recommendation on applications for financial assistance under the National Foundation on the Arts and the Humanities Act of 1965, as amended, including information given in confidence to the agency by grant applicants. In accordance with the determination of the Chairman published in the **Federal Register** of February 13, 1980, these sessions will be closed to the public pursuant to subsection (c) (4), (6) and (9)(B) of section 552b of title 5, United States Code.

If you need special accommodations due to a disability, please contact the Office of Special Constituencies, National Endowment for the Arts, 1100 Pennsylvania Avenue NW., Washington, DC 20506, 202/682–5532, TTY 202/682–5496, at least seven (7) days prior to the meeting.

Further information with reference to this meeting can be obtained from Ms. Yvonne M. Sabine, Advisory Committee Management Officer, National Endowment for the Arts, Washington, DC 20506, or call (202) 682–5433.

Dated: January 30, 1990.

Yvonne M. Sabine,

Director, Council and Panel Operations, National Endowment for the Arts.

[FR Doc. 90–2681 Filed 2–5–90; 8:45 am]

BILLING CODE 7537-01-M

Meeting of the Theater Advisory Panel

Pursuant to section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92–463), as amended, notice is hereby given that a meeting of the Theater Advisory Panel (Solo Performance Theater Artists and Mimes Section) to the National Council on the Arts will be held on February 22–23, 1990 from 9:30 a.m.-6 p.m. in Room M07 of the Nancy Hanks Center, 1100 Pennsylvania Avenue, NW., Washington, DC 20506.

Portions of this meeting will be open to the public on February 22, 1990, from 9:30 a.m.-10 a.m. and on February 23 from 5 p.m.-6 p.m. The topics for discussion will be opening remarks and guidelines and policy issues.

The remaining portions of this meeting on February 22, 1990, from 10 a.m.-6 p.m. and on February 23 from 9:30 a.m.-5 p.m. are for the purpose of Panel review, dicussion, evaluation, and recommendation on applications for financial assistance under the National Foundation on the Arts and the Humanities Act of 1965, as amended, including information given in confidence to the agency by grant applicants. In accordance with the determination of the Chairman published in the **Federal Register** of February 13, 1980, these sessions will be closed to the public pursuant to subsection (c)(4), (6) and (9)(B) of the section 552b to title 5, United States Code.

If you need special accommodations due to a disability, please contact the Office of Special Constituencies, National Endowment for the Arts, 1100 Pennsylvania Avenue NW., Washington, DC 20506, 202/682–5532, TTY 202/682–5496, at least seven (7) days prior to the meeting.

Further information with reference to this meeting can be obtained from Ms. Yvonne M. Sabine, Advisory Committee Management Officer, National Endowment for the Arts, Washington, DC 20506, or call 202/682–5433.

Dated: January 29, 1990.

Yvonne M. Sabine,

Director, Council and Panel Operations, National Endowment for the Arts.

[FR Doc. 90–2682 Filed 2–5–90; 8:45 am]

BILLING CODE 7537-01-M

NUCLEAR REGULATORY COMMISSION

[Docket No. 72–4 (50–269/270/287)]

Issuance of Materials License SNM–2503 for the Duke Power Co., Independent Spent Fuel Storage Installation at the Oconee Nuclear Station Site

The U.S. Nuclear Regulatory Commission (the Commission) has issued a materials license under the provisions of 10 CFR part 72 to Duke Power Company (Duke or the licensee) authorizing the receipt and storage of spent fuel in an Independent Spent Fuel Storage Installation (ISFSI) located onsite at the Oconeee Nuclear Station Site near Seneca, Oconee County, South Carolina.

The function of the ISFSI is to provide interim storage of up to 2,112 spent fuel assemblies from Oconee Nuclear Station Units 1, 2, and 3. Twenty-four fuel assemblies are stored in an inert atmosphere inside a stainless steel canister which provides confinement, shielding, criticality control, and heat removal. Spent fuel loading and canister preparation takes place within the Oconee Plant reactor buildings. The canister is then transported inside a transfer cask to the onsite ISFSI where the canister is then placed inside a concrete horizontal storage module, which provides additional shielding and passive heat dissipation. Up to a total of 88 concrete storage modules would be installed under the requested license.

The Commission's Office of Nuclear Material Safety and Safeguards (NMSS) has completed its environmental, safeguards, and safety reviews in support of the issuance of this license. The Commission authorized issuance of this license pursuant to § 2.764(c) of 10 CFR part 2.

Following receipt of the application filed March 31, 1988, a Notice of Proposed Action was published in the **Federal Register** on July 11, 1988, (53 FR 26122). Duke relied on a topical report submitted in March 1988 by NUTECH, Inc., for its NUTECH Horizontal Modular Storage (NUHOMS) system, type 24P, a concrete module stainless steel canister design, and on the safety review of this design by NMSS. The "Environmental Assessment (EA) Related to the Construction and Operation of the Oconee Nuclear Station Independent Spent Fuel Storage Installation" (dated October 1988), along with a Finding of No Significant Impact was issued and noticed in the **Federal Register** (53 FR 44133, dated November 1, 1988) in accordance with 10 CFR part 51. The scope of the Environmental Assessment included the construction and operation of an ISFSI on the Oconee site, including impacts specifically derived from the NUHOMS system design to be used. In April 1989, NMSS staff completed its safety review of the NUTECH topical report for the NUHOMS system design, type 24P, and issued a letter of approval with a Safety Evaluation Report.

The staff has completed its safety review of the Oconee Nuclear Station site application. Duke's safety analysis report, as supplemented, includes confirmation by Duke's reactor safety committee that no technical specification changes are required under the Oconee reactor operating license to accommodate a part 72 license for onsite storage, that joint operation of the reactor and onsite storage does not affect the safety margins of either one, and that onsite storage is an independent operation as defined in part

72. The staff's "Safety Evaluation Report of the Oconee Nuclear Station Independent Spent Fuel Storage Installation" was completed in October 1989.

Materials License SNM–2503, the staff's Environmental Assessment, Safety Evaluation Report, and other documents related to this action are available for public inspection and for copying for a fee at the NRC Public Document Room, 2120 L Street, NW., Washington, DC, and at the Local Public Document Room at the Oconee County Library, 501 W. Southbroad Street, Walhalla, South Carolina 29691.

Dated: January 29, 1990.

For the U.S. Nuclear Regulatory Commission.

Glen L. Sjoblom,

Acting Chief, Fuel Cycle Safety Branch, Division of Industrial and Medical Nuclear Safety.

[FR Doc. 90–2700 Filed 2–5–90; 8:45 am]

BILLING CODE 7590–01–M

OFFICE OF MANAGEMENT AND BUDGET

Solicitation of Views

AGENCY: Office of Federal Procurement Policy and the Office of General Management, Office of Management and Budget.

ACTION: Request for Public and Agency Comments on the Proposed Cancellation of Various Federal Management Circulars.

SUMMARY: Executive Order 11893, dated December 31, 1975, returned to OMB certain policy formulation and oversight functions which had been previously transferred to the General Services Administration from OMB by Executive Order 11717, dated May 9, 1973.

Among those functions returned to OMB was the policy oversight of three Federal Management Circulars (FMC), namely:

(1) FMC 74–6, "Operational Effectiveness of Decentralized Purchasing Activities", dated August 21, 1974;

(2) FMC 75–1, "Ensuring Consideration of Users' Experience with Federal Agency Supply Support Systems", dated February 7, 1975; and

(3) FMC 75–2, "Compatible Land Uses at Federal Airfields", dated September 30, 1975.

In an effort to eliminate unessential policy direction imposed upon Federal agencies and permit the exercise of greater managerial discretion on the part of affected agencies, consideration is being given to the cancellation of these policy issuances relating to agency supply activities and facilities.

Submission of Comments: Comments regarding the proposed cancellations must be provided on or before February 1, 1990, and should be submitted to David F. Baker, Office of Federal Procurement Policy, Office of Management and Budget, 725 17th Street NW., Washington, DC 20503.

FOR FURTHER INFORMATION CONTACT: David F. Baker, Office of Federal Procurement Policy, Office of Management and Budget, (202) 395–7207.

Peter J. Basso,

Assistant Director for General Management.

Allan V. Burman,

Administrator-Designate Office of Federal Procurement Policy.

Dated: January 8, 1990

SUPPLEMENTARY INFORMATION: The text of the three Federal Management Circulars follows

FMC 74–6: Operational Effectiveness of Decentralized Purchasing Activities

August 21, 1974.

To: Heads of Executive Departments and Establishments

1. *Purpose.* This circular establishes a requirement that executive departments and establishments with decentralized purchasing activities develop and implement a continuing program aimed at the removal of impediments to improved decentralized purchasing activities.

2. *Background.* a. The Commission on Government Procurement (COGP) in its report to Congress dated December 31, 1972, under chapter 4 of part D—Acquisition of Commercial Products, reported that the operational effectiveness of field procurement offices varies widely both among and within agencies. In reviewing purchasing offices at the field level, COGP found that many field personnel were unsure of their authority to develop procedures intended to simplify operations and provide more effective support. Also evident was a reluctance, especially in small field offices, to deviate from established procedures or to submit requests through channels for authorization to use innovative procurement techniques.

b. COGP concluded that improvements in work-force productivity with consequent reductions in the cost of operation can be achieved through a more effective evaluation and selection of alternative systems of procurement and distribution. For example, it was noted that indefinite delivery contracts and certain authorized small purchase procedures when innovatively used with various pricing techniques and delivery systems provide extensive choices in tailoring contracts to respond to differing needs and conditions.

c. As one means of improving operational effectiveness of decentralized purchasing activities, COGP recommended that the executive branch encourage agencies to use headquarters procurement staff personnel in conducting on-the-job training of field personnel to (1) implement techniques adapted to specific field activity needs and (2) identify possibilities for procurement innovations and technical transfusion.

d. The findings and the recommendation of COGP have been considered by an interagency task group, the Office of Procurement Management, and the Interagency Procurement Policy Group's Planning Staff (composed of senior procurement officials of seven major agencies), and official agency comments have been received. The consensus of the foregoing is that the COGP recommendation has merit and that agencies should have a continuing program aimed at the removal of obstacles to improve decentralized purchasing activities at field locations.

3. *Policy intent.* It is the intent of this circular to bring about improvements in the operational effectiveness of decentralized purchasing activities of the executive agencies through continuing agency programs that identify and remove the barriers to innovative cost-saving procurement techniques which are responsive to the activities' needs.

4. *Applicability and scope.* The provisions of this circular apply to all executive departments and establishments have decenralized purchasing activities. The term "agency" throughout this circular is synonymous with the term "departments and establishments" as defined in FMC 73–1.

5. *Responsibilities.* Heads of applicable executive departments and establishments shall establish within 180 calendar days from the date of this circular a continuing program aimed at the removal of impediments to improve the decentralized purchasing activities. In establishing such a program, consideration shall be given to the use of headquarters procurement staff personnel in conducting on-the-job training of field procurement personnel to (a) implement techniques adapted to specific field activity needs and (b) ientify possibilities for procurement innovations and technical transfusion.

6. *Reporting requirement.* A copy of agency program established in response to this circular shall be furnished within 180 calendar days from its effective date to the General Services Administration (AMC), Washington, DC 20405. This report is exempt from reports control.

7. *Inquiries.* Further information concerning this circular may be obtained by contacting: General Services Administration (AMC), Washington, DC 20405, Telephone: IDS 183–7794; FTS (202) 343–7794.

Arthur F. Sampson,

Administrator of General Services.

FMC 75–1: Ensuring Consideration of Users' Experience With Federal Agency Supply Support Systems

February 7, 1975.

To: The Heads of Executive Departments and Establishments

1. *Purpose.* This circular establishes policies and procedures to ensure that supply support systems provide a positive means for the communication and consideration of users' experience.

2. *Background.*

a. The Commission of Government Procurement in its report to the Congress dated December 31, 1972, provides in chapter 3, part D, compelling examples of the need to consider users' satisfaction with their supply support systems. Because of its findings, the Commission issued Recommendation D–2 calling for the executive branch to "Provide a positive means for users to communicate satisfaction with their (supply) support system as a method of evaluating its effectiveness and ensuring user confidence."

b. Under the procedures established by the executive branch for dealing with the recommendations of the Commission, an interagency task group was assigned to consider the merits of Recommendation D–2. The task group found that executive agencies are aware of the need to consider user satisfaction in the operation of centralized supply systems. This awareness is evidenced by techniques currently in use to discover and deal with users' complaints. However, the task group concluded that a higher priority should be given to the practice of communication with user activities as a tool for evaluating the performance of supply support systems. The decisions to adopt the Commission's recommendations is based on the task group's findings.

3. *Policy intent.* This circular is intended to ensure that the supply support systems of all Federal agencies provide a positive means for communication with users and consideration of their experience with those systems.

4. *Applicability and scope.* The provisions of this circular apply to all supply support systems of executive departments and establishments with regard to intra-agency supply support systems and to the interagency supply support systems managed by the Department of Defense, the General Services Administration, and the Veterans Administration.

5. *Policies and procedures.*

a. It is the policy of the executive branch that needed goods and services be acquired and provided to the user in an economic, efficient, and effective manner.

b. Government acquisition systems must consider such factors as agency resources, statutory sources, and social and economic programs while meeting end product users' needs. An end product user's satisfaction is directly related to the action taken on his ideas and problems by those on whom he must depend for support.

c. Each agency operating one or more supply support systems shall establish procedures to provide for periodic reviews of existing methods of expressing end product user's satisfaction with the support system(s). In evaluating the effectiveness of the support system, the procedures shall provide for (1) evaluating the effectiveness of those methods; (2) determining whether end product user's satisfaction is a factor in evaluating the performance of the support system; and (3) taking actions to ensure that procedures provide a positive means of obtaining and considering the end product user's satisfaction. If improvements are warranted, consideration shall be given to establishing supply liaison programs using publications to assist the users, coordinating proposed procedures with the end product users before they are implemented, and conducting meetings and seminars with users to obtain direct information regarding the supply system.

6. *Responsibility.* Heads of executive departments and agencies are responsible for implementing this circular.

7. *Reporting requirement.* Within 180 calendar days each agency shall inform the Office of Federal Management Policy (AMP), GSA, of the steps taken to implement the provisions of this circular.

8. *Inquiries.* Further information concerning this circular may be obtained by contacting: General Services Administration (AMP), Washington, DC 20405 Telephone: IDS 183–7528; FTS 202–343–7528.

Dwight A. Ink,

Acting Administrator of General Services.

FMC 75–2: Compatible Land Uses at Federal Airfields

September 30, 1975.

To the Heads of Executive Departments and Establishments

1. *Purpose.* This circular prescribes the executive branch's general policy with respect to achieving compatible land uses on either public or privately owned property at or in the vicinity of Federal airfields.

2. *Background.* a. This circular is prepared pursuant to Executive Order 11717 of May 9, 1973, which transferred certain real property management functions from the Office of Management and Budget to the General Services Administration.

b. Federal airfields are employment centers. Nearby land holdings are attractive investments for housing developments, supportive business activities, and service industries. The general increase of development surrounding Federal airfields has not always considered noise levels and safety factors of flight operations. Complaints from residential and business owners has in some instances caused such actions as reduced takeoff weight, restriction of hours of operation, reduction of the number of flights, changes in takeoff and landing patterns, and noise abatement procedures. This type of action results in declining operating efficiencies which sometimes lead to closure or reduction in mission capability of multimillion dollar installations.

3. *Applicability and scope.* The provisions of this circular are concerned with land use surrounding all airfields owned or operated by the Federal Government within the United States, its territories, trusts, and possessions. While most Federal airfields are operated by the Department of Defense, the policy also applies to airfields held and/or operated by any Federal agency. Federal air operations which are conducted in an airfield that is primarily non-Federal in character and/or not federally owned are excluded from the scope of this circular.

4. *Policy and procedures.*—a. *Airfield plans.*

(1) Operating agencies shall develop, and update as necessary, an airfield land use plan for each Federal airfield. Each plan shall contain an analysis of land use compatibility problems and potential solutions which can serve as the basis for Federal real property

acquisition and disposal decisions. More specifically, each plan shall cover as a minimum the following:

(a) Identify present incompatible land uses;

(b) Identify land that if inappropriately developed would be incomparible;

(c) Indicate types of desirable development for various land tracts;

(d) Determine by detailed study of flight operations, actual noise and safety surveys if necessary, and best available projections of future flying activities, the restriction on land use due to noise characteristics and safety of flight;

(e) Appraise land values with probable development in the near future and for the long term; and

(f) Review the airfield master plans to ensure that existing and future facilities siting is consistent with the policies in this circular.

(2) In developing airfield plans, operating agencies shall:

(a) Follow the review and comment procedures established under OMB Circular A-95;

(b) Ensure that appropriate environmental factors are considered; and

(c) Ensure that other local, State, or Federal agencies engaged in land use planning or land regulation for a given area have an opportunity to review and comment upon any proposed plan or modification thereof.

b. *Coordination with State and local governments.* Operating agencies shall develop procedures for coordinating airfield plans with the land use planning and regulatory agencies in the area. Developing compatible land use plans may require working with local governments, local planning commissions, special purpose districts, regional planning agencies, State agencies, as well as other Federal agencies. Operating agencies may provide technical assistance to local, regional, and State agencies to assist them in developing their land use planning and regulatory processes, to explain an airfield plan and its implications, and to generally work towards compatible planning and development in the area of an airfield.

c. *Land management.* The airfield plan shall serve as the basis for new land acquisitions, property disposal, and other proposed changes in the operating agencies' real property holdings in the area of a Federal airfield. Proposed real property transactions should be based upon the following guidelines:

(1) Where it is practical and advisable, necessary rights in land within the defined compatible use area may be obtained by purchase, exchange, or donation, in accordance with all applicable laws and regulations. If a holding agency desires an exchange, GSA may accept a report of excess for property subject to the condition that the property be used to acquire the needed property by exchange;

(2) If fee title is currently held or subsequently acquired to an area where compatible uses could be developed and no requirement for a fee interest in the land exists except to prevent incompatible use, disposal actions shall be instituted. Only those rights and interest necessary to establish and maintain compatible uses shall be retained. Where proceeds from disposal would be inconsequential, consideration may be given to retaining fee title;

(3) If the cost of acquisition of required interest approaches closely the cost of fee title, consideration shall be given to whether acquisition of fee title would be to the advantage of the Government;

(4) This policy does not contemplate that all land surrounding airfields remain open space or in Federal ownership, but it does foster uses that are reasonably compatible with airfield operations; and

(5) Real property holdings of executive agencies involving Federal airfield compatible use issues are subject to survey by the General Services Administration. The development and delineation of compatible use areas by an agency does not preclude the administrator of General Services from expressing contrary opinions regarding one appropriateness of the defined area.

5. *Responsibilities.* Heads of executive departments and agencies shall be responsible for promulgating such agency regulations, controls, and review actions as are necessary to comply fully with the provisions of this circular. Regulations shall identify:

a. Who is responsible for developing and issuing airfield plans;

b. How those plans are to be reviewed by State and local governments, other Federal agencies, and the public; and

c. Who has final approval authority and what is the effect of an approved plan (that is, is it advisory or binding on agency actions).

All Federal agencies (in addition to those operating airfields) having programs which affect or may affect the use of land near Federal airfields shall ensure that their programs serve to foster compatible land use in accordance with the plans developed by the operating agencies. All implementing regulations shall be evaluated for inflationary impact in accordance with Executive Order 11821. Copies of all implementing documents, upon issuance, shall be forwarded to General Services Administration (AMP), Washington, DC 20405.

6. *Inquiries.* Further information concerning this circular may be obtained by contacting: General Services Administration (AMP), Washington, DC 20405, Telephone: IDS 183-7528; FTS 202-343-7528.

Arthur F. Sampson,

Administrator of General Services.

[FR Doc. 90-2660 Filed 2-5-90; 8:45 am]

BILLING CODE 3110-01-M

DEPARTMENT OF STATE

[Public Notice 1159]

Study Group 2 of the U.S. Org. for the International Radio Consultative Comm. (CCIR); Meeting

The Department of State announces that Study Group 2 of the U.S. Organization for the International Radio Consultative Committee (CCIR) will meet on February 15, 1990, at NASA Headquarters, 600 Independence Avenue, Washington, DC in room 521J at 10 a.m.

Study Group 2 deals with matters relating to the space research services among other things. The purpose of the meeting is to continue preparations for participation in newly formed international working parties and particularly for the 1992 World Administrative Radio Conference.

Members of the general public may attend the meeting and join in the discussions subject to instructions of the Chairman. Request for further information should be directed to Mr. John Postelle, ARC Professional Services Group, Herndon, Virginia 22070, phone (703) 834-5607.

Dated: January 31, 1990.

Richard E. Shrum,

Chairman, U.S. CCIR National Committee.

[FR Doc. 90-2640 Filed 2-6-90; 8:45 am]

BILLING CODE 4710-07-M

[Public Notice 1160]

Study Group 4 of the U.S. Org. International Radio Consultative Comm. (CCIR); Meeting

The Departgment of State announces that Study Group 4 of the U.S. Organization for the International Radio Consultative Committee (CCIR) will meet at 9:30 a.m., February 15, 1990 in the 8th Floor Conference Room, Communications Satellite Corporation,

950 L'Enfant Plaza, SW., Washington, DC.

Study Group 4 deals with matters relating to the fixed satellite service. The purpose of the meeting is to begin work for the next four-year study cycle and to prepare recommendations for upcoming meetings of the CCIR, including the Plenary Assembly.

Members of the general public may attend the meeting and join in the discussions subject to instructions of the Chairman. Request for further information should be directed to Mr. Hans Weiss, ComSat, Washington, DC 20024, phone (202) 863-6856, telefax (202) 488-3314/3819.

Dated: January 31, 1990.

Richard E. Shrum,

Chairman U.S. CCIR National Committee.

[FR Doc. 90-2641 Filed 2-5-90; 8:45 am]

BILLING CODE 4710-07-M

DEPARTMENT OF TRANSPORTATION

Office of the Secretary

[Docket 46534]

Expanding International Air Service Opportunities to More U.S. Cities; Final Order

Issued by the Department of Transportation on the 30th day of January 1990.

Summary

By this order, we modify and finalize our proposal described in Order 89-10-19, dated October 10, 1989, to expand international air service opportunities to more U.S. cities.

Background

By Order 89-10-19, dated October 10, 1989, and published in the **Federal Register**,[1] the Department issued the following proposal for expanding international air service opportunities to more U.S. cities:

In response to the desire expressed by U.S. cities for expanded international air service opportunities, the Department will approve a foreign carrier's application for one-year, renewable exemption authority to provide scheduled combination nonstop international air service, or one-stop single-plane international air service via another U.S. point, between its homeland and a U.S. community provided that: (1) A U.S. or foreign carrier does not provide nonstop or one-stop single-plane international air service to that community from the same foreign country; (2) there is a procompetitive agreement in place with the homeland country and thus a basis does not exist for a traditional aviation trade to obtain benefits for U.S. airlines; (3) the foreign carrier's proposal does not involve service to and from third countries; (4) interested U.S. parties have not raised overriding public interest reasons for denying the requested authority; (5) the foreign carrier has firm plans to operate the proposed service; and (6) the foreign carrier meets all other applicable licensing standards. If the foreign carrier has not inaugurated such service within 90 days or suspends such service for more than nine months, the authority would expire by its terms without prejudice to any subsequent application for the same authority.

We requested comments from interested parties addressing the proposal within 30 days of the service date of the order and reply comments 15 days thereafter.

Comments and Responses

The Department received comments from Members of Congress, other U.S. Government agencies, associations, U.S. airport authorities and cities, U.S. and foreign airlines, corporations and private individuals.

Members of Congress, USA Airports for Better Air Service, U.S. airport authorities and cities, and foreign airlines support the proposal. Some of these parties commented that they considered the proposal a first step, but not a substitute, for a change in U.S. civil aviation negotiating policy. They are concerned that the conditions are so stringent that they will prevent carriers from operating viable services, assuming they are able to qualify for the program. They recommend a substantial broadening of the proposal, particularly in the areas involving the type of civil aviation agreement that must be in effect with the country involved and the initial origin and final destination of the traffic that may be carried. Some of the parties believe the proposal should include all-cargo services.

The Airline Pilots Association, International, and the National Air Carrier Association oppose the program. They believe that it will erode traffic at existing U.S. gateways and adversely affect U.S. airlines. The Air Transport Association states that the term "procompetitive agreement" should be defined to include specific elements, and that any authority granted should be conditioned to preclude the carriage of third country traffic.

Among the U.S. airlines, ABX Air, America West, American, Emery and UPS support the proposal as a way to achieve a more open civil aviation environment. Pan American, Rosenbalm and TWA oppose it. They note that they rely on the smaller U.S. communities to feed their hubs and that they do not see the added benefit if a passenger travels to a country by a foreign carrier over a foreign hub rather than by a U.S. carrier over a U.S. hub.

Many private individuals submitted letters supporting the proposal and looking forward to more international air service at their communities.

The U.S. Customs Service and the Immigration and Naturalization Service note that considerable time can be required to establish and staff new clearance facilities, and request that the Department take this into consideration. The Antitrust Division of the Department of Justice believes that the proposal is unnecessarily restrictive and should be used to inject considerably more competition into the system.

Analysis and Conclusions

The focus of the Department's program is on establishing a framework for granting eligible foreign air carriers extra-bilateral authority to provide service at communities in the United States that do not have single-plane flights to their homelands. The Department's proposal is intended to supplement, not replace, the negotiating process, which we believe continues to remain the most effective vehicle for obtaining new aviation opportunities for both U.S. communities and U.S. carriers.

With these considerations in mind, and in light of the comments received, we have reviewed each element of the proposal to ensure that it benefits communities under circumstances which do not compromise our ability to obtain procompetitive benefits through the negotiating process.

The first element of the proposal limits its applicability to cities where a U.S. or foreign carrier does not provide nonstop or one-stop single-plane international air service to that community from a foreign country. Several parties argue that air service to one city in a foreign country should not preclude new service under the program from the U.S. community to another city in the same country.

While we understand these parties' desire to obtain broad international service from their communities, this program was tailored to situations where a U.S. community has no access to convenient service to a foreign country. Expanding the proposal by applying a city-pair test rather than a country-destination test raises the

[1] 54 FR 42137, October 13, 1989.

possibility that the proposal will primarily interest carriers that wish to institute new service from the well-served traditional U.S. gateways to unserved communities in foreign countries. Therefore, we have decided to retain the condition without charge.

The second condition requires that a procompetitive agreement be in place with the homeland country so that a basis does not exist for a traditional aviation trade to obtain benefits for U.S. airlines. The comments on this issue range from those who believe that the agreement in place should contain every procompetitive article that the United States has ever proposed, to those who would like us to consider only the environment in which air services are conducted irrespective of the type or text of the agreement in effect.

Open entry, unrestricted capacity, U.S. rights to operate service from any point in the United States to the foreign country, and pricing freedom are the key elements that we will require. In a comity and reciprocity regime, we will expect each of these elements to be present before we conclude that a procompetitive environment exists. On the other hand, if a bilateral civil aviation agreement is in effect, we will insist that the first three elements be explicitly included before a country's carrier may qualify for this program.

With regard to pricing, our preference is that applicable agreement also contain a double disapproval pricing article that gives airlines freedom to price their services unless both governments disapprove the proposed price. However, we are aware that some countries have lengthy histories of open pricing environments without such an article, and U.S. airlines have been and continue to be able to enjoy liberal pricing environments. Based on the record generated, we are concerned that strict adherence to a requirement that a double disapproval pricing article be part of a formal agreement would diminish the utility of the program effectively to enhance international air service to U.S. communities without necessarily protecting the operating environment for U.S. airlines. We have decided, therefore, to consider applications from carriers from countries with such pricing environments on a case-by-case basis. In doing so, we believe that we will increase foreign service possibilities for U.S. communities and encourage to retain their liberal policies.

As for other important issues, such as computer reservation systems, airport terminal facilities, ground-handling, currency and remittances, etc., we will assess the environment on a case-by-case basis. We will weigh the seriousness and impact on U.S. carrier operations of any problems and the probable effect of a favorable decision on a foreign carrier application on the possibility of resolving the problem, as well as the benefits to be obtained from the proposed service.

The third condition of the proposal would require that the foreign carriers' flights not involve service to and from countries. The U.S. carriers support this condition and request that any rights granted under this proposal be tightly constrained to turnaround, nonstop traffic. All the foreign carriers stated that they would not be able to operate viable services under this program without some third country traffic.

It is clear from the fact that almost all international flights carry third country traffic and from the statements of the foreign carriers on the record, that an absolute prohibition on carrying third country traffic would render the program inoperable. Therefore, we will allow carriers under the program to carry traffic to and from third countries, both intermediate (provided the rights are contained in the applicable civil aviation agreement or granted under a comity and reciprocity regime) and beyond their homelands, provided that the carriers do not place undue reliance on third country traffic, that they do not operate or hold out single-plane service or any service with single flight numbers to countries beyond their homelands, and that they do not advertise any third country services in the public media. We will not restrict the listing of third country services via intermediate points or connnecting services behind their homelands in computer reservations systems, a necessity if the limited right is to have any viability.

The proposal provides an opportunity for U.S. parties to raise overriding public interest reasons for denying the requested authority. Several parties expressed concern that U.S. carriers would raise endless objections that would indefinitely delay any new service. They requested that objections be limited to previously known problems and that public interest reasons either be defined in advance or sharply limited.

The existence of problems that put U.S. carriers at a competitive disadvantage could constitute justifiable grounds for denying, or delaying approval of, applications for new services. However, given the range of problems and differing circumstances that may relate to each one, we do not consider it wise to define public interest issues in advance beyond the examples cited in the initial order, such as a U.S. carrier's firm plans to provide the requested service within a reasonable time frame. The Department routinely deals expeditiously with objections to exemption requests similar to those that are likely to arise under this program, and we see no reason to doubt that we can deal with them in a timely fashion here as well.

The proposed 90-day start-up period and one-year license generated comment from parties who felt that both periods were too short for the marketing and investment commitments required to start a new service. Other parties expressed concern that a foreign carrier would lose its authority when a U.S. carrier chose to serve the route in question.

While the 90-day start-up period is short, it is the same period we allow U.S. carriers when we impose a start-up requirement, and we see no reason to grant foreign carriers additional time in advance. We will, however, be prepared to grant extensions of the period for good cause shown, just as we do for U.S. carriers. Some of the circumstances cited by comments as interfering with timely start-up (*e.g.*, incomplete inspection facilities) could be a basis for grants of extensions.

Similarly, we are not persuaded that one-year authority will limit use of the program. Foreign carriers routinely operate under one-year exemption authority, which is the form of authority we will grant under this program, and avail themselves of the provisions of our rules that afford continuing authority to carriers that file timely applications for renewal. Furthermore, it was never our intent that foreign carrier authority should lapse or be withdrawn should a U.S. carrier later choose to enter a city-pair market served under this program.[2] As stated in the initial order, if the foreign carrier has not inaugurated the authorized service within 90 days, or obtained an appropriate extension, or suspends such service for more than nine months, the authority will expire by its terms without prejudice to any subsequent application for the same authority.[3]

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[2] In this connection, we expect that if we license a U.S. carrier to serve the city pair, it will receive authority from the foreign country. The failure of the foreign country to do so will constitute grounds for discontinuance of the foreign carrier exemption.

[3] America West suggests that we prescribe a 28-day answer period for applications submitted under this program. We intend to apply the usual procedural standards for exemptions in subpart D of part 302 of the Department's regulations (14 CFR 302.400, *et seq.*) except in particular cases where good cause is shown.

The Department is sensitive to the concerns expressed by the U.S. Government inspection agencies as to the time required to establish and staff new facilities. We also recognize that cities, airports and the inspection agencies may not wish to make the investments needed to establish these services without assurances that a carrier is seriously interested in operating to a foreign market and that the extra-bilateral authority will be forthcoming.

We will not decline to issue licenses for markets simply because they currently lack inspection facilities. We will expect, however, both the cities that seek the service and the applicants that propose to provide it to coordinate their needs with the inspection services. In addition, we will require applicants to serve the inspection agencies, specifically the U.S. Customs Service, the U.S. Immigration and Naturalization Service and the Animal and Plant Health Inspection Service, with copies of their applications. We will also serve these agencies with copies of our orders acting on these applications.

Finally, a number of parties would like the proposal to cover all-cargo services. Before the issuance of this proposal we received numerous representations by communities about the need for new international passenger service. The program as issued for public comment was motivated by a desire to help meet those needs. Moreover, combination services, by their very nature, also provide new cargo capacity. Nevertheless, in view of the interest expressed in a similar program for all-cargo services, we will give the matter serious consideration.

Accordingly,

1. We implement the program for Expanding International Air Service Opportunities to More U.S. Cities under the terms outlined above and we invite interested and eligible carriers to apply for authority;

2. Applications shall conform to subpart D of 14 CFR 302, and shall be served on U.S. inspection agencies; [4]

3. We will serve this order on all certificated air carriers, all foreign air carriers, the U.S. Customs Service, the U.S. Immigration and Naturalization Service, the Animal and Plant Health Inspection Service, the Antitrust Division of the Department of Justice and the U.S. Department of State and all other persons who filed comments in this Docket; and

3. We will publish this order in the **Federal Register**.

Jeffrey N. Shane,

Assistant Secretary for Policy and International Affairs.

[FR Doc. 90-2611 Filed 2-5-90; 8:45 am]

BILLING CODE 4910-62-M

[4] Applications shall be served as follows:

Animal and Plant Health Inspection Service: Chief, Operations Officer, Port Operations, Plant Protection and Quarantine, Animal and Plant Health Inspection Service, Room 635, 6505 Belcrest Road, Hyattsville, MD 20782.

Immigration and Naturalization Service: Assistant Commissioner, Inspections, Immigration and Naturalization Service, Room 7123, Department of Justice, 425 Eye Street, NW., Washington, DC 20536.

U.S. Customs Service: Director, Office of Passenger Enforcement and Facilitation, Office of Inspection and Control, Room 4417, U.S. Customs Service, 1301 Constitution Avenue, NW., Washington, DC 20229.

Privacy Act of 1974; System of Records

The Department of Transportation (DOT) herewith publishes a proposal to alter a system of records.

Any person or agency may submit written comments on the proposed altered system to the Commandant (G-PS), U.S. Coast Guard Headquarters, ATTN: Ms. Elaine Sweetland, 2100 Second Street SW., Washington, DC 20593-0001. Comments must be received within 30 days to be considered.

If no comments are received, the proposed changes will become effective 30 days from the date of issuance. If comments are received, the comments will be considered and where adopted, the document will be republished with the changes.

Issued in Washington, DC, January 18, 1990.

Jon H. Seymour,

Assistant Secretary for Administration.

Narrative Statement, Department of Transportation, Office of the Secretary, on Behalf of the United States Coast Guard for the Alteration of the Child Care Program Record System

The Office of the Secretary, on behalf of the U.S. Coast Guard, proposes to amend the Child Care Program Record System, DOT/CG-634, to cover all records maintained by the U.S. Coast Guard pertaining to children of active duty members of the Uniformed Services and other Federal employees who are enrolled in a U.S. Coast Guard child care program.

The purpose of this Notice is to revise the system to include records for children who are being provided child care in U.S. Coast Guard family quarters. The revision also modifies U.S. Coast Guard addresses listed within the system of record.

The changes include amendment to: Categories of individuals; Categories of records; Routine uses; Policies and practices for storing, retrieving, accessing, retaining, and disposing of records; Safeguards; System manager and address; and Notification procedure.

The probable or potential effect of this proposal on the privacy of the general public is minimal as it effects only those persons who choose to enter into an agreement with the Coast Guard.

A description of the steps taken by the Department of Transportation to safeguard these records is given under the appropriate heading in the attached **Federal Register** system of records notice.

The purpose of this Report is to comply with the Office of Management and Budget Circular A-130, Appendix 1, dated December 24, 1985.

DOT/CG 634

SYSTEM NAME:

Child Care Program Record System.

SYSTEM LOCATION:

At the facility where the care was provided or is being provided.

CATEGORIES OF INDIVIDUALS COVERED BY SYSTEM:

a. Children enrolled in a U.S. Coast Guard child care program;

b. Children being cared for in U.S. Coast Guard family quarters, and eligible children of active duty members of the Uniformed Services and children of Federal employees.

CATEGORIES OF RECORDS IN THE SYSTEM:

a. Information about the family;

b. Medical history of child;

c. Authorization for emergency medical care;

d. Permission for field trips;

e. Authorization to release child to someone other than parent;

f. Establishment of eligibility for participation in State or federally sponsored programs;

g. Communication between the care provider and parents about child; and

h. Other necessary records to protect health and safety of children.

ROUTINE USES OF RECORDS MAINTAINED IN THE SYSTEM, INCLUDING CATEGORIES OF USERS AND PURPOSES FOR SUCH USES:

a. Provided to Federal, State, or local governments and agencies to report medical conditions and other data required by law; to aid in preventive

health and communicable disease conrol problems;

b. Provided to Department of Agriculture for use in determining eligibility to participate in the Child Care Food Programs;

c. Records for children provided care in U.S. Coast Guard programs will be in the custody of and disclosed to the care provider; and

d. See Prefatory Statement of General Routine Uses.

POLICIES AND PRACTICES FOR STORING, RETRIEVING, ACCESSING, RETAINING, AND DISPOSING OF RECORDS IN THE SYSTEM:

STORAGE:

Maintained on forms in file folders or in computer file.

RETRIEVABILITY:

Name of child.

SAFEGUARDS:

a. Files are maintained in a secured filing cabinet. Access is limited to authorized center staff.

b. Files for child care in U.S. Coast Guard family quarters are maintained in a cabinet or drawer in the quarters.

RETENTION AND DISPOSAL:

a. Child's record file is destroyed 3 years after date of last action. Registration/medical forms may be sent to another facility if child transfers. Child Care Food Program eligibility records are transferred to an audit file at the end of each year where they are not retrieved by child's name. Audit records are destroyed after 3 years or after audited, whichever is sooner.

SYSTEM MANAGER(S) AND ADDRESS:

Chief, Office of Personnel and Training, (G–P), Department of Transportation, United States Coast Guard, Washington, DC 20593–0001.

NOTIFICATION PROCEDURE:

a. Written request or personal visit to the child care facility which provided care; or

b. Written request to Commandant (G–TIS), U.S. Coast Guard, Washington, DC 20593–0001.

Proof of identity may be required prior to permitting access to records. Written request should include full name of the individual requestor and the full name of the child whose records are requested.

RECORD ACCESS PROCEDURES:

Same as Notification Procedure.

CONTESTING RECORD PROCEDURES:

Same as Notification Procedure.

RECORD SOURCE CATEGORIES:

Parents or medical personnel familiar with the child's medical history.

SYSTEMS EXEMPTED FROM CERTAIN PROVISIONS OF THE ACT:

None.

[FR Doc. 90–2609 Filed 2–5–90; 8:45 am]

BILLING CODE 4910–62–M

Federal Highway Administration

Environmental Impact Statement: Alameda and Santa Clara Counties, CA

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of intent.

SUMMARY: The FHWA is reissuing this notice to advise the public that environmental impact statements will be prepared for proposed transportation projects in Alameda and Santa Clara Counties, California. The original notice was published in the October 13, 1989 issue of the **Federal Register** but the scoping meetings were never held due to the earthquake that struck the San Francisco Bay Area on October 17, 1989.

FOR FURTHER INFORMATION CONTACT: C.G. Clinton, District Engineer, Federal Highway Administration, P.O. Box 1915, Sacramento, California 95812–1915, Telephone: (916) 551–1314.

SUPPLEMENTARY INFORMATION: Pursuant to the Federal Surface Transportation Act of 1987, section 149 (Demonstration Projects), the FHWA, in cooperation with Caltrans, will demonstrate methods of improving access to and alleviating congestion on Interstate 880 and its access roads, including access roads from Oakland International Airport and Alameda Island, California.

This demonstration project will comprise the following:

- A first tier (planning level) environmental impact statement (EIS) focusing on broad issues such as general location, type of facility, land use implications, and impacts in general of the major alternatives. The study limits are generally from the I–80/I–880/I–580 Distribution Structure to Hegenberger Road in the city of Oakland.
- An EIS (project level) addressing location, type of facility and specific details on project impacts, cost, and mitigation measures of major alternatives. The study limits are from Hegenberger Road in the city of Oakland to Route 84 in the city of Newark.
- A first tier (planning level) EIS focusing on broad issues such as general location, type of facility, land use implications, and impacts in general of the major alternatives. The study limits are from Route 84 in the city of Newark to generally Route 237 in Santa Clara County.

The range of alternatives to be studied will include:

- Widening and/or modifications to existing I–880 with and without High Occupancy Vehicle (HOV) facilities.
- New alignment freeway/multimodal facility with and without High Occupancy Vehicle (HOV) facilities (State Route 61).
- A combination of the above.
- No project alternative.

Scoping meetings will be held for affected Federal, State, and local agencies and the public to solicit comments on the scope of the studies. The meetings will be held at 7 p.m. on the following dates at these locations:

Thursday, February 8, 1990, John Muir Junior High School, Student Cafeteria, 1444 Williams Street, San Leandro, CA.

Tuesday, February 13, 1990, Mt. Eden High School, Cafeteria, 2300 Panama Street, Hayward, CA.

Wednesday, February 21, 1990, Newark Junior High School, Cafetorium, 6201 Lafayette Avenue, Newark, CA.

A series of public meetings will also be held during the course of the environmental studies to inform and receive input from the public. Each draft environmental impact statement will be circulated for public and agency review and comment followed by a formal public hearing. Public notice will be given of the time and place of the meetings and hearings.

To ensure that the full range of issues related to these proposed actions are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning these proposed actions and the EISs should be directed to the FHWA at the address provided previously in this Notice.

(Catalog of Federal Domestic Assistance and Program Number 20.205, Highway Research, Planning and Construction. The regulations implementing Executive Order 12371 regarding intergovernmental consultation on Federal Programs and activities apply to this program.)

C. Glenn Clinton,

District Engineer, Sacramento, California.

[FR Doc. 90–2612 Filed 2–5–90; 8:45 am]

BILLING CODE 4910–22–M

DEPARTMENT OF THE TREASURY

Public Information Collection Requirements Submitted to OMB for Review

Date: January 30, 1990.

The Department of Treasury has submitted the following public information collection requirements(s) to OMB for review and clearance under the Paperwork Reduction Act of 1980, Public Law 96-511. Copies of the submission(s) may be obtained by calling the Treasury Bureau Clearance Officer listed. Comments regarding this information collection should be addressed to the OMB reviewer listed and to the Treasury Department Clearance Officer, Department of the Treasury, Room 2224, 1500 Pennsylvania Avenue, NW., Washington, DC 20220.

Internal Revenue Service

OMB Number: 1545-0232.
Form Number: IRS Form 6497.
Type of Review: Revision.
Title: Information Return of Nontaxable Energy Grants or Subsidized Financing.
Description: Form 6497 is used by any governmental agency or its agents that make nontaxable grants or subsidized financing for energy conservation or production programs. We use the information from the form to ensure that recipients have not claimed tax credits or other benefits with respect to the grant or subsidized financing (no "double dipping").
Respondents: State or local governments, Farms, Businesses or other for-profit, Federal agencies or employees, Small businesses or organizations.
Estimated Number of Responses/ Recordkeeping: 250.
Estimated Burden Hours Per Respondent/Recordkeeper: Recordkeeping 2 hrs., 23 mins.; Learning about the law or the form 18 mins.; Preparing, copying, assembling, and sending the form to IRS 21 mins.
Frequency of Response: Annually.
Estimated Total Recordkeeping/ Reporting Burden: 760 hours.

OMB Number: 1545-1033.
Form Number: IRS Form 8453-E.
Type of Review: Revision.
Title: Annual Return/Report or Registration Statement of Employee Benefit Plan (With fewer than 100 participants), Magnetic Media/ Electronic Filing.
Description: This form will be used to secure taxpayer signatures and declarations in conjnction with the Electronic Filing of Form 5500-C/R. This form, together with the electronic transmission, will comprise the annual information return.
Respondents: Individuals or households, Businesses or other for-profit.
Estimated Number of Responses/ Recordkeepers: 50,000.
Estimated Burden Hours Per Respondent/Recordkeeper: Recordkeeping 7 mins.; Learning about the law or the form 2 mins.; Peparing the form 20 mins.; Copying, assembling, and sending the form to IRS 20 mins.
Frequency of Response: Annually.
Estimated Total Reporting/ Recordkeeping Burden: 41,000 hours.
Clearance Officer: Garrick Shear (202) 535-4297, Internal Revenue Service, Room 5571, 1111 Constitution Avenue, NW., Washington, DC 20224.
OMB Reviewer: Milo Sunderhauf (202) 395-6880, Office of Management and Budget, Room 3001, New Executive Office Building, Washington, DC 20503.

Lois K. Holland,
Departmental Reports Management Officer.
[FR Doc. 90-2619 Filed 2-5-90; 8:45 am]
BILLING CODE 4830-01-M

Office of Thrift Supervision

Colonial Savings and Loan Assoc., F.A.; Cape Girardeau, MO; Appointment of Conservator

Notice is hereby given that, pursuant to the authority contained in section 5(d)(2) (B) and (H) of the Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery, and Enforcement Act of 1989, the Office of Thrift Supervision has duly appointed the Resolution Trust Corporation as sole Conservator for Colonial Savings and Loan Association, F.A., Cape Girardeau, Missouri ("Association") on January 26, 1990.

Dated: January 31, 1990.
By the Office of Thrift Supervision.
Nadine Y. Washington,
Executive Secretary.
[FR Doc. 90-2593 Filed 2-5-90; 8:45 am]
BILLING CODE 6720-01-M

Colonial Federal Savings and Loan Assoc.; Cape Girardeau, MO; Appointment of Receiver

Notice is hereby given that, pursuant to the authority contained in section 5(d)(2)(A) of the Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery, and Enforcement Act of 1989, the Office of Thrift Supervision has duly appointed the Resolution Trust Corporation as sole Receiver for Colonial Federal Savings and Loan Association, Cape Girardeau, Missouri ("Association") on January 26, 1990.

Dated: January 31, 1990.
By the Office of Thrift Supervision.
Nadine Y. Washington,
Executive Secretary.
[FR Doc. 90-2599 Filed 2-5-90; 8:45 am]
BILLING CODE 6720-01-M

First Savings Assoc., F.A., Bismarck, ND; Appointment of Conservator

Notice is hereby given that, pursuant to the authority contained in sections 5(d)(2) (B) and (H) of the Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery and Enforcement Act of 1989, the Office of Thrift Supervision has duly appointed the Resolution Trust Corporation as sole Conservator for First Savings Association, F.A., Bismarck, North Dakota ("Association"), on January 26, 1990.

Dated: January 31, 1990.
By the Office of Thrift Supervision.
Nadine Y. Washington,
Executive Secretary.
[FR Doc. 90-2594 Filed 2-5-90; 8:45 am]
BILLING CODE 6720-01-M

First Federal Savings and Loan Association of Bismarck, Bismarck, ND; Appointment of Receiver

Notice is hereby given that, pursuant to the authority contained in sections 5(d)(2) (A) and (B) of the Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery and Enforcement Act of 1989, the Office of Thrift Supervision has duly appointed the Resolution Trust Corporation as sole Receiver for First Federal Savings and Loan Association of Bismarck, Bismarck, North Dakota ("Association"), on January 26, 1990.

Dated: January 31, 1990.
By the Office of Thrift Supervision.
Nadine Y. Washington,
Executive Secretary.
[FR Doc. 90-2600 Filed 2-5-90; 8:45 am]
BILLING CODE 6720-01-M

[No. AC-3]

Gem Savings Assoc.; Final Action; Approval of Conversion Application

Date: January 30, 1990.

Notice is hereby given that on January 30, 1990, the Director of the Office approved the application of Gem Savings Association, Dayton, Ohio, for permission to convert to the stock form of organization pursuant to a voluntary supervisory conversion, and the acquisition of the conversion stock by

National City Corporation, Cleveland, Ohio.

By the Office of Thrift Supervision.

Nadine Y. Washington,

Executive Secretary.

[FR Doc. 90-2592 Filed 2-5-90; 8:45 am]

BILLING CODE 6720-01-M

Grand Prairie Federal Savings and Loan Assoc., Stuttgart, AR; Appointment of Conservator

Notice is hereby given that, pursuant to the authority contained in sections 5(d)(2) (B) and (H) of the Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery and Enforcement Act of 1989, the Office of Thrift Supervision has duly appointed the Resolution Trust Corporation as sole Conservator for Grand Prairie Federal Savings and Loan Association, Stuttgart, Arkansas ("Association"), on January 26, 1990.

Dated: January 31, 1990.

By the Office of Thrift Supervision.

Nadine Y. Washington,

Executive Secretary.

[FR Doc. 90-2595 Filed 2-5-90; 8:45 am]

BILLING CODE 6720-01-M

Grand Prairie Federal Savings and Loan Assoc., Stuttgart, AR; Appointment of Receiver

Notice is hereby given that, pursuant to the authority contained in section 5(d)(2)(A) of the Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery and Enforcement Act of 1989, the Office of Thrift Supervision has duly appointed the Resolution Trust Corporation as sole Receiver for Grand Prairie Savings and Loan Association, Stuttgart, Arkansas ("Association"), on January 26, 1990.

Dated: January 31, 1990.

By the Office of Thrift Supervision.

Nadine Y. Washington,

Executive Secretary.

[FR Doc. 90-2601 Filed 2-5-90; 8:45 am]

BILLING CODE 6720-01-M

Replacement of Conservator with a Receiver; Modern Federal Savings and Loan Association; Grand Junction, CO

Notice is hereby given that, pursuant to the authority contained in subdivision (F) of section 5 (d)(2) of the Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery and Enforcement Act of 1989, the Office of Thrift Supervision duly replaced the Resolution Trust Corporation as Conservator for Modern Federal Savings and Loan Association, Grand Junction, Colorado ("Association") with the Resolution Trust Corporation as sole Receiver for the Association on January 26, 1990.

Dated: January 31, 1990.

By the Office of Thrift Supervision.

Nadine Y. Washington,

Executive Secretary.

[FR Doc. 90-2602 Filed 2-5-90; 8:45 am]

BILLING CODE 6720-01-M

Monroe Savings Bank, FSB, Rochester, NY; Appointment of Receiver

Notice is hereby given that, pursuant to the authority contained in section 5 (d)(2) (B) and (H) of the Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery and Enforcement Act of 1989, the Office of Thrift Supervision has duly appointed the Federal Deposit Insurance Corporation as sole Receiver for Monroe Savings Bank, FSB, Rochester, New York ("Association") on January 26, 1990.

Dated: January 31, 1990.

By the Office of Thrift Supervision.

Nadine Y. Washington,

Executive Secretary.

[FR Doc. 90-2603 Filed 2-5-90; 8:45 am]

BILLING CODE 6720-01-M

Palo Duro Federal Savings and Loan Assoc., Amarillo, TX; Appointment of Conservator

Notice is hereby given that, pursuant to the authority contained in section 5 (d)(2) (B) and (H) of the Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery and Enforcement Act of 1989, the Office of Thrift Supervision has duly appointed the Resolution Trust Corporation as sole Conservator for Palo Duro Savings and Loan Association, Amarillo, Texas ("Association") on January 26, 1990.

Dated: January 31, 1990.

By the Office of Thrift Supervision.

Nadine Y. Washington,

Executive Secretary.

[FR Doc. 90-2596 Filed 2-5-90; 8:45 am]

BILLING CODE 6720-01-M

Palo Duro Savings and Loan Assoc., Amarillo, TX; Appointment of Receiver

Notice is hereby given that, pursuant to the authority contained in section 5 (d)(2)(C) of the Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery and Enforcement Act of 1989, the Office of Thrift Supervision has duly appointed the Resolution Trust Corporation as sole Receiver for Palo Duro Savings and Loan Association, Amarillo, Texas ("Association"), docket No. 7840 on January 26, 1990.

Dated: January 31, 1990.

By the Office of Thrift Supervision.

Nadine Y. Washington,

Executive Secretary.

[FR Doc. 90-2604 Filed 2-5-90; 8:45 am]

BILLING CODE 6720-01-M

Uvalde Federal Savings and Loan Assoc., Uvalde, TX; Appointment of Conservator

Notice is hereby given that, pursuant to the authority contained in section 5 (d)(2) (B) and (H) of the Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery, and Enforcement Act of 1989, the Office of Thrift Supervision has duly appointed the Resolution Trust Corporation as sole Conservator for Uvalde Federal Savings and Loan Association, Uvalde, Texas ("Association"), on January 26, 1990.

Dated: January 31, 1990.

By the Office of Thrift Supervision.

Nadine Y. Washington,

Executive Secretary.

[FR Doc. 90-2597 Filed 2-5-90; 8:45 am]

BILLING CODE 6720-01-M

Uvalde Savings and Loan Assoc., Uvalde, TX; Appointment of Receiver

Notice is hereby given that, pursuant to the authority contained in section 5 (d)(2)(C) of the Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery, and Enforcement Act of 1989, the Office of Thrift Supervision has duly appointed the Resolution Trust Corporation as sole Receiver for Uvalde Savings and Loan Association, Uvalde, Texas ("Association"), on January 26, 1990.

Dated: January 31, 1990.

By the Office of Thrift Supervision.

Nadine Y. Washington,

Executive Secretary.

[FR Doc. 90-2605 Filed 2-5-90; 8:45 am]

BILLING CODE 6720-01-M

[No.: AC-2]

Watauga Savings and Loan Assoc.; Final Action Approval of Supervisory Conversion Application

Date: January 30, 1990.

Notice is hereby given that on January 30, 1990, the Director of the Office of Thrift Supervision approved the applications of Watauga Savings and Loan Association, Boone, North Carolina, for permission to convert to the stock form of organization pursuant to a voluntary supervisory conversion, and Peoples Bancorporation, Rocky Mount, North Carolina, for permission to acquire 100 percent of Watauga Savings and Loan Association's outstanding stock subsequent to the conversion.

By the Office of Thrift Supervision.

Nadine Y. Washington,

Executive Secretary.

[FR Doc. 90-2591 Filed 2-5-90; 8:45 am]

BILLING CODE 6720-01-M

Williamsburg Federal Savings and Loan Assoc., Salt Lake City, VT; Appointment of Conservator

Notice is hereby given that, pursuant to the authority contained in section 5 (d)(2) (B) and (H) of the Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery and Enforcemet Act of 1989, the Office of Thrift Supervision has duly appointed the Resolution Trust Corporation as sole Conservator for Williamsburg Federal Savings and Loan Association, Sale Lake City, Utah ("Association") on January 26, 1990.

Dated: January 31, 1990.

By the Office of Thrift Supervision.

Nadine Y. Washington,

Executive Secretary.

[FR Doc. 90-2598 Filed 2-5-90; 8:45 am]

BILLING CODE 6720-01-M

Williamsburg Savings Bank, Salt Lake City, UT; Appointment of Receiver

Notice is hereby given that, pursuant to the authority contained in section 5(d)(2)(A) of he Home Owners' Loan Act of 1933, as amended by section 301 of the Financial Institutions Reform, Recovery and Enforcement Act of 1989, the Office of Thrift Supervision has duly appointed the Resolution Trust Corporation as sole Receiver for Williamsburg Savings Bank, Sale Lake Salt, Utah ("Association") on January 26, 1990.

Dated: January 31, 1990.

By the Office of Thrift Supervision.

Nadine Y. Washington,

Executive Secretary.

[FR Doc. 90-2606 Filed 2-5-90; 8:45 am]

BILLING CODE 6720-01-M

UNITED STATES SENTENCING COMMISSION

Sentencing Guidelines for United States Courts; Public Hearing

AGENCY: United States Sentencing Commission.

ACTION: Notice of hearing.

SUMMARY: The Commission is considering amendments to its guidelines, policy statements, and commentary that would govern the sentencing of organizations in Federal courts. The Commission's proposed guidelines, policy statements, and accompanying commentary were published in the **Federal Register**, Vol. 54, No. 215, Nov. 8, 1989. The Commission may report the proposed amendments to Congress on or before May 1, 1990. A public hearing will be held on the proposals and any other aspect of the sentencing guidelines, policy statements, and commentary as they apply to the sentencing of organizations.

DATES: The Commission has scheduled a public hearing on February 14, 1990 in the Ceremonial Courtroom of the United States Courthouse in Washington, DC on the proposed additions to sentencing guidelines, policy statements, and commentary. The hearing will begin at 9:30 a.m.

FOR FURTHER INFORMATION CONTACT: Paul K. Martin, Communications Director, Telephone: (202) 662-8800.

SUPPLEMENTARY INFORMATION: The United States Sentencing Commission is an independent agency in the judicial branch of the U.S. Government. The Commission is empowered by 28 U.S.C. 994(a) to promulgate sentencing guidelines and policy statements for Federal courts.

Ordinarily, the Administrative Procedure Act rulemaking requirements are inapplicable to judicial agencies; however, 28 U.S.C. 994(x) makes the Administrative Procedure Act rulemaking provisions of U.S.C. 553 applicable to the promulgation of sentencing guidelines by the Commission.

William W. Wilkins, Jr.

Chairman.

[FR Doc. 90-2635 Filed 2-5-90; 8:45 am]

BILLING CODE 2210-40-M

Sunshine Act Meetings

Federal Register
Vol. 55, No. 25
Tuesday, February 6, 1990

This section of the FEDERAL REGISTER contains notices of meetings published under the "Government in the Sunshine Act" (Pub. L. 94-409) 5 U.S.C. 552b(e)(3).

FEDERAL COMMUNICATIONS COMMISSION

Open Commission Meeting Thursday, February 8, 1990

February 1, 1990.

The Federal Communications Commission will hold an Open Meeting on the subjects listed below on Thursday, February 8, 1990, which is scheduled to commence at 9:30 a.m., in Room 856, at 1919 M Street NW.

Item No., Bureau, and Subject

1—Mass Media—Title: *Public Notice* concerning improvements in processing of commercial FM applications for new facilities. Summary: The Commission will consider the adoption of a *Public Notice* announcing four FM processing changes relating to applications for new stations.

2—Mass Media—Title: Notice of Proposed Rulemaking and Notice of Inquiry to modify rules pertaining to the Multipoint Distribution Service, Instructional Television Fixed Service, Private Operational-Fixed Microwave Service, and Cable Television Relay Service. Summary: The Commission will consider whether to review and modify certain rules and policies governing various microwave channels that can be collectively utilized to provide "wireless cable," looking toward facilitating the growth of this service as a competitive alternative in the video marketplace.

3—Private Radio—Title: Amendment of Part 94 of the Rules Regarding Point-to-Multipoint Use of the 2.5, 10.6, and 18 GHz Bands by Private Operational Fixed Microwave Licensees. (PR Docket No. 88-191) Summary: The Commission will consider a First Report and Order that discusses the technical and operational requirements for point-to-multipoint operations licensed under Part 94 of the Rules.

4—Private Radio—Title: Amendment of Part 97 of the Commission's Rules Concerning the Establishment of a Codeless Class of Amateur Operator License. Summary: The Commission will consider whether to propose a codeless class of amateur operator license.

5—Chief Engineer—Title: Mobile-Satellite Services Allocation in the 1530-1544/1626.5-1646.5 MHz bands. (RM-6459) Summary: The Commission will decide whether to adopt a Notice of Proposed Rule Making to allocate spectrum for the Mobile-Satellite Service in the 1530-1544/1626.5-1645.5 MHz bands.

6—Chief Engineer—Title: 900 MHZ Government/non-Government Fixed Service. (Gen Docket No. 82-243) Summary: The Commission will decide whether to adopt a Memorandum Opinion and Order addressing Petitions for Clarification/Reconsideration of its *Second Report and Order* in this proceeding.

This meeting may be continued the following work day to allow the Commission to complete appropriate action.

Additional information concerning this meeting may be obtained from Audrey Spivack, Office of Public Affairs, telephone number (202) 632-5050.

Issued: February 1, 1990.

Federal Communications Commission.

Donna R. Searcy,

Secretary.

[FR Doc. 90-2782 Filed 2-2-90; 10:33 am]

BILLING CODE 6712-01-M

FEDERAL COMMUNICATIONS COMMISSION

Closed Commission Meeting Thursday, February 8, 1990

February 1, 1990.

The Federal Communications Commission will hold a Closed Meeting in Room 814 on the subjects listed below on Thursday, February 8, 1990, following the Open Meeting, which is scheduled to commence at 9:30 a.m., in Room 856, at 1919 M Street NW.

Item No., Bureau, and Subject

1—General Counsel—Application for Review in the Westerville, Ohio FM renewal proceeding (BC Docket No. 82-282).

2—General Counsel—Applications for Review in the San Francisco, California comparative renewal proceeding (KQEC(TV), KQED-TV, and KQED-FM; MM Docket Nos. 85-396, 84-567, and 84-568.

3—General Counsel—Petitions for Reconsideration, Request for Stay, and Petition for Rulemaking in the Marco, Florida FM proceeding (MM Docket No. 87-244).

These items are closed to the public because they concern Adjudicatory Matters. (See 47 CFR 0.603 (j)).

The following persons are expected to attend:

Commissioners and their Assistants,
Managing Director and members of his staff,
The Secretary,
General Counsel and members of his staff,
Director, Office of Public Affairs and members of her staff.

Action by the Commission January 25, 1990, Chairman Sikes; Commissioners Quello, Marshall, and Barrett voting to consider these matters in closed session.

This meeting may be continued the following work day to allow the Commission to complete appropriate action.

Additional information concerning this meeting may be obtained from Audrey Spivack, Office of Public Affairs, telephone number (202) 632-5050.

Issued: February 1, 1990.

Federal Communications Commission

Donna R. Searcy,

Secretary.

[FR Doc. 90-2783 Filed 2-2-90; 10:33 am]

BILLING CODE 6712-01-M

FEDERAL RESERVE SYSTEM (BOARD OF GOVERNORS)

TIME AND DATE: 10:00 a.m., Friday, February 9, 1990.

PLACE: Marriner S. Eccles Federal Reserve Board Building, C Street entrance between 20th and 21st Streets, NW., Washington, DC 20551.

STATUS: Open.

MATTERS TO BE CONSIDERED:

1. Publication for comment of proposed amendment to Regulation Y (Bank Holding Companies and Change in Bank Control) implementing the Financial Institutions Reform, Recovery, and Enforcement Act of 1989, regarding procedures for notices of changes in officers and directors of certain bank holding companies and state member banks.

2. Proposals regarding the budget of the Office of the Inspector General.

3. Any items carried forward from a previously announced meeting.

Note.—This meeting will be recorded for the benefit of those unable to attend. Cassettes will be available for listening in the Board's Freedom of Information Office, and copies may be ordered for $5 per cassette by calling (202) 452-3684 or by writing to:

Freedom of Information Office, Board of Governors of the Federal Reserve System, Washington, DC 20551.

CONTACT PERSON FOR MORE INFORMATION: Mr. Joseph R. Coyne, Assistant to the Board; (202) 452-3204.

Dated: February 2, 1990.

Jennifer J. Johnson,

Associate Secretary of the Board.

[FR Doc. 90-2795 Filed 2-2-90; 11:11 am]

BILLING CODE 6210-01-M

FEDERAL RESERVE SYSTEM (BOARD OF GOVERNORS)

TIME AND DATE: Approximately 11:30 a.m., Friday, February 9, 1990, following a recess at the conclusion of the open meeting.

PLACE: Marriner S. Eccles Federal Reserve Board Building, C Street entrance between 20th and 21st Streets, NW., Washington, DC 20551.

STATUS: Closed.

MATTERS TO BE CONSIDERED:

1. Report of the operations reviews of the Office of the Executive Director for Information Resources Management, the Division of Hardware and Software Systems, and the Division of Applications Development and Statistical Services. (This item was originally announced for a closed meeting on January 22, 1990.)

2. Report of the operations reviews of the Office of the Staff Director for Federal Reserve Bank Activities and the Division of Federal Reserve Bank Operations.

3. Personnel actions (appointments, promotions, assignments, reassignments, and salary actions) involving individual Federal Reserve System employees.

4. Any items carried forward from a previously announced meeting.

CONTACT PERSON FOR MORE INFORMATION: Mr. Joseph R. Coyne, Assistant to the Board; (202) 452-3204. You may call (202) 452-3207, beginning at approximately 5 p.m. two business days before this meeting, for a recorded announcement of bank holding company applications scheduled for the meeting.

Dated: February 2, 1990.

Jennifer J. Johnson,

Associate Secretary of the Board.

[FR Doc. 90-2796 Filed 2-2-90; 11:11 am]

BILLING CODE 6210-01-M

NUCLEAR REGULATORY COMMISSION

DATE: Weeks of February 5, 12, 19, and 26, 1990.

PLACE: Commissioners' Conference Room, 11555 Rockville Pike, Rockville, Maryland.

STATUS: Open and Closed.

MATTERS TO BE CONSIDERED:

Week of February 5

Thursday, February 8

3:30 p.m.—Affirmation/Discussion and Vote (Public Meeting)

a. Final Rule to Prohibit Agreements Related to Employment that Would Restrict the Free Flow of Information to the Commission (Tentative)

b. Motion for Protective Order Regarding an Administrative Subpoena Issued by the Staff (Tentative)

Friday, February 9

2:00 p.m.—Briefing by Executive Branch (Closed—Ex. 1)

Week of February 12 (Tentative)

Wednesday, February 14

2:00 p.m.—Briefing on Status of Industry's Implementation of Unresolved Safety Issues (Public Meeting)

Thursday, February 15

9:00 a.m.—Periodic Briefing on Operating Reactors and Fuel Facilities (Public Meeting)

11:30 a.m.—Affirmation/Discussion and Vote (Public Meeting) (if needed)

Week of February 19 (Tentative)

Tuesday, February 20

2:00 p.m.—Annual Briefing on Medical Use of Byproduct Material (Public Meeting)

Wednesday, February 21

2:00 p.m.—Briefing by Advisory Committee on Nuclear Waste (ACNW) (Public Meeting)

3:30 p.m.—Affirmation/Discussion and Vote (Public Meeting) (if needed)

Week of February 26 (Tentative)

Thursday, March 1

10:00 a.m.—Briefing on Recommended Action for Substandard Parts (Public Meeting)

11:30 a.m.—Affirmation/Discussion and Vote (Public Meeting) (if needed)

Note.—Affirmation sessions are initially scheduled and announced to the public on a time-reserved basis. Supplementary notice is provided in accordance with the Sunshine Act as specific items are identified and added to the meeting agenda. If there is no specific subject listed for affirmation, this means that no item has as yet been identified as requiring any Commission vote on this date.

To verify the status of meetings call (Recording)—(301) 492-0292.

CONTACT PERSON FOR MORE INFORMATION: William Hill (301) 492-1661.

William M. Hill, Jr.,

Office of the Secretary.

February 1, 1990.

[FR Doc. 90-2842 Filed 2-2-90; 2:05 pm]

BILLING CODE 7590-01-M

PAROLE COMMISSION

Record of Vote of Meeting Closure

(Public Law 94-409)
(5 U.S.C. 552b)

I, Cameron M. Batjer, Vice Chairman of the United States Parole Commission, presided at a meeting of said Commission which started at nine o'clock a.m. on Wednesday, January 31, 1990 at the Commission's Central Office, 5550 Friendship Boulevard, Chevy Chase, Maryland 20815. The meeting ended at or about 12:30 p.m. The purpose of the meeting was to decide approximately 17 appeals from National Commissioners' decisions pursuant to 28 CFR 2.27. Six Commissioners were present, constituting a quorum when the vote to close the meeting was submitted.

Public announcements further describing the subject matter of the meeting and certifications of General Counsel that this meeting may be closed by vote of the Commissioners present were submitted to the Commissioners prior to the conduct of any other business. Upon motion duly made, seconded, and carried, the following Commissioners voted that the meeting be closed: Cameron M. Batjer, Jasper Clay, Jr., Vincent Fechtel, Jr., Carol Pavilack Getty, Victor M.F. Reyes, and G. MacKenzie Rast.

In Witness Whereof, I make this official record of the vote taken to close this meeting and authorize this record to be made available to the public.

Dated: January 31, 1990.

Cameron M. Batjer,

Vice Chairman, U.S. Parole Commission.

[FR Doc. 90-2758 Filed 2-1-90; 4:40 am]

BILLING CODE 4410-01-M

RESOLUTION TRUST CORPORATION

Agency Meeting

Pursuant to the provisions of the "Government in the Sunshine Act" (5 U.S.C. 552b), notice is hereby given that on Tuesday, January 30, 1990, at 2:48 p.m., the Board of Directors of the Resolution Trust Corporation met in closed session to consider certain matters relating to internal corporate activities and the resolution of a thrift institution.

In calling the meeting, the Board determined, on motion of Director C.C. Hope, Jr. (Appointive), seconded by Director Robert L. Clarke (Comptroller of the Currency), concurred in by Director M. Danny Wall, (Director of the Office of Thrift Supervision), and Chairman L. William Seidman, that Corporation business required its consideration of the matters on less than seven days notice to the public; that no earlier notice of the meeting was practicable; that the public interest did not require consideration of the matters in a meeting open to public observation; and that the matters open to public observation; and that the matters could

be considered in a closed meeting by authority of subsections (c)(2), (c)(8), and (c)(9)(B) of the "Government in the Sunshine Act" (5 U.S.C. 552b (c)(2), (c)(8), and (c)(9)(B)).

The meeting was held in the Board Room of the FDIC Building located at 550 17th Street, N.W., Washington, D.C.

Dated: February 1, 1990.

John M. Buckley, Jr.,

Executive Secretary.

[FR Doc. 90-2759 Filed 2-1-90; 5:10 pm.]

BILLING CODE 6714-01-M

Corrections

Federal Register
Vol. 55, No. 25
Tuesday, February 6, 1990

This section of the FEDERAL REGISTER contains editorial corrections of previously published Presidential, Rule, Proposed Rule, and Notice documents. These corrections are prepared by the Office of the Federal Register. Agency prepared corrections are issued as signed documents and appear in the appropriate document categories elsewhere in the issue.

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 628

[Docket No. 900110-0010]

RIN 0648-AC51

Atlantic Bluefish Fishery

Correction

In proposed rule document 90-1960 beginning on page 2853 in the issue of Monday, January 29, 1990 make the following corrections:

1. On page 2853, in the first column, under **DATE**, in the second and third lines, "March 15, 1990" should read "March 12, 1990".

2. On page 2854, in the second column, in the third paragraph, in the fifth line, "10" should read "0".

BILLING CODE 1505-01-D

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of Human Development Services

Federal Council on the Aging; Meeting

Correction

In notice document 90-2360 appearing on page 3489 in the issue of Thursday, February 1, 1990, make the following correction:

On page 3489, in the second column, the signature and title were inadvertently omitted. They should read as set forth below;

Ingrid Azvedo,

Chairperson, Federal Council on the Aging.

BILLING CODE 1505-01-D

NUCLEAR REGULATORY COMMISSION

10 CFR Part 35

RIN 3150-AC65

Basic Quality Assurance Program, Records and Reports of Misadministrations or Events Relating to the Medical Use of Byproduct Material

Correction

In proposed rule document 90-821 beginning on page 1439 in the issue of Tuesday, January 16, 1990, make the following corrections:

1. On page 1439, in the second column, in footnote one, in the fourth line, "the human beings" should read "to human beings".

2. On page 1440, in the first column, in the heading for table 1, in the first line, "Therapy" was misspelled.

3. On page 1441, in the first column, in the last complete paragraph, in the next to last line, "voluntary" was misspelled.

4. On the same page, in the third column, in the first complete paragraph, the ninth line should read, "impact and efficacy of the proposed".

5. On page 1443, in the first column, in the second paragraph, in the fourth line "misadministration" should read "misadministrations".

6. On the same page, in the 2nd column, in the 13th line, "implies" was misspelled.

7. On the same page, in the same column, in the last complete paragraph, in the 9th line, "fractional" was misspelled, and in the 11th line "doze" should read "dose".

8. On the same page, in the same column, in the same paragraph, in the 17th line, "(§ 35.34(b)(i))" should read "(§ 35.34(b)(3)(i))", and in the next to last line "fractions" was misspelled.

9. On page 1444, in the first column, in the last complete paragraph, in the ninth line, "administration" should read "misadministration".

10. On page 1445, in the first column, in the next to last line, "also"should read "already".

11. On page 1446, in the first column, in the last paragraph, in the sixth line, after "per" insert "year per".

12. On page 1447, in the first column, under **IX. Text of Proposed Regulation**, in the fifth line, "5 U.S.C. 533"should read "5 U.S.C. 553".

BILLING CODE 1505-01-D

DEPARTMENT OF THE TREASURY

Internal Revenue Service

26 CFR Parts 1 and 602

[T.D. 8282]

RIN-1545-A023

Election of Reduced Research Credit; Income Taxes

Correction

In rule document 90-1520 beginning on page 2374 in the issue of Wednesday, January 24, 1990 make the following corrections:

1. On page 2375, in the second column, in the first complete paragraph, in the 10th line, "280(c)(3)" should read "280C (c)(3)".

§1.280C-4 [Corrected]

2. On page 2376, in the second column, under § 1.280C-4(b)(2), in the second line, "41(b)" should read "41(h)".

BILLING CODE 1505-01-D

federal register

Tuesday
February 6, 1990

Part II

Department of Labor

Occupational Safety and Health Administration

29 CFR Part 1910

Occupational Exposure to Cadmium; Proposed Rule

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

29 CFR Part 1910

[Docket No. H-057a]

RIN 1218-AB16

Occupational Exposure to Cadmium

AGENCY: Occupational Safety and Health Administration (OSHA), DOL.

ACTION: Proposed rule and notice of hearing.

SUMMARY: The Occupational Safety and Health Administration (OSHA) proposes to amend its existing regulation for occupational exposure to cadmium in the general, construction, agriculture and maritime industries at 29 CFR 1910.1000, Table Z-2, 29 CFR part 1926, 29 CFR part 1928, and 29 CFR 1910.252 (f)(1)(v) and (f)(9). The basis for issuance of this proposal is a preliminary determination by the Assistant Secretary that employees exposed to cadmium face a significant risk to their health at the current permissible exposure limits and that promulgating this proposed standard will substantially reduce that risk. The information gathered so far in this rulemaking demonstrates that employees chronically exposed to levels of cadmium well below the permissible exposure limits are at increased risk of developing kidney dysfunction and cancer. This notice proposes two 8-hour time-weighted average permissible exposure limits (TWA PEL) of 5 and 1 micrograms of cadmium per cubic meter of air as alternatives for all cadmium compounds. OSHA also proposes an excursion limit (EL), measured over a fifteen minute period for all cadmium compounds, of five times the TWA PEL. For a TWA PEL of 5 $\mu g/m^3$ the EL is 25 $\mu g/m^3$. For a TWA PEL of 1 $\mu g/m^3$, the EL is 5 $\mu g/m^3$. In addition, OSHA proposes to set an action level (TWA) of 2.5 $\mu g/m^3$ for a TWA PEL of 5 $\mu g/m^3$ and an action level of 0.5 $\mu g/m^3$ for a TWA PEL of 1 $\mu g/m^3$.

OSHA proposes to require other ancillary provisions for employee protection such as exposure monitoring, medical surveillance, recordkeeping, regulated areas, emergency procedures, preferred methods to control exposure, hazard communication, and proper selection and maintenance of personal protective equipment. OSHA proposes to regulate occupational exposure in general industry, agriculture, the maritime industry and the construction industry.

DATES: Written comments on the proposed standard must be postmarked on or before April 27, 1990. Notices of Intention to Appear at one of the informal hearings must be postmarked on or before April 4, 1990.

Parties requesting more than 10 minutes for their presentation at the hearings and parties submitting documentary evidence at the hearing must submit the full text of their testimony and all documentary evidence no later than April 27, 1990.

The informal hearing will begin at 9:30 a.m. on the first day of the hearing. The informal hearing will begin on June 5, 1990, in Washington, DC, and will continue on July 17, 1990, in Denver, Colorado.

ADDRESSES: Four copies of the notice of intention to appear, testimony and documentary evidence which will be introduced into the hearing record must be sent to Mr. Tom Hall, Division of Consumer Affairs, Occupational Safety and Health Administration, Room N-3647, U.S. Department of Labor, 200 Constitution Ave., NW., Washington, DC 20210. For complete instructions on filing a Notice of Intention to Appear, see below, Section XII, Public Participation—Notice of Hearing.

The hearing beginning on June 5, 1990 will be held in the Departmental Auditorium in the Frances Perkins Building, U.S. Department of Labor, 200 Constitution Ave., NW., Washington, DC 20210. The hearing continuing on July 17, 1990, will be held in the Cripple Creek/Silver Heels Room, Holiday Inn, 1450 Glen Arm Place, Denver, Colorado 80202.

Written comments must be submitted in quadruplicate to the Docket Officer, Docket No. H-057a, Room N-2625, U.S. Department of Labor, 200 Constitution Ave., NW., Washington, DC 20210, (202) 523-7075.

FOR FURTHER INFORMATION CONTACT: Hearing: Mr. Tom Hall, Division of Consumer Affairs, Occupational Safety and Health Administration, U.S. Department of Labor, Room N-3647, 200 Constitution Ave., NW., Washington, DC 20210, (202) 523-8615.

Proposal and Hearing Issues: Mr. James F. Foster, Occupational Safety and Health Administration, U.S. Department of Labor, Room N3647, 200 Constitution Ave., NW., Washington, DC 20210. (202) 523-8151.

SUPPLEMENTARY INFORMATION:

I. Introduction

A. The Format of this Document (The Preamble)

The preamble and the accompanying proposed standard are divided into 14 parts, numbered I-XIV. The following is a table of contents.

Table of Contents

I. Introduction
II. History of the Regulation
III. Pertinent Legal Authority
IV. Chemical Identification, Production, and Use of Cadmium
V. Health Effects
VI. Preliminary Quantitative Risk Assessment
VII. Significance of Risk
VIII. Summary of the Regulatory Impact and Flexibility Analysis
IX. Environmental Impact Assessment
X. Summary and Explanation of the Proposed Standard
XI. Clearance of Information Collection Requirements
XII. Public Participation—Notice of Hearing
XIII. Authority and Signature
XIV. Proposed Standard

B. Summary

This preamble to the proposed standard on occupational exposure to cadmium discusses the events leading to the proposal, the physical properties, manufacture and use of cadmium, the health effects of exposure, and the degree and the significance of the risk. In addition, an analysis of the regulatory impact and technological and economic feasibility of the proposed standard and the rationale behind the specific provisions set forth in the regulatory text are also presented. Public comment on all matters discussed in this notice and all other relevant issues is requested for the purpose of assisting OSHA in the development of a final standard for occupational exposure to cadmium.

C. Issues

Comment is requested on all relevant issues, including health effects, technological and economic feasibility and provisions that should be included in a final cadmium standard. OSHA is proposing, as one alternative, a time-weighted average permissible exposure limit (TWA PEL) of 5 $\mu g/m^3$, with an action level of 2.5 $\mu g/m^3$. Alternatively, OSHA is proposing a TWA PEL of 1 $\mu g/m^3$, with an action level of 0.5 $\mu g/m^3$. Comment is requested on these TWA PELs and on other possible TWA PELs ranging from 0.5 $\mu g/m^3$ to 40 $\mu g/m^3$. In proposing a TWA PEL of 1 $\mu g/m^3$, OSHA acknowledges that respirator usage could be required, at least part-time, for up to 37% of workers in industries and occupations with cadmium exposures. This anticipated reliance on respirators is greater than in previous OSHA rulemakings. OSHA has specifically addressed the issue of respirator usage in the questions below.

In proposing two alternative PELs, OSHA acknowledges that either PEL would be difficult to achieve in some sectors through engineering controls alone. In these latter industry and occupational sectors, reliance upon respirators, as stated above, would be considerable in order to achieve a PEL of 1 $\mu g/m^3$. Much less respirator use would be required to achieve a PEL of 5 $\mu g/m^3$. Whether or not the additional burden of respirator use needed to achieve a PEL of 1 $\mu g/m^3$ is justified depends, in part, upon the accuracy of the data used in the risk assessments. As discussed in the Significance of Risk section of the preamble, the Agency recognizes the uncertainty inherent in quantitative risk assessments and in the extrapolation of risks from animals to humans for estimating carcinogenic potential. Given these uncertainties, OSHA requests comments on whether a PEL of 5 $\mu g/m^3$ may be low enough to appropriately mitigate the risk of cancer.

OSHA seeks comment on the alternatives. Hereinafter, OSHA will refer to the alternative TWA PELs as simply 1(5) $\mu g/m^3$. OSHA will refer to the alternative excursion limits (ELs) of 5 $\mu g/m^3$ for a TWA PEL of 1 $\mu g/m^3$ and 25 $\mu g/m^3$ for a TWA PEL of 5 $\mu g/m^3$ as 5(25) $\mu g/m^3$, respectively. OSHA will refer to the alternative action levels as 0.5(2.5) $\mu g/m^3$ for TWA PELs of 1 and 5 $\mu g/m^3$, respectively.

OSHA is especially interested in answers, supported by evidence and reasons, to the following questions.

1. Do OSHA's proposed TWA PELs of 1 $\mu g/m^3$ and 5 $\mu g/m^3$ substantially reduce a significant risk?

2. Are the proposed TWA PELs of 1 $\mu g/m^3$ and 5 $\mu g/m^3$ technologically and economically feasible? Is there evidence other than that presented by OSHA regarding economic and technological feasibility of the proposed PELs?

3. Should a TWA PEL other than 1 $\mu g/m^3$ or 5 $\mu g/m^3$ be adopted? If so, what level, for example 0.5 $\mu g/m^3$, 10 $\mu g/m^3$, 20 $\mu g/m^3$, or 40 $\mu g/m^3$, should be established? Please provide evidence for establishing a lower or higher TWA PEL.

4. Should OSHA revoke the ceiling limits in 29 CFR 1910.1000, Table Z–2 and replace them with a single excursion limit (EL)? If so, should the EL be a 15-minute limit of 5 $\mu g/m^3$, 25 $\mu g/m^3$ or some other alternative?

5. Are the proposed action levels of 0.5 $\mu g/m^3$ and 2.5 $\mu g/m^3$ (as an 8 hour TWA) the appropriate levels for the TWA PELs under consideration? If not, at what level should the action level be set? For instance, although OSHA is proposing an action level of 2.5 $\mu g/m^3$ for a TWA PEL of 5 $\mu g/m^3$, OSHA is also considering an action level of 1 $\mu g/m^3$ for a TWA PEL of 5 $\mu g/m^3$ due to concerns for workers with high past exposures to cadmium. OSHA is also considering special provisions for medical surveillance for these veteran workers. If there were no action level, which provisions currently proposed to be triggered by an action level should be made applicable to cadmium-exposed employees?

6. What is the risk of developing cancer, kidney dysfunction and other adverse health effects that might arise from exposure to cadmium at OSHA's current PELs? What is the risk from exposure to TWA PELs of 0.5 $\mu g/m^3$, 10 $\mu g/m^3$, 20 $\mu g/m^3$ and 40 $\mu g/m^3$? Are there different estimates of risk of adverse health effects, in specific industries or occupations? Are there estimates of risk from quantitative risk assessments other than those used by OSHA, using the same or alternate TWA PELs?

7. How many workers are exposed to cadmium? What are the jobs being performed and their current exposure levels? Please provide individual air cadmium monitoring results for the past 3 years by job classification on a plant-by-plant basis (or, if not available by job classification, by operation). Please accompany the provision of industrial monitoring results with a description of associated engineering and work practice controls, organized on a plant-by-plant, job-by-job, or operation-by-operation, basis.

8. Where exposures are intermittent, what is the duration, frequency and level of exposure? What jobs involve intermittent exposures?

9. What industries (provide Standard Industrial Classification or SIC Codes and descriptions) and processes use cadmium?

10. Should this standard cover the construction industry? If so, should it differ from the current proposal? If so, how? Should the standard cover the agriculture and maritime industries? If so, should it differ and how?

11. What is the lowest level of cadmium exposure achievable by engineering and work practice controls? Please support your answer with a discussion of current exposure levels, current controls, other available controls, efficiency of various controls in reducing exposure levels, and the costs and the time needed for implementation of those controls. For example, can cadmium exposures be reduced by present technologies and work practices to a TWA PEL of 0.5 $\mu g/m^3$?

12. What would be the capital and operating costs required to achieve the proposed TWA PELs and the proposed ELs? Are these costs economically feasible for the affected industries? How, if at all, would extending compliance deadlines affect costs and feasibility?

13. How, if at all, would the costs and economic feasibility of achieving the TWA PEL be affected if the TWA PEL were 0.5, 10, 20 or 40 $\mu g/m^3$ rather than 1 $\mu g/m^3$ or 5 $\mu g/m^3$? To what extent should the degree of respirator usage required to achieve the TWA PEL be considered in determining feasibility?

14. Are there conditions under which respirator use should be permitted in addition to those proposed? What respirator fit testing requirements should be included in a final standard and when should such testing be required? Should respirators be used at all times in regulated areas?

15. Are there any unique conditions in work settings where cadmium is produced or used that make engineering controls infeasible?

16. Have there been any recent technological improvements or changes in the production or use of cadmium for the purpose of improving productivity or product quality that have also resulted in reduction in cadmium exposures?

17. What measurement and analytical methods, in addition to the methods in Appendix E, are available for use in determining compliance with a cadmium exposure limit or action level of less than 0.5 $\mu g/m^3$? Are there sufficient laboratories available to accurately and precisely determine cadmium in air levels? What recommendations, if any, are there for standardizing or otherwise assuring the quality of laboratories that perform these determinations? Is the NIOSH system for standardizing laboratories adequate?

18. Under this proposal, industry has the option of relying upon "objective data" instead of air cadmium monitoring results to document the fact that employees are not exposed at or above the action level. Is this appropriate? What evidence, other than air cadmium monitoring results, should qualify as "objective data" and what, if any, limitations should be put on the use of such data?

19. Under this proposal, two consecutive air monitoring measurements taken at least 7 days apart are required to demonstrate the lowered exposure levels necessary to reduce the frequency of monitoring. Should this time be changed to a longer length of time? If so, how long should this time period be? Should the same minimum length of time between consecutive exposure monitorings apply

to workplaces independently of past exposures?

20. The proposed standard includes requirements for medical surveillance, respirators, personal protective clothing and equipment, hygiene facilities and practices, regulated areas, maintenance of records, housekeeping, employee information and training, and labels and signs. What form should they take? Should these requirements be included in a final standard? To what extent are these provisions currently being employed by industry and what are their costs?

21. Are the proposed medical surveillance provisions inadequate, adequate, or too extensive? Please make specific recommendations and provide rationale. Should the schedule for biological monitoring of urine and blood be more frequent than the schedule for the full medical examination? Are annual pulmonary function tests necessary or can they be conducted less frequently and still provide appropriate protection?

22. What is the most accurate and earliest biological indicator of overexposure to cadmium that can be used to detect preclinical manifestations of kidney disease?

23. Is it reasonable and feasible to use a quantitative measurement of low molecular-weight proteins as a workplace screening method for early detection of cadmium-related kidney dysfunction? If so, is one method preferred over another (e.g. retinol-binding proteins vs. B–2 microglobulins)? What are feasible testing schedules? Please address specifically:

a. Sensitivity and specificity of tests;
b. Any logistical problems associated with collecting, transporting, or analyzing specimens;
c. Issues of feasibility and practicability, including cost;
d. Means for standardizing these tests such that results may be meaningfully interpreted.

24. What are the existing biological indicators of overexposure to cadmium? Which of these are useful in determining overexposure prior to the development of cadmium related kidney dysfunction? Are there sufficient laboratories available with the technology to quantify these indicators for all workers exposed to cadmium at or above the proposed action level? Are these indicators sensitive and specific for cadmium-related dysfunction?

25. Are cadmium levels in the blood and/or urine, commonly used at present, useful indicators of overexposure to cadmium? If so, what levels indicate overexposure to cadmium? Are there sufficient laboratories available with the technology to precisely and accurately determine biological levels of cadmium in blood and urine? Are there recommendations for standardizing or otherwise assuring the quality of the laboratories that perform these determinations? Should specific concentrations of cadmium in the blood and/or in the urine be used to trigger medical removal? If so, what trigger levels for removal are recommended and under what circumstances and on what basis, if any, should the worker be returned?

26. Regarding current work practices for medical removal:

a. What are the current practices for removing workers overexposed to cadmium?
b. What specific biological indicators and what levels are currently being used?
c. For workers who have been removed from cadmium exposed jobs because of overexposure to cadmium, what types of jobs were they given and how long did they remain off the job from which they were removed?
d. Under what circumstances are removed workers returned?
e. On what basis should determinations for returning employees to work be made?
f. What material benefits are these employees receiving, if any, while they are medically removed from work?

27. Are the proposed provisions for temporary medical removal of any employee from exposure at or above the proposed action level when that employee has proteinuria indicative of cadmium toxicity necessary and appropriate? Please address specifically:

a. What advice should be given to workers who manifest tubular proteinuria?
b. Is tubular proteinuria an indication for medical removal?
c. If so, at what specific levels of what specific proteins should workers be removed?
d. If a recommendation is made for medical removal based on tubular proteinuria, under what circumstances, if any, should the worker be returned?
e. On what basis should the determination to return an employee be made?

28. Regarding medical removal:

a. Are the proposed time periods for medical removal adequate?
b. If benefits are needed, what benefits should an employee have while medically removed from work due to adverse health effects of cadmium overexposures?

29. Are the provisions for medical removal of employees who have difficulty breathing while wearing a respirator or during the fit test for respirator usage necessary and appropriate? Under what circumstances and at what levels of lung function loss should a worker be removed for inability to wear respirators? How long should a worker be removed? Can the worker return to work and if so, when? Who should make these decisions and on what criteria?

30. Should employees who have one or more years of occupational exposure to cadmium be treated differently from new employees? If so, in what ways should they be treated differently in order to protect them? Should there be differences in medical surveillance and removal?

31. Laboratory testing with cadmium has demonstrated adverse reproductive effects in animals. Please address specifically:

a. Are there implications for human reproductive effects from workplace exposures?
b. If so, should policies be adopted to address these concerns?
c. What are current practices in considering placement of workers of reproductive age, male and female, in jobs with relatively high exposure to cadmium?

32. Provisions have been included in the proposed standard for medical evaluations at termination of employment of all employees who have been eligible for annual evaluations. OSHA requests comments on all aspects of these provisions, including the potential uses and abuses of such examinations by employers or employees.

33. For the last five years in your plant and industry:

a. What were the total annual volumes and dollar values of production, shipments, and inventories?
b. What was the total annual investment categorized as replacement, expansion, modernization, environmental and health and safety?
c. What were the retained earnings, after tax income, total assets, stockholders' equity, net worth, depreciation charges, and debt-equity, ratios?
d. What were the total annual employment levels and labor turnover for the industries with

cadmium exposures?

OSHA and JACA have performed detailed feasibility analyses for the industry sectors where the impact of this standard would be significant. OSHA believes that the impact in other industrial segments would not be substantial. Comments are requested from all industry segments that may be significantly affected.

34. The cadmium record includes copies of the preliminary Regulatory Impact Analysis, which presents OSHA's feasibility analyses, and the JACA report. Comments are requested on these analyses and on the feasibility and cost effectiveness of alternative PELs, for example, 0.5, 10, 20 or 40 $\mu g/m^3$.

35. The following information is requested from small businesses so that OSHA can better evaluate the impacts of the proposed standard on these organizations and, where appropriate, adapt proposed requirements to take into account their circumstances:

a. What kinds of small businesses or organizations and how many of them would be affected by this proposal?
b. Which, if any, federal rules may duplicate, overlap, or conflict with this proposal?
c. What difficulties will be encountered by small entities when attempting to comply with requirements of the proposed standard? Can some of the requirements be deleted or simplified for small entities, while still achieving comparable protection for their employees?
d. What timetable would be appropriate to allow small entities sufficient time to comply?

36. Please submit any information, data or comments pertaining to possible environmental impacts of this proposal, such as the following:

a. Any positive or negative environmental effects that could result should the proposal be adopted;
b. Beneficial or adverse relationships between the human environment and productivity;
c. Any irreversible commitments of natural resources which could be involved should the proposal be adopted; and
d. Estimates of the degree of reduction of cadmium in the environment effected by the proposed OSHA standard.

In particular, consideration should be given to the potential direct or indirect impacts of the proposal on water and air pollution, energy usage, solid waste disposal, or land use.

37. For which industrial processes are there substitutes for cadmium that are less toxic?

38. OSHA understands that several factors may mean that delay in implementation of the standard is warranted and requests comments on how much time should be allowed before compliance is required. The relevant factors may include time to allow laboratories to standardize their environmental and biological testing and time needed to improve engineering controls.

II. History of the Regulation

A. OSHA's Current PELS

OSHA's present permissible exposure limits were originally developed by the American National Standards Institute. In 1941 the American Standards Association (now American National Standards Institute, or ANSI) set as guidelines an American Defense Emergency Standard of 1000 $\mu g/m^3$ for cadmium and its compounds. This was done to reduce discomfort from exposures to cadmium and to reduce the incidence of acute health effects. ANSI revised its standard to current levels (ANSI Z37.5, 1970) which OSHA adopted in 1971 as a national consensus standard under section 6(a) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 655). OSHA's current PELs, as specified in 29 CFR 1910.1000, Table 2–2 are an 8-hour time-weighted average (TWA PEL) of 100 $\mu g/m^3$ for cadmium fume with a ceiling concentration of 300 $\mu g/m^3$ and an 8-hour TWA of 200 $\mu g/m^3$ for cadmium dust with a ceiling concentration of 600 $\mu g/m^3$. OSHA's existing TWA PEL in the construction industry is 100 $\mu g/m^3$ for cadmium oxide fumes (29 CFR 1910.1926.55).

B. Other Recommendations

In preparing this document, OSHA reviewed the existing regulations for occupational exposures to cadmium in other countries worldwide. The range of existing permissible exposure limits runs from the ban of all non-essential uses of cadmium in Sweden to OSHA's existing TWA PEL of 200 $\mu g/m^3$ for cadmium dust.

Agencies and institutions other than OSHA have revised their air quality standards for cadmium. In 1976, the National Institute for Occupational Safety and Health (NIOSH) recommended that exposures to any form of cadmium should not exceed a concentration greater than 40 $\mu g/m^3$ as a 10-hour TWA or a concentration greater than 200 $\mu g/m^3$ for any 15-minute period. This recommended limit was intended to protect against renal damage and pulmonary disease. In 1984, NIOSH issued a Current Intelligence Bulletin (CIB), which recommended that cadmium and its compounds be regarded as potential occupational carcinogens based on evidence of lung cancer in workers exposed to cadmium in a smelter.

The Environmental Protection Agency (EPA) issued a Health Assessment Document (HAD) for cadmium in 1981 which presented the health effects and potential risk to human health associated with environmental exposure to cadmium. An update of the HAD in 1985 concluded that the epidemiologic evidence is suggestive of a significant risk of lung cancer from exposure to cadmium. According to the EPA's 1984 Proposed Guidelines for Carcinogenic Risk Assessment, cadmium is classified as a Group B1 substance and is thus considered to be a "probable" human carcinogen (Ex. 4–04).

In 1987, the International Agency for Research on Cancer (IARC) of the World Health Organization (WHO) summarized the results from tests for genetic and related effects of a large number of compounds thought to be potentially carcinogenic. The IARC working group of experts evaluated these data as well as epidemiologic and animal studies and concluded that cadmium and cadmium compounds should be classified in Group 2A—"probably carcinogenic to humans" (Ex. 8–681).

Since 1946, the American Conference of Governmental Industrial Hygienists (ACGIH) has recommended that exposures to cadmium be controlled. In 1946, ACGIH recommended a Maximum Allowable Concentration (MAC) of 100 $\mu g/m^3$ for cadmium. After 1948, the MAC was called the Threshold Limit Value (TLV). In 1956, a TLV of 100 $\mu g/m^3$ was assigned to cadmium oxide fume. In 1965, a value of 200 $\mu g/m^3$ for cadmium (metal dusts and soluble salts) was proposed; it was adopted as a recommended value in 1967. In 1970, the ACGIH TLV of 200 $\mu g/m^3$ for cadmium dust and salts remained unchanged, but the TLV for cadmium fume was changed to a ceiling. In 1973, the ACGIH announced its intent to change the TLV for cadmium fume to 50 $\mu g/m^3$ and in 1974 announced its intent to extend this TLV to cadmium dusts and salts. A note was added in 1975 indicating that cadmium oxide production involved carcinogenic or co-carcinogenic potential.

Recently, the ACGIH has recommended further changes in air quality standards for cadmium. They have classified cadmium as a potential human carcinogen and published a Notice of Intent to lower the TLV to 10 $\mu g/m^3$ to protect workers from lung cancer. ACGIH justified this latest change by noting:

> In consideration of the strength of the white rat inhalation studies and with some additional support from the retrospective human mortality study by Thun et al., an A_2 designation as an industrial substance of carcinogenic potential for man is given to cadmium and its compounds (Ex. 8–664).

ACGIH's TLVs are used as guidelines universally. For instance, OSHA used many of the ACGIH TLVs as starting points for the recent Air Contaminants Standards, (54 PA 2332, January 19, 1989), which updated some of the Agency's permissible exposure limits. OSHA has used the ACGIH TLV on cadmium in its current guidelines on interim exposure limits for occupational exposures to cadmium (OSHA Instruction PUB 8–1.4A, 9/26/88, Ex. 8–676).

Unlike ACGIH, however, OSHA must, as part of the overall significant risk determination under section 6(b) rulemaking, consider other factors including all relevant health information, the underlying data, the reasonableness of its risk assessment, and the statistical significance of the findings and the significance of the risk. OSHA's cancer risk assessment, based on human and animal data, indicates that at a TWA PEL of 10 $\mu g/m$ or 1 $\mu g/m$, a significant risk of excess cancer deaths may remain although, as will be discussed, there are uncertainties as to the true risk at these levels.

The ACGIH has for several years been in the process of lowering its TLV of 50 $\mu g/m$ to 10 $\mu g/m^3$ in order to protect workers from lung cancer and kidney damage. It reached this decision partially on the basis of results from a mortality study of cadmium smelter workers (Thun et al., Ex. 4–68). OSHA understands that most recently, ACGIH has been considering levels below 10 $\mu g/m^3$.

The Mine Safety and Health Administration (MSHA) publishes air quality standards which include cadmium. MSHA frequently incorporates, by reference, the ACGIH TLVs as permissible exposure levels. Currently, MSHA is in the process of revising these levels to take account of proposed ACGIH changes in the TLVs. MSHA recently published a Notice of Proposed Rulemaking (54 PA 35760; August 29, 1989), proposing alternative TWA PELs of 10 $\mu g/m$ and 5 $\mu g/m^3$ for cadmium. Under this process, MSHA is seeking comments on the applicability of the ACGIH TLVs for cadmium.

Since 1987, the National Center for Health Statistics (NCHS), Department of Health and Human Services, Center for Disease Control, has included cadmium-in-urine measurements in its current third National Health and Nutrition Examination Survey (NHANES III). This survey, originally started in 1974, provides national estimates of diagnosed and undiagnosed medical conditions, as well as information on normal and abnormal conditions in the general population of the U.S. Such information is used by government agencies to obtain a more complete picture of national health and medical needs (Ex. 8–679). OSHA considers the inclusion of cadmium by NCHS to indicate a high level of concern regarding cadmium-related health effects among the general population, which experiences lower cadmium exposures than most occupational groups.

C. OSHA's Current Proposal

OSHA's current proposal to reduce OSHA's PELs for cadmium exposures is in response to a petition, in 1986, by the Public Citizen Health Research Group (HRG) joined by the International Chemical Workers Union (ICWU). HRG and ICWU petitioned OSHA to issue an Emergency Temporary Standard (ETS) for cadmium providing for a permissible exposure limit (PEL) of 1 $\mu g/m^3$ as an 8-hour TWA and a 5 $\mu g/m^3$ ceiling limit. In support of their position the petitioners cited several studies which they believed provided evidence that workers were in grave danger from occupational exposure to cadmium at and below current PELs. The major human study cited was that by Thun *et al.* (Ex. 4–68), which found significant increases in lung cancer in cadmium smelter workers. The petitioners also cited several animal studies that demonstrate the carcinogenic potential of cadmium. The most notable of these was an inhalation study cited in which rats exposed to cadmium chloride at levels below OSHA's PEL, developed lung cancer while the unexposed controls developed none (Ex. 4–67). Other human studies cited by the petitioners showed statistically significant increases in prostate cancer among battery factory, smelter, and alloy factory workers exposed to cadmium. Other human studies cited by the petitioners also showed evidence of renal damage and non-malignant respiratory disease among workers exposed to cadmium at levels below the PEL. The exposure limits requested by HRG and ICWU were aimed at ensuring that workers would not be at excess risk of cancer and kidney disease.

On July 1, 1987, OSHA denied the Public Citizen HRG and ICWU petition for an ETS, based on it's determination that the record did not support findings that cadmium posed a grave danger as defined by the courts. However, OSHA determined that the current PELs were not sufficiently protective and that the Agency would proceed with permanent rulemaking under section 6(b) of the Act to reduce cadmium exposure.

Under this Act, as part of the overall significant risk determination, 05HA must consider many factors. OSHA's risk assessment indicates a significant cancer risk may exist in the range from 10 $\mu g/m^3$ to 1 $\mu g/m^3$. Based on the animal data, the TWA PEL proposed by 0SHA should be at least as low as 1 $\mu g/m^3$. Over 45 years, this amounts to an overall lifetime occupational exposure of 45 $\mu g/m^3$-years. Although the human data on lung cancer in cadmium smelter workers lead to a lower estimate of cancer risk than does the animal data, analysis of the human data suggests that a significant risk may remain at a PEL of 5 $\mu g/m^3$.

In addition to the carcinogenic potential, cadmium exposure is associated with adverse kidney effects. Based on Kjellstrom's study published in 1977 (Ex. 8–664), preclinical kidney dysfunction (defined as urinary B_2-microglobulin concentrations greater than 290 $\mu g/L$) was observed in 19% of employees with average exposures of 50 $\mu g/m^3$ to cadmium oxide dust for an average of 9 years (or 450 $\mu g/m^3$-years). Only three percent of controls had this level of kidney dysfunction, which gives a relative risk (RR) of 6.3 for kidney dysfunction at exposures of 450 $\mu g/m^3$-years (19% divided by 3% times 100). Kjellstrom's findings are within the range of risks predicted by 0S in its risk assessment.

The ACGIB has characterized this level of kidney dysfunction as follows:

> "Persons excreting 290 $\mu g/L$ B2-microglobulin per liter of urine are not disabled; indeed they will not experience any symptoms. However, the lesion is irreversible and represents a permanent loss of functional reserve. An infection or other condition which compromises renal function, but which would not normally lead to serious illness, could overwhelm the remaining kidney capacity (Ex. 8–664)."

OSHA considers this dysfunction to represent material impairment of health. OSHA's risk assessment predicts an unacceptably high level of kidney dysfunction among workers exposed to

a lifetime occupational cadmium exposure of 10 $\mu g/m^3$. In its quantitative risk assessment, OSHA presents its quantitative risk assessment of both cancer and kidney effects and requests comments on all aspects of this assessment.

In keeping with the recommendations of other federal agencies (e.g., NIOSH and EPA) and the ACGIH' this proposal does not differentiate between fumes and dust. In earlier recommendations, a distinction was made between exposures to fumes and dusts. Since the early 1940's, acute inhalation of cadmium fumes from soldering or welding was known to cause severe health effects such as chemical pneumonitis and death (Ex. 8–678). These properties led researchers to readily e,cept the possibility of adverse health effects associated with exposure to fumes. Now, however, it is generally accepted that overexposures to cadmium in any form results in the same final chronic endpoints, cancer and kidney dysfunction (Exs. 4–27, 4–28, 4–68, and 4–19). By 1970, when ANSI republished their original guidelines, it acknowledged that exposures to cadmium fumes *or* dusts cause irreversible lung damage, proteinuria, and kidney damage. In the mid-1970's the ACGIH announced an intent to change the TLV for all cadmium compounds (fumes, dust, and salts) to 50 $\mu g/m^3$, and the differentiation between fumes and dusts was set aside.

III. Pertinent Legal Authority

This proposed standard and the issuance of a final standard are authorized by sections 6(b), 8(c), and 8(g) (2) of the Occupational Safety and Health Act of 1970 (the Act), (84 stat. 1593; 29 U.S.C. 655(b), 657(g) (2)). Section 6(b) (5) governs the issuance of occupational safety and health standards dealing with toxic materials or harmful physical agents. It states:

> The Secretary, in promulgating standards dealing with toxic materials or harmful physical agents under this subsection shall set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity even if such employee has regular exposure to the hazard dealt with by such standard for the period of his working life. Development of standards under this subsection shall be based upon research, demonstrations, experiments, and such other information as may be appropriate * * *. In addition to the attainment of the highest degree of health and safety protection for the employee, other considerations shall be the latest available scientific data in the field, the feasibility of the standards, and experience gained under this and other health and safety laws. Whenever practicable, the standard promulgated shall be expressed in terms of objective criteria and of the performance desired.

Section 3(8) defines an occupational safety and health standard as:

> a standard which requires conditions, or the adoption or use of one or more practices, means, methods, operations, or processes, reasonably necessary or appropriate to provide safe or healthful employment and places of employment.

The Supreme Court has held that under the Act the Secretary, before issuing any new standard, must determine that it is reasonably necessary and appropriate to remedy a significant risk of material health impairment. *Industrial Union Department* v. *American Petroleum Institute*, 448 U.S. 607 (1980). The court stated that "before he can promulgate any permanent health or safety standard, the Secretary is required to make a threshold finding that a place of employment is unsafe in the sense that significant risks are present and can be eliminated or lessened by a change in practices" (488 U.S. at 642). The Court also stated "that the Act does limit the Secretary's power to requiring the elimination of significant risks" (448 U.S. at 644, n. 49).

The court indicated, however, that the significant risk determination is "not a mathematical straitjacket," and that "OSHA is not required to support its finding that a significant risk exists with anything approaching scientific certainty." The court ruled that "a reviewing court [is] to give OSHA some leeway where its findings must be made on the frontiers of scientific knowledge * * * [and that] the Agency is free to use conservative assumptions in interpreting the data with respect to carcinogens, risking error on the side of overprotection rather than underprotection" (448 U.S. at 655, 656). The court also stated that "while that Agency must support its finding that a certain level of risk exists with substantial evidence, we recognize that its determination that a particular level of risk is 'significant' will be based largely on policy considerations." (448 U.S. at 655, 656, n. 62).

After OSHA has determined that a significant risk exists and that such risk can be reduced by the proposed standard, it must set a standard "which most adequately assures, to the extent feasible on the basis of the best available evidence, that no employee will suffer material impairment of health * * * " (Section 6(b)(5) of the Act). The Supreme Court has interpreted this section to mean that OSHA must enact the most protective standard possible to eliminate a significant risk of material health impairment, subject to the constraints of technological and economic feasibility. *American Textile Manufacturers Institute, Inc.* v *Donovan*, 452 U.S. 490 (1981). The court held that "cost-benefit analysis is not required by the statute because feasibility analysis is." (452 U.S. at 509). The Court stated that the Agency could use cost-effective analysis and choose the least costly of two equally effective standards. (452 U.S. 531, n. 32).

Authority to issue this proposed standard is also found in section 8(c) and (g) of the Act. Section 8(c)(3) gives the secretary authority to require employers to "maintain accurate records of employee exposures to potentially toxic materials or harmful physical agents which are required to be monitored or measured under section 6." Section 8(g)(2) gives the Secretary authority to "prescribe such rules and regulations as he may deem necessary to carry out [his] * * * responsibilities under this Act."

In addition, the Secretary's responsibilities under the Act are amplified by its enumerated purposes (Section 2(b)), which include:

> encouraging employers and employees in their efforts to reduce the number of occupational safety and health hazards at their places of employment, and to stimulate employers and employees to institute new and to perfect existing programs for providing safe and health working conditions; * * *
>
> authorizing the Secretary of Labor to set mandatory occupational safety and health standards applicable to business affecting interstate commerce, and by creating an Occupational Safety and Health Review Commission for carrying out adjudicatory functions under the Act; * * *
>
> building upon advances already made through employer and employee initiative for providing safe and healthful working conditions; * * *
>
> providing for the developing and promulgation of occupational safety and health standards; * * *;
>
> providing for appropriate reporting procedures with respect to occupational safety and health which procedures will help achieve the objectives of the Act and accurately describe the nature of the occupational safety and health problem; * * *;
>
> exploring ways to discover latent diseases * * *; * * *;
>
> establishing causal connections between diseases and work in environmental conditions * * *;
>
> encouraging joint labor-management efforts to reduce injuries and disease arising out of employment * * *;
>
> and * * * developing innovative methods, techniques, and approaches for dealing with

occupational safety and health problems * * *.

Because the proposed cadmium standard is reasonably related to these statutory goals and because the Agency's preliminary judgment is that the evidence satisfies the statutory requirements and that the proposed standard is feasible and substantially reduces a significant risk of cancer and other adverse health effects, the Secretary preliminarily finds that the proposed standard is necessary and appropriate to carry out her responsibilities under the Act.

IV. Chemical Identification, Production, and Use of Cadmium

Cadmium (Chemical Services Registry Number 7740-43-9) is a soft, blue-white, malleable, lustrous metal or a grayish-white powder. Cadmium is a biologically non-essential metal. It occurs in nature in lead, copper, and zinc sulfide ores, and is obtained as a by-product from the extraction, separation and recovery of those metals in refinery plants. World production in 1985 amounted to 18,660 metric tons.

Cadmium metal is produced by three basic processes: fractional precipitation and distillation of roasted zinc ores; direct distillation of cadmium-bearing zinc; and, electrolytic zinc processing. A primary use for cadmium metal is as an anticorrosive, electroplated onto steel. Cadmium may serve as an electrode component in alkaline batteries and may be used in alloys, silver solders, and welding.

Cadmium occurs in one valence state, +2, and does not form stable alkyl compounds or other organometallic compounds of known toxicologic significance. However, cadmium compounds commonly associated with industrial processes such as cadmium oxide, cadmium chloride, and cadmium sulfide, are occupational exposures with potentially serious health effects.

A substantial amount of cadmium sulfide and cadmium sulfoselenide is used in pigments to yield colors ranging from yellow to deep red. These pigments have a high tolerance to heat and to light and are used primarily in coloring plastics, ceramics and paints. Cadmium stearate is used as a stabilizer in plastics because it inhibits the deterioration of the product. Cadmium compounds are also used in smaller amounts in electric batteries and electronic components. Of the many inorganic cadmium compounds, several are quite soluble in water.

Cadmium exposures may also occur in refining and smelting operations. Relative to the metals with which it is found, cadmium volatilizes readily during these processes because of its low boiling point (765 °C) and high vapor pressure. The cadmium then condenses to form fine airborne particles that react almost immediately with oxygen to form respirable cadmium oxide. Other industry groups where exposure to cadmium may occur include electroplating, battery manufacturing, and pigment and plastics manufacturing. In addition, cadmium exposure is associated with welding, brazing, and painting operations in many other industries.

V. Health Effects

A vast amount of literature exists which documents the various non-cancer and cancer health effects in both man and animals from acute and chronic exposure to cadmium. This section will not attempt to refer to all of these studies but will present instead a selective review of the pertinent literature in order to present a condensation of the knowledge and opinion concerning the health effects of cadmium. For greater detail, reviews and cited original articles should be consulted.

83A. Metabolism

Occupational exposure to cadmium occurs primarily through inhalation. However, cadmium may also be ingested either directly (from contaminated hands when workers eat or smoke at the workplace) or indirectly from inhaled material that is deposited in the respiratory tract, cleared by mucociliary transport and then swallowed. Other environmental sources of cadmium, such as food and cigarette smoke, may add to a worker's total cadmium exposure. Exposure by inhalation is either in the form of small particles of cadmium fume or larger particles of cadmium dust. The extent of deposition depends on the particle size. It is estimated that ten percent of the particles of approximately 5.0 micrometers mean mass diameter (MMD) are deposited in the lung, whereas 50 percent of the particles of 1.0 micrometer MMD are deposited in the lung.

Of the amount deposited, 20 to 25 percent is systemically absorbed. (Exs. 8-619, 8-086a, p. 107). After absorption, cadmium is distributed to various organs throughout the body, particularly to the liver, kidney and muscles. Approximately one half to one third of the body burden of cadmium is found in the kidneys after chronic low-level exposure, with the highest concentrations found in the renal cortex. (Ex. 8-086a, p. 168). One sixth and one fifth of the body burden are found in the liver and muscles, respectively, after long term exposure. As exposure level increases, a greater proportion of the body burden of cadmium will be found in the liver relative to the kidney. Also, upon the onset of renal dysfunction, the level of cadmium in the kidney will decrease. The half-life of cadmium in the liver, kidney and muscles is 5 to 15, 10 to 30, and more than 30 years, respectively. (Ex. 8-086a, p. 168).

After initial exposure and absorption, cadmium is transported by the blood to the liver where it induces the synthesis of metallothionein, a low molecular weight metal-binding protein. Cadmium becomes bound to this protein forming a metal-protein complex which is then released back to the blood and transported to the kidney. In the kidney, the cadmium-metallothionein complex passes through the glomeruli and is reabsorbed by the proximal tubules. This complex can then be broken down by lysosomes, releasing unbound cadmium which can induce renal synthesis of metallothionein. In workers with only short-term low levels of cadmium exposure, the cadmium will be bound again to the locally produced metallothionein, providing a protective effect from cadmium. However, after prolonged exposure the binding process in the kidney becomes saturated, leading to an increase in unbound cadmium which can result in toxic effects.

B. Non-Carcinogenic Health Effects

11. Acute Effects

a. *Humans.* A variety of adverse health effects may result from acute exposure to cadmium compounds. For man, the most widely recognized effects are seen in the respiratory system from the inhalation of cadmium fumes and dust.

Symptoms first appear 10 to 24 hours after initial acute inhalation exposures to cadmium fumes. These signs are similar to metal fume fever with irritation and dryness of the throat and nose, cough, headache, dizziness, weakness, chills, fever, and chest pain. (Ex. 8-086b, p. 4). In extreme exposure cases pulmonary edema may develop and cause death several days after exposure. Such symptoms have been commonly reported among workers exposed to high concentrations of cadmium. For example, several cases of cadmium fume poisoning were observed among workers cutting cadmium plated metal (Ex. 8-41). After a day's exposure to cadmium fumes, workers developed severe weakness, dyspnea, coughing and tightness of the chest. Chest

radiographs showed signs of pulmonary edema.

In many investigations, as in the case above, the exposure levels at which the adverse effects occurred were not recorded. Attempts have been made to estimate the exposure levels associated with acute respiratory effects. For example, the actual exposure levels responsible for fatal cadmium fume poisoning have been estimated by first measuring the amount of cadmium found in the lung after death and then modifying this measurement by the amount of cadmium fumes assumed to be retained by the lungs. In the case study cited above, it was assumed that there was 11% retention of cadmium fumes in the lungs. Given an exposure time of 5 hours, the average concentration was estimated to be 8.6 mg/m^3 over 5 hours. In terms of an 8-hour TWA exposure, the concentration would equal approximately 5 mg/m^3. However, due to the assumptions used to derive this exposure level there is some uncertainty as to the accuracy of the estimate. Also, the amount of cadmium measured in the lung of the fatal cases may have been higher than the amount necessary to cause death. It should also be noted that this type of estimate is for lethal concentrations, and that lower concentrations may give rise to acute symptoms and significant lung damage without resulting in death.

b. *Animals.* Inhalation studies of animals exposed to both fumes and cadmium dust have confirmed the above mentioned resporatory effects. In addition, animals injected with cadmium compounds have exhibited acute effects in the testes, ovaries, liver and blood. Teratogenic effects have also been observed in animals after short term exposure.

Administration of cadmium compounds through various routes of exposure to experimental animals has also induced acute pulmonary effects. Several different species, in a number of studies reviewed by Friberg *et al.* (Ex. 8–086b, p. 3), have been exposed to various cadmium compounds. In the studies, exposures ranging from 5 to 10 mg/m^3 over 15 to 120 minute periods were sufficient to induce significant increases in lung weights indicative of pulmonary edema. Also, rats exposed to cadmium aerosol at 60 mg/m^3 for 30 minutes died within 3 days from pulmonary edema (Ex. 8–402). Multiple experimental studies confirm these findings of acute pulmonary effects and are reviewed by Friberg (Ex. 8–086b, p. 2), NIOSH (Ex. 4–02) and EPA (Ex. 8–619).

2. Chronic Effects

a. *Humans—i. Renal Effects.* Early evidence of adverse health effects of chronic low-dose exposure to cadmium can be measured in the renal system. In the majority of studies, the kidney is considered to be one of the target organs. Friberg (Ex.4–29) conducted one of the first studies on the prevalence of renal dysfunction among workers chronically exposed to cadmium. In this study, workers exposed to cadmium dust in alkaline accumulator factories over a period of 9 to 34 years exhibited a high prevalence of proteinuria, a condition in which there is an excess of serum proteins in the urine. In urine specimens examined to characterize the type of protein, it was found to consist primarily of low molecular weight proteins. Investigators have since identified this disorder as "tubular proteinuria," referring to the abnormally high urinary levels of low molecular weight proteins such as beta-2-microglobulin, retinol binding protein, and lysozyme that result from dysfunction of the proximal tubule of the nephron.

Normally, as blood passes through the kidney, the small size of low molecular weight proteins allows them to cross the intact glomerular basement membrane into the kidney tubule. However, only very small quantities of low molecular weight proteins are excreted in the urine because they are routinely reabsorbed by the proximal tubule of the nephron. The presence of excess low molecular weight proteins in the urine is an indication that kidney function is impaired due to damage to the cells lining the proximal tubules (tubular proteinuria). In cadmium associated renal disease, tubular proteinuria is considered to be one of the earliest signs of renal dysfunction.

In contrast, high molecular weight proteins (albumin, immunoglobulin G, and a variety of glycoproteins) do not cross the intact glomerular basement membrane into the kidney tubule. Glomerular proteinuria refers to the presence of high molecular weight proteins in the urine due to the increased permeability of the glomerulus (a "leaky" glomerulus) which allows the passage of the high molecular weight proteins into the tubule. High molecular weight proteins are not reabsorbed by the proximal tubule and therefore, the proteins are excreted in the urine. Glomerular proteinuria is considered to the indicative of a more progressive state of kidney dysfunction (Exs. 8–086b, p 63, 4–54).

After prolonged exposure to cadmium, tubular proteinuria may progress to glomerular proteinuria and possibly evolve to glycosuria, aminoaciduria, phosphaturia, and hypercalciuria (excess glucose, amino acids, phosphate, or calcium, respectively, in the urine, Exs. 8–086b, 4–28). The altered levels of excreted calcium may be associated with increased incidence of renal stones. Friberg in his early study of cadmium workers noted cases of renal stones as a common finding among cadmium exposed workers (Ex. 4–29). Hypercalciuria with renal stone formation was also observed in a follow-up study of workers exposed to cadmium dust/fume for 28 to 45 year (Ex. 9–9).

Many studies subsequent to Friberg's examination have similarly documented the high prevalence of proteinuria among workers exposed to cadmium dust and fumes. For example, workers manufacturing copper-cadmium alloys who were exposed to cadmium fumes over a period of 2 to 28 years developed tubular proteinuria indicated by excess of low molecular weight proteins in urine (Ex. 4–22). All cases observed had greater than 5 years exposure and in some cases greater than 15 years exposure. In this study no cadmium air concentrations above 270 $\mu g/m^3$ were reported for any 12-hour period. A follow-up of this study four years later reported further cases of proteinuria despite the cessation of external exposure to cadmium (Ex. 4–23). Workers exposed to cadmium fume at levels below 100 $\mu g/m^3$ during the brazing of wire and who were employed at least 21 years showed a higher prevalence of proteinuria compared to non-exposed controls (Ex. 4–28). A higher prevalence of proteinuria was also found among workers exposed to cadmium dust in a battery production factor (Ex. 4–47). For example, a 19% prevalence of tubular proteinuria was observed among workers in the battery factory who were employed from 6 to 12 years and were exposed to cadmium in air levels of approximately 50 $\mu g/m^3$, whereas a control population of lumbermen and shipyard workers belonging to the same occupational health clinic showed only a 3% prevalence of proteinuria. Cadmium smelter workers exposed to cadmium dust over a 25 year period at estimated average exposure concentrations of 63 $\mu g/m^3$ exhibited a reduction in tubular reabsorption and increased protein excretion compared to non-exposed workers in the same plant (Ex. 4–47). In this study, exposure estimates based on area samples were corrected to account for respirator usage.

Renal tubular dysfunction may be measured by the elevated urinary activity of N-acetyl-beta-d-glucosaminidase (NAG) or alanine aminopeptidase (AAP), indicating a disruption of renal tubular cell membranes or lysosomes. Mueller (Ex. 8–686) found urinary NAG and AAP were elevated and displayed a dose response to urinary cadmium in cadmium exposed workers. The investigators estimated a 10% chance of an elevated AAP at a urine cadmium level of 5.0 μg/g creatinine, the action level of the 1980 WHO study group.

In an examination of workers exposed to cadmium dust, Lauwerys (Ex. 4–50) observed that glomerular proteinuria was found in all exposed workers. Only workers with greater than 20 years exposure showed mixed-type proteinuria. Based on this result Lauwerys postulated that glomerular proteinuria might precede tubular proteinuria. These studies have been criticized because the methods used to measure the proteins in the urine were not sensitive enough to fully detect beta-2-microglobulin (Ex. 8–086b, p. 62). Therefore, the conditions diagnosed as glomerular proteinuria may have been preceded by tubular proteinuria.

Cumulative blood cadmium dose was used by Jarup (Ex. 8–685) and determined to be a more sensitive predictor of cadmium induced renal damage (as indicated by beta-2-microglobulin) than cumulative cadmium in air. Cadmium battery workers with tubular proteinuria had a proportionately high serial blood cadmium dose than their fellow workers without renal dysfunction but with the same cumulative air cadmium dose.

On the basis of autopsy studies, the World Health Organization task group concluded that the critical level in the renal cortex for the appearance of proteinuria (low and high molecular weight) ranged from 100 to 300 μg cadmium with the likely estimate being 200 μg cadmium/g wet weight. (Exs. 4–12, 8–440). Similarly, a review of autopsies and *in vivo* measurements (through neutron activation analysis) of human kidney tissues, shows that adverse effects first occur in the range of 170 to 200 μg cadmium/g. (Ex. 8–086b, p. 99). In animals, the concentration of cadmium in the renal cortex at which dysfunction first appears ranges from 100 to 300 μg cadmium/g wet weight, with most species showing proteinuria at 200 μg cadmium/g (Ex. 8–086b, p. 97).

In vivo measurements have also indicated that, upon prolonged exposure to cadmium, renal damage may occur. Neutron activation analyses conducted on workers in zinc-cadmium production plants (Ex. 4–58), in cadmium production plants (Ex. 4–26), and in cadmium smelters (Ex. 4–32) noted decreases in cadmium levels in the renal cortex with increasing levels of beta-2-microglobulin and cadmium in the urine. These findings indicate that as proteinuria progresses, damage to the kidney cells occurs leading to a loss of cadmium from the renal cortex.

Furthermore, evidence has shown that once tubular dysfunction is established, it may progress with little or no subsequent external exposure. For example, Piscator (Ex. 4–54) conducted follow-up studies on several groups of cadmium workers who had been previously exposed to cadmium. Some workers showed an increase in excretion of total proteins several years after the cessation or reduction of cadmium exposure. In none of the cases was there a return to normal protein excretion. Thus it was concluded that cadmium induced proteinuria is irreversible (Ex. 12–38). Furthermore, if tests for cadmium in urine are conducted, a low cadmium level could mean no disease or disease which has already caused irreversible damage. The use of a low molecular weight protein, such as beta-2-microglobulin, is a better test for identification of disease because beta-2-microglobulin levels still increase despite loss of cadmium from the kidney after damage. These findings, according to Friberg's review of the available data (Ex. 8–086b, p. 72), indicate that cadmium-induced renal damage is permanent.

The gravity of cadmium-induced renal damage is compounded by the fact that there is no medical treatment to prevent or reduce the accumulation of cadmium in the kidney (Ex. 8–619). In contrast to other heavy metals, current chelation therapy does not reduce the body burden of cadmium without producing significant renal damage. When chelated cadmium arrives in the kidneys, the cadmium may still be toxic to renal cells. Thus, large amounts of cadmium may move from the liver or muscle storage sites, overwhelm the kidney's usual attempts to store cadmium in a less toxic form, and accelerate deterioration of renal function. With the presently available chelating agents, it is essential that no worker be treated for elevated blood or urine cadmium levels by chelation therapy.

ii. Pulmonary Effects. In addition to chronic renal effects, long term exposure to cadmium may induce adverse effects on the respiratory system. Reduced pulmonary function and chronic lung disease indicative of emphysema have been observed in workers who have had prolonged exposure to cadmium dust or fumes. In Friberg's study at an alkaline accumulator factory (Ex. 4–29), workers exposed to cadmium dust at estimated concentrations of 3 to 15 mg/m³ for 9 to 34 years exhibited impaired olfactory sensation, shortness of breath, and impaired lung function with associated poor physical working capacity. Further evidence of these clinical observations comes from studies in which rabbits exposed to cadmium dust, taken from the alkaline accumulator factory, exhibited chronic inflammatory changes in the nasal mucosa and signs of emphysema in the lung tissue (Ex. 4–29). Subsequent studies have confirmed the findings of these initial clinical and experimental studies. Bonnell (Ex. 4–22) and Kazantzis (Ex. 4–42) studied workers exposed from 5 to 15 years to cadmium fume at copper-cadmium alloy factories. The average concentration of cadmium over an 8-hour period was reported not to have exceeded 270 μg/m³. The workers exhibited shortness of breath and impairment of pulmonary function, which were suggested to have been the result of emphysema. Similarly, a study of workers in three different factories exposed to cadmium dust at concentrations below 200 μg/m³ for greater than 20 years showed significantly lower pulmonary function compared to within plant non-exposed controls (Ex. 4–50). No correlations between symptoms and lung damage, or between cadmium air levels and symptoms/lung damage as evidenced by radiographic data were presented in this study. Smith (Ex. 4–63) examined workers who were exposed to airborne cadmium at 0.2 mg/m³ or greater for 6 years or more at a cadmium producing plant. Workers were found to have decreased pulmonary function and mild to moderate interstitial fibrosis. Findings in this study suggested that the lung damage was due to prolonged exposure rather than repeated acute exposures. No worker's medical records showed evidence of acute illnesses which would have occurred if cadmium air levels were 5 mg/m³. Furthermore, a dose-response relationship between reduced pulmonary function and months of cadmium exposure was observed (i.e. pulmonary function decreased as the months of exposure increased). It should be noted that in many of these studies proteinuria was observed in a number of the workers who experienced adverse respiratory effects, thus indicating that both chronic systemic effects and damage at site of contact result from inhalation of cadmium dusts and fumes.

The potential hazard to the respiratory tract of cadmium in inhaled

air depends in part upon the particle size. According to their diameter, particles can be inspirable or respirable. A particle is considered to be inspirable if it can be deposited anywhere in the respiratory tract. Respirable particulates are only those that are small enough to be transported to the alveolar region of the lungs where the gas-blood exchange occurs. Opinions differ on how small a particle must be in order to be respirable. Most experts, however, would classify any particle less than 8 um in mean mass diameter as respirable (Ex. 8–692). Inspirable particles up to 30 um can reach the tracheobronchial region of the lung (bronchus), but not the alveoli. The bronchi and the alveolar portion of the lungs are considered the thoracic portion of the respiratory tract. Still larger particles can reach the extra-thoracic portion of the respiratory tract. This portion includes the nose, maxillary sinuses, throat, oral cavity and pharynx.

Workers are exposed to a wide range of cadmium particles of various sizes. The distribution of cadmium particle size for any process is specific to the particular process. For example, the cadmium sulfide pigments used in the electronics industry and cadmium oxide fumes produced by welding operations are almost entirely respirable.

Not all workers exposed to cadmium are exposed to particles that are respirable. However, the risks from cadmium exposures are not limited to exposures that are respirable. Inspirable cadmium particles that are too large to be respirable but still small enough to enter the tracheobroncial region of the lung can lead to bronchoconstriction, chronic pulmonary disease, and cancer of that portion of the lung. Similarly, particles that are constrained by their size to the extra-thoracic regions of the respiratory system such as the nose and maxillary sinuses can lead to loss of smell. This condition also is commonly reported among cadmium-exposed workers.

Because cadmium particles that are not respirable but can be inspired can lead to all of the serious diseases mentioned above, regulation of respirable particles alone is insufficient to reduce risk of all diseases caused by cadmium.

iii. Skeletal Effects. Workers with progressive forms of proteinuria have also exhibited adverse effects on the skeletal system associated with improper bone mineralization such as osteoporosis and osteomalacia. It is possible that cadmium-induced disturbances in the kidney are associated with these adverse effects (Ex. 8–086b, pp. 111–158). For example, the active metabolite of vitamin D, 1,25-dihydrocalciferol (1,25 DHCC), forms in the kidney and stimulates intestinal absorption of calcium which is required for normal bone mineralization. As cadmium accumulates in the renal cortex it may inhibit the metabolism of vitamin D to its active metabolite. Additionally, cadmium induced renal damage may decrease the tubular reabsorption of calcium, thereby increasing the urinary excretion and loss of calcium from the body. Recent studies of patients with cadmium induced bone defects have also shown reduced concentrations of vitamin D metabolites in their blood (Ex. 8–189).

Bone mineralization may also be inhibited when there is interference with collagen metabolism. Cadmium may inhibit the formation of collagen fibers by interfering with the copper-dependent enzymes responsible for the cross linking of collagen molecules into fibrils. These fibrils form collagen fibers which in turn provide the fiber structure necessary for proper mineralization of bone. Improper bone mineralization results in a decreased density and softening of bone, conditions associated with osteoporosis and osteomalacia.

In humans, adverse bone effects have been observed after long-term exposure to cadmium. In a follow-up study of workers exposed to cadmium dust for 28 to 45 years, several workers showed hypercalciuria (an excess of calcium in the urine) with one case advancing to osteomalacia (Ex. 8–9). A case study of a battery plate worker exposed to cadmium for 36 years documented the development of renal tubular dysfunction and severe osteomalacia (Ex. 8–170). However, Friberg notes that relative to the number of workers with reported severe renal tubular damage the reported number of cases of adverse bone effects is low (Ex. 8–086b, p. 140). One reason may be that the bone has a reserve of calcium to maintain an adequate level in the body and thus it may take a long period of time for cadmium to induce bone disease. A second reason is that diet deficiencies, in addition to cadmium exposure, may also be necessary to induce bone effects. For example, in cadmium-polluted areas of Japan, cases of Itai-Itai disease, (a condition characterized by osteomalacia and renal tubular dysfunction), have been causally related to cadmium exposure from contaminated rice. However, among the cases there was also a dietary deficiency of calcium and vitamin–D, leading to the possibility that the inadequate consumption of essential food elements and vitamins may have been a contributing factor to the disease (Ex. 8–086b, p. 151–153).

iv. Other Information. There is a lack of data on reproductive effects in humans, despite evidence in animals. There is no evidence of cadmium-induced testicular necrosis in humans, most likely because extremely high doses would be required to induce such an effect. Friberg suggests that if the absorbed oral dose required to produce a testicular effect is proportional to the doses administered in the injection studies, a dose of 70 mg to a 70 kg man would be required to elicit the same response as the 1 mg/kg dose studies in animals (Ex. 8–086b, p. 185). The lack of data on testicular function following cadmium exposure in humans makes it diffcult to draw any conclusions on possible acute testicular effects in man. There is also a lack of evidence on human teratogenic effects, as epidemiological studies have not been conducted. It is possible, however, that high exposures to cadmium might influence zinc metabolism and induce zinc deficiencies that could alter fetal growth and development in humans as it does in animals.

Data submitted to OSHA (Ex. 12–10) indicate that some cadmium compounds (e.g., pigments) may not be as readily absorbed as others and, therefore, may not be as toxic. However, OSHA preliminarily concludes that these data do not provide adequate evidence to show that such compounds are not as toxic. Human studies on pigments indicate low urinary-cadmium and beta-2-microglobulin levels among cadmium pigment workers (Ex. 12–10 e, f, and g). Exposure levels for these workers, however, are poorly characterized, and it is difficult, therefore, to determine whether the results are due to low solubility of cadmium pigments or low exposure. These studies, some of which appear not to have been peer-reviewed or published in professional journals, are summarized in the following paragraphs.

The effect of cadmium exposure on health was evaluated by Mikche (Ex. 12–10e) for a group of workers involved in cadmium pigment production and cadmium pigment application. Among a group of 36 workers, with an average length of employment of 11.75 years in a cadmium pigment production plant, no correlation between cadmium air concentrations and cadmium or beta-2-microglobulin concentrations in urine was found. However, the only exposure information given in this study was the average air concentrations reported in 1977, 1979 and 1980. These concentrations were 50 $\mu g/m^3$,

30 μg/m³, and 30 μg/m³ respectively. These reported values are averages for only three years of the period for which workers were potentially exposed. Even for these years, the data do not allow one to determine the exposure levels for the workers whose body cadmium levels were measured. Without adequate exposure information, one cannot conclude that low cadmium body burdens are a result of the low absorbability of cadmium pigments since a low exposure might give the same result.

Also in this study, among 21 workers engaged in the application of cadmium pigments, the average cadmium concentrations in blood and urine were in the same range as those reported for non-exposed persons. The average length of employment among these workers was 11.3 years. However, no exposure levels at all were reported.

Low cadmium urine levels and low beta-2-microglobulin levels in urine were also found among other workers engaged in cadmium pigment manufacturing and processing (Ex. 12–10f). In this study by Fietz et al. workers were placed into five different categories based on the nature of their exposure. Groups I through III were involved in pigment manufacturing (e.g. raw material mixing, combustion, washing, drying and finishing). Groups IV and V were involved in pigment processing (e.g. paint formulation and pigment mixing). The average exposures were higher for groups I–III ranging from 14 to 201 μg/m³, with the levels decreasing over time. For groups IV and V exposures were only reported for 1981 and 1982. These values were lower than those found in pigment manufacturing. Correspondingly, the cadmium urine levels and beta-2-microglobulin levels were higher among those workers with greater exposure. These urinary levels decreased over time as cadmium air concentrations decreased. The authors concluded that the study showed that the use of technical measures (e.g. exhaust ventilation, sealing of machines, enclosure of sources of dusts and consistent use of respirators) can reduce the cadmium air levels and the harmful effects from cadmium (i.e. elevated urinary cadmium and beta-2-microglobulin levels). However, results from the study are not useful in evaluating whether the observed low levels of cadmium and beta-2-microglobulin in the urine were the result of the lower absorbability of cadmium pigments or low levels of cadmium air concentrations.

Health studies were also conducted by Greenburg et al. for a group of workers exposed to both lead and cadmium during the manufacturing of pigments (Ex. 12–10g). In this study of 38 men, the average length of employment was 20.7 years. Cadmium air levels were reported as "single measurements" with a range of 0 to 384 μg/m³ and mean values of 5μg/m³ in maintenance and 229 μg/m³ in the cadmium departments. The authors did not state whether or not these values were time weighted averages. However, the authors did state that 31% of the values, among all workers measured, exceeded the NIOSH recommended level of 40 μg/m³ which is a time weighted average. Worker exposure was characterized as either light (no elevated blood or urine levels/worked briefly in exposure areas), moderate (normal or moderately elevated levels, more than half of the work time in exposure areas/smelter operator) or heavy (levels known to have been high, removed from job site due to elevated levels/prolonged exposure). Workers who were unable to recall warnings about blood, urine or cadmium levels were classified as moderate. Workers were also classified according to smoking status.

Among the smokers there was a statistically significant increase in cadmium urine levels in workers with high or moderate cadmium exposure compared to workers with low exposure. There was also an increase in liver and kidney cadmium levels among high and moderately exposed workers. This increase was not statistically significant but this may have been due to the small number of subjects analyzed. A similar analysis was not possible for non-smokers because most of these workers were classified as having moderate exposure. Among all workers, 22% of non-smokers and 40% of smokers had kidney cadmium levels above what the authors consider to be "normal." For liver cadmium levels (CdL), 22% of non-smokers and 25% of smokers were above "normal" but below 40 μg/gm (CdL). In both cases it was not stated what was considered "normal". Excretion of beta-2-microglobulin in the urine was increased for 3 workers. The authors stated that there was a low prevalence of renal disease as evidenced by the fact that no worker had a decreased glomerular filtration rate. They pointed out that this low prevalence was unexpected given the fact that 31% of the exposure values were above NIOSH recommended limits for exposure to cadmium. Above this limit, it is believed by the authors, adverse effects are likely to occur. The authors conclude, because there was no evidence of renal disease after exposure to levels of cadmium pigments considered high enough to cause adverse effects, that cadmium pigments do not cause the same effects as more soluble cadmium compounds at similar exposure levels.

However, glomerular damage is generally considered to be a more advanced stage of kidney damage. It may not be surprising, therefore, to find that workers with histories of low exposure to cadmium do not have glomerular damage. Using a more advanced stage of kidney damage, such as reduced glomerular filtration rate, as evidence of renal disease may be inappropriate because the disease may exist without having progressed to the stage where glomerular damage has occurred. Earlier indicators of irreversible kidney damage, such as increased beta-2-microglobulin excretion, may be more appropriate to measure the presence of kidney disease. Also there is some uncertainty as to whether the "single measurements" of exposure that were reported were time weighted averages(TWA's). If these values were not TWAs, and if they were subsequently averaged as eight hour exposure values, these values may not have been above NIOSH recommended levels. In which case, a low prevalence of renal disease would be expected.

b. Animals—i. Renal Effects. Experimental animal studies support the finding of cadmium-induced proteinuria in humans, in particular regarding the critical concentration level of cadmium in the target organ, and the finding that increased concentrations of beta-2-microglobulin in the urine constitutes a biological marker of cadmium-induced tubular proteinuria. Friberg induced proteinuria in rabbits by exposing the animals by inhalation to cadmium oxide (CdO) dust at 8 mg/m³ for 5 hours/day for 8 months (Ex. 4–29). In the same study, rabbits exposed by injection to 0.65 mg/kg cadmium sulfate ($CdSO_4$) developed proteinuria after 2 months of exposure. A number of experimental studies in which animals were exposed by injection or oral exposure have also shown cadmium-induced proteinuria (Exs. 8–086b, p. 29, 8–402).

Some studies have observed the presence of proteins in the urine with higher molecular weight than beta-2-microglobulin and thus diagnosed the cadmium-induced proteinuria as glomerular proteinuria or "mixed-typed" proteinuria (both high and low molecular weight proteins present). For example, Bernard (Ex. 4–20) injected rats with 1 mg/m³ cadmium chloride ($CdCl_2$) 5 days/week for 2 months and induced proteinuria. The cadmium-

induced proteinuria was characterized not only by increased excretion of low molecular weight proteins but also by high molecular weight proteins indicative of glomerular dysfunction. In a similar study (Ex. 4–49), rats injected with cadmium also showed mixed-type proteinuria. After prolonged oral exposure rats developed glomerular proteinuria.

ii. Skeletal Effects. Experimental animal evidence has shown that by either injection or ingestion, exposure to cadmium can induce disturbances in cadmium metabolism with osteoporotic and osteomalacic conditions. For example, chicks which were administered cadmium in their feed for 3 weeks showed a decrease in calcium absorption from the intestine suggesting a possible effect on the formation of 1,25–DHCC (Ex. 8–3). The calcium absorption in this study further decreased with increased doses of cadmium. Also, osteomalacia was induced in rats fed dietary concentrations of 10, 50 or 100 ppm cadmium for 19 months (Ex. 8–112).

In rats, osteoporotic changes increased with increased doses of cadmium. The rats fed cadmium developed osteoporotic changes in bone before the onset of kidney damage indicating that cadmium may possibly have a direct effect on bone rather than an indirect effect through renal damage (Ex. 8–55). However, Friberg (Ex. 8–086b,p. 115–139) presents a review of experimental studies in which the preponderance of data seem to suggest that chronic exposure to cadmium induces osteoporosis and osteomalacia subsequent to, and perhaps associated with, renal tubular damage.

iii. Other Information. In addition to the major effects on the kidneys, lungs and bones, other adverse effects have been reported in experimental animals chronically exposed to cadmium. There are scattered reports of chronic effects on the gastrointestinal tract, peripheral nervous system and endocrine organs. More commonly documented effects in animals include anemia, changes in liver morphology, immunosuppression, and hypertension. For example, various experimental animals fed or injected with cadmium have commonly exhibited anemia, possibly due to cadmium's influence on the absorption and distribution of such metals as zinc and iron (Ex. 8–086b, p.167). Similarly, rats chronically exposed to cadmium oxide dust by inhalation developed anemia (Ex. 4–29). Animals exposed to cadmium by various routes of administration have shown morphological changes in the liver as well as disturbances in hepatic enzyme concentrations (Ex. 8–086b, p.161). Chronic oral exposure of mice to cadmium through drinking water decreased antibody synthesis (Ex. 8–24) and induced immunosuppression (Ex. 8–35).

There is conflicting evidence with respect to cadmium induced hypertension. Several studies have shown an increase in blood pressure after exposure to cadmium. Hypertension has been induced in rats orally exposed from 3 to 24 months to 0.1 to 10 mg cadmium/liter drinking water (EX. 8–14). In this study, levels as low as 0.1 mg/1 for 3 months increased systolic blood pressure. The renal cortical level was 5 to 30 μg cadmium/g wet weight, which is below the critical concentration at which proteinuria is commonly detected. There are also studies, under similar experimental conditions, which have shown no hypertensive effects (Ex. 8–086b, p. 170–173). It has been suggested that dietary differences may have caused the different responses, because rats on rye-based diets exhibited increased blood pressure whereas rats on other non-rye-based diets did not.

Testicular necrosis has been induced in animals after short term exposure to cadmium. For example, male mice and rats injected with a .02 mmol/kg dose of cadmium chloride (2.2 mg Cd/kg body weight) exhibited acute destruction of the testes, with destruction of the seminiferous epithelium and interstitial tissue within 24 to 48 hours (Ex. 8–107). After one subcutaneous injection with 1 mg cadmium chloride/100 g body weight, rats showed vascular alterations of the testes within 6 hours. Within 48 hours the seminiferous epithelium was destroyed (Ex. 8–139). Male rats injected with a 0.25 mg cadmium/kg dose of cadmium chloride ($CdC1_2$) for 5 days/week over 24 weeks, however, showed no change in testicular damage. Kidney damage, however, had occurred. Several studies have also shown acute effects on the ovaries of animals injected with cadmium chloride at doses ranging from 2.3 mg to 10 mg cadmium/kg body weight. Such effects included hemorrhage, endothelial damage, and morphological changes of the blood vessels of the ovaries. (Exs. 8–086b, p. 184, 8–157). Female rats injected with 0.036 and 0.18 mg cadmium/kg for 8–60 weeks showed an increase in the thickness of the basal lamina of the uterus. (Ex. 8–086b, p. 183–4).

Teratogenic and embryotoxic effects also have been observed in animals. When experimental animals were exposed to high doses of cadmium early in pregnancy, severe malformations and fetal death occurred. For example, the injection of rats with 4 to 12 mg cadmium chloride/g body weight on days 13–16 of gestation resulted in a rise in the fetal death rate, a decrease in fetal weight, and malformations such as cleft palate, clubfoot and small lungs (Ex. 8–202). Pregnant rats injected with a 1.8 mg cadmium/kg body weight dose of cadmium chloride produced offspring exhibiting malformations of the eyes, ears, and abdominal wall. (Ex. 8–204). Also, exposure of pregnant rats exposed later in pregnancy (e.g. days 17–20 gestation) to 2.5–4.5 mg cadmium/kg led to damage of the placenta and fetal death (Ex. 8–086b, p. 188). Less severe reproductive effects were observed in pregnant rats exposed by inhalation. For example, rats exposed to a 3 mg/m^3 dose of cadmium sulfate ($CdSO_4$) during pregnancy showed a reduction in fetal weight. Rats exposed to $CdC1_2$ at 0.2, 0.4 and 0.6 mg/m^3 for 21 days also resulted in fetal weight reduction, but only at the highest dose level (Ex. 8–086b). It is believed by the authors that cadmium influences the metabolism of zinc, possibly inducing a zinc deficiency which may cause teratogenic effects. This belief is in part due to the fact that little cadmium is transported across the placenta after the closure of the vitellin duct. Also, experimental data on rats have shown a decrease in fetal zinc concentrations after maternal cadmium exposures of .25 to 1.25 mg cadmium/kg (Ex. 8–157). In addition, data have shown that maternal exposure to cadmium alone induces fetal anomalies and zinc deficiencies, whereas co-administration of cadmium and zinc prevented fetotoxicity and fetal zinc deficiencies (Ex. 8–152).

As stated previously in the section on other human effects, data submitted to OSHA (Ex. 12–10) indicate that some cadmium compounds (e.g., pigments) may not be as readily absorbed as others and, therefore, may not be as toxic. OSHA preliminarily concludes, however, that these data do not provide adequate evidence to show that such compounds are not as toxic. (See for example Ex. 12–10.) The animal studies included in these data were of short exposure periods and presented conflicting results that do not indicate a simple relationship between solubility and bioavailability. A brief summary of these animal studies follows.

Hazelton Laboratories conducted a short term rat feeding study to determine whether or not there was a positive correlation between cadmium solubility and cadmium absorption through the gastrointestinal tract (Ex. 12–10b). In this study, extraction tests

were conducted with distilled water and with acid to determine the solubility of 12 different cadmium pigments. These same pigments were then fed to rats for one week at levels of 10,000 ppm and 50,000 ppm in the diet to evaluate the level of absorption of cadmium from the pigment. For purposes of comparison, rats were also fed a highly soluble compound, $CdCl_2$, at a concentration of 10 and 50 ppm in the diet. The percentage of cadmium absorbed was determined by measuring the amount of cadmium found in the urine, kidneys and liver and dividing by the amount of cadmium found in the feces and GI tract contents. The percent solubility of the pigments was much lower than the percent solubility of $CdCl_2$. The percent solubility for $CdCl_2$ was 61% whereas for the pigments, the solubility ranged from 0.06 to 1.38%. Correspondingly, the percentage of cadmium absorbed from the pigments was also much lower than for $CdCl_2$. The percentage of cadmium absorbed from $CdCl_2$ was 0.65% compared to .0004 to .0060 percent cadmium absorption from the cadmium pigments. From the data the authors concluded that there was a positive correlation between solubility and absorption, that is, the greater the solubility the greater the amount absorbed by the body. One should keep in mind that this feeding study was for only one week. While the percent of cadmium absorbed from the pigments after one week's exposure is relatively low compared to $CdCl_2$, the total percentage absorbed after chronic exposure to cadmium pigments (e.g. 18 months) is not known and may be more substantial.

In an acute inhalation study by Rusch et al (Ex. 12–10d), male and female Sprague-Dawley rats were exposed to dusts of cadmium carbonate ($CdCO_3$), cadmium yellow pigment, cadmium red pigment and cadmium fume for two hours at 100 mg/m^3 for one day in order to determine if there were differences in uptake and distribution with compounds of different solubilities. No mortality was observed among rats exposed to either cadmium pigment after 30 days follow-up. However, 3 out of 52 rats died from exposure to $CdCO_3$ and 25 out to 52 rats died from exposure to cadmium fume. In the cadmium pigment exposed groups, greater amounts of cadmium were eliminated by the feces at faster rates than for the $CdCO_3$ exposed rats. The $CdCO_3$ exposed rats also showed higher kidney cadmium levels. The authors stated that $CdCO_3$ followed predicted patterns of uptake, distribution and retention, whereas, the pigments showed only minimal uptake and tissue deposition. Therefore, it appeared that inhalation exposures to soluble compounds resulted in more rapid uptake and higher body burdens than did exposure to less soluble cadmium compounds. However, as in the feeding study above, this inhalation exposure was for a short time period. Rats were exposed for only two hours. Therefore, it is difficult to draw conclusions about the cadmium body burdens which might result from long term chronic exposure to cadmium pigments.

Longer periods of exposure were examined in a subacute inhalation animal study by Glaser et al (Ex. 12–10c). In this study male Wistar rats were continuously exposed for 30 days to aerosols of cadmium chloride and cadmium oxide at 0.1 mg/m^3 and aerosols of cadmium sulfide (CdS) at 1 mg/m^3. CdS was administered at a higher dose because of its lower solubility. In this study no clinical signs of intoxication were observed among any of the cadmium exposed groups. Cadmium was retained in the lung, liver and kidneys for all three compounds tested. Lesser amounts of cadmium were retained in the lung among $CdCl_2$ exposed rates compared to CdO and cadmium sulfide (CdS) exposed rats. After one month's exposure approximately 25 μg of cadmium were retained in the whole lung of $CdCl_2$ exposed rats whereas approximately 50 μg of cadmium and 140 μg of cadmium were retained in the lung for CdO and CdS exposed rats respectively. The authors note that a 10 times greater exposure in the form of CdS did not result in a 10 times greater amount of cadmium in the whole lung. Therefore they suggested that there must be a difference in toxicokinetics (i.e. deposition, dissolution, clearance or toxicity) for CdS. In addition they noted that for the $CdCl_2$ and CdO exposed rats more of the cadmium was distributed to the cytosol fractions of the lung compared to the CdS exposed rats, indicating that more of the CdS was retained in the extracellular fractions and was not absorbed into the cell. However for a site-of-contact carcinogen, which some evidence suggests cadmium may be, it is entirely possible that the more insoluble the compound, the greater the carcinogenic potential. In fact there was evidence of a cytotoxic effect to the alveolar macrophages from exposure to CdS equal to that observed from exposure to CdO. Each of these cytotoxic effects were greater than the effect observed from exposure to $CdCl_2$. In addition, the lung metallothionein-cadmium content for rats exposed to CdS and CdO were similar to one another and greater than the metallothionein-cadmium content in $CdCl_2$ exposed rats. Metallothionein is produced in response to cadmium ions and, according to the authors, is an indication of cadmium bioavailability. In the liver and kidney, cadmium burdens were significantly higher for the CdO and for the CdS exposed rats than for the $CdCl_2$ exposed rats. After one months's exposure approximately 15 μg of cadmium accumulated in the liver and kidney of $CdCl_2$ exposed rats compared to 70 μg of cadmium and 60 μg of cadmium which accumulated in CdO and CdS exposed rats. The authors state that it was unexpected that cadmium accumulation in the liver and kidney would be lower for $CdCl_2$ exposed rats than for CdO and CdS exposed rats because of $CdCl_2$'s higher solubility. It had been previously thought by the authors that cadmium accumulation was correlated to the solubility of the compound. Thus, the results of this study seem to suggest that absorption and bioavailability may not be simply equated to the compound's solubility. For example the body burdens of cadmium in the kidney and liver for CdO and CdS exposed rats are similar despite the fact that ten times more CdS was administered, thus implying that the lower solubility of CdS may be responsible for the lower accumulation of cadmium. However the body burdens of cadmium in the kidney and liver are higher for CdO exposed rats than $CdCl_2$ exposed rats despite the fact the $CdCl_2$ is more soluble. Thus it appears that there may be other factors besides solubility which may influence the systemic absorption and bioavailability, factors which could be further influenced by long term exposure (i.e. greater than one month). Furthermore this study shows that for rats exposed to less soluble cadmium compounds, more cadmium is retained in the lung. This may be important when site-of-contact tumors are involved, which may be the case where there is evidence of lung carcinogenicity from cadmium exposure.

Among the studies that have examined cadmium pigments there is some evidence to suggest that cadmium pigments are less soluble than other cadmium compounds such as cadmium chloride. It is possible that due to their relative insolubility the pigments generally are also less available to the body tissues. However the evidence is equivocal with respect to the observable toxic effects. The short term animal tests seem to show fewer adverse effects (e.g. lower mortality and cadmium body

burdens) among animals exposed to cadmium pigments. However the animals were only exposed for short periods of time. Yet even in these short term exposure studies there is evidence of accumulation of cadmium in the lung, liver and kidney. There is also positive evidence of tumor formation in rats exposed to a cadmium pigment compound. In the human studies, low urinary cadmium and beta-2-microglobulin levels were observed among cadmium pigment workers but, in most cases, the level of exposure was poorly reported raising the possibility that the lack of effect seen among these pigment exposed workers was simply a result of low exposure. Thus although there is some evidence to suggest that cadmium pigments are less soluble than other cadmium compounds, there is not sufficient data to show that this reduced solubility correlates with a reduced toxicity, especially after long term exposure. One study even suggests an increased bioavailability with a less soluble cadmium compound. Furthermore if the site-of-contact is a key factor in a toxic effect, the solubility and subsequent bioavailability of a compound to other systemic sites may make no difference to the adverse effects which might be induced at the initial point of entry. In any event, after long term exposure to cadmium pigments, cadmium may be retained or may accumulate in body tissues and result in adverse health effects similar to the adverse effects which have been observed after long term exposure to other cadmium compounds.

OSHA concludes, given the inadequacy of these data and the severe health effects that can result from cadmium exposures, that OSHA should not regulate these cadmium compounds differently from other cadmium compounds. OSHA seeks comment on this issue.

3. Conclusions about Non-Carcinogenic Effects

There is an abundance of data for several adverse health effects, clearly indicating that exposures to cadmium in the industrial environment can cause serious toxic effects in human beings. Not only are there many experimental studies showing the acute and chronic effects of cadmium exposure, but there is also a great amount of human evidence among cadmium exposed workers indicating adverse effects from chronic exposure to cadmium.

In humans, one of the earliest observable adverse effects from chronic exposure to cadmium is the presence of an excess amount of low-molecular weight proteins in the urine. When the excess for B_2-microglobulin, for example, reaches 200 μg/gr Creatinine to 400 μg/gr Creatinine, it probably indicates tubular proteinuria Exs. 12–07, 4–27, 4–28). This proteinuria is in itself an indicator of the impairment or loss of kidney function. Because of the body's ability to accumulate and store cadmium over long periods of time this condition may develop even after a reduction in or cessation of external cadmium exposure. Upon prolonged exposure tubular proteinuria may progress to more severe forms of renal dysfunction such as glycosuria, aminoaciduria, phosphaturia, and glomerular proteinuria or chronic nephrotoxicity.

The major functions of the kidneys are to remove the end products of metabolism and control the constituents of body fluids. With an impairment of kidney function, the body loses its ability to maintain a balance of chemical constituents which are carried by the blood and used throughout the body. Furthermore, once cadmium induced proteinuria has developed it is essentially irreversible, creating a permanent loss of kidney function. There is no specific treatment for chronic cadmium poisoning or a treatment to restore kidney function. Persons with cadmium induced renal disease are at increased riak for developing kidney failure if additional renal insults occur (e.g. exposure to other nephrotoxins including medications, infections of the renal-urinary system, obstruction of the urinary system, or reduced volume of blood flow to the kidneys due to reduced blood volume or vascular disease). In cases of cadmium-induced kidney damage, rigid control of diet, water intake and electrolyte balance in addition to medical treatment is required. In addition, since other environmental sources of cadmium (e.g. water, food, and ambient air) may contribute to the total body burden, it is necessary to avert additional adverse health effects to minimize all exposure to cadmium.

The major adverse health effects associated with long term occupational exposure to cadmium are on the kidneys, lungs and bones. In many cases it was observed that renal effects preceded or occurred simultaneously with other effects often at exposures below 100 $\mu g/m^3$, the current 0S PEL for cadmium. In fact some effects, particularly those associated with disturbances in calcium metabolism, may be secondary manifestations of renal damage. Thus, the kidney appears to be a critical organ with regard to many adverse non-carcinogenic health effects associated with cadmium exposure.

As noted in the lead standard (43 PA 52952), diseases resulting from exposures to heavy metals proceed in five stages: (1) Normal, (2) physiological change of uncertain significance, (3) pathophysiological change, (4) overt symptoms (morbidity), and (5) mortality. within this process there are no sharp distinctions, but rather there is a continuum of effects. Categories overlap due to the variation in individual susceptibilities and exposures in the working population. While step 2 remains uncertain as to incidence of disease, by step 3 (pathophysiologic changes) important adverse health effects have occurred.

OSHA has designed this standard to prevent illness, or in the case of veteran workers already exposed to cadmium at higher levels over a period of years to minimize the extent of illness, by lowering worker exposure to cadmium and mandating medical surveillance. The provisions in this standard are specifically designed to detect early physiological and pathophysiological changes in the status of worker health so that future ill-health may be avoided or at least minimized. Evidence indicates that there is a progression of non-carcinogenic health effects that result from cadmium exposure. The effects start with a decrease in tubular reabsorption and/or a decrease in pulmonary function, and continue through more progressive forms of kidney and pulmonary dysfunction. Eventually, continued exposure results in more severe disorders in the kidneys, lungs and bones. Biological variability among individuals will determine the cadmium level at which a particular person will move through each stage in the disease continuum. However, these levels may be predicted with some degree of accuracy for most workers exposed to cadmium. As the level of cadmium exposure increases a greater proportion of the population will manifest each ill effect.

Given this understanding of the progressive stages of cadmium effects, OSHA has concluded that tubular proteinuria, indicative of the disruption of tubular reabsorption and of irreversible renal damage, is a pathophysiologic change and represents material impairment. There is a close correlation between observed and predicted levels of proteinuria associated with specific cadmium in air levels (Ex. 4–26). OSHA believes that the early stages of cadmium poisoning cannot be considered merely as an attempt by the body to adjust and

stabilize the internal environment to cadmium exposure. They are early indications of significant physiological disruption, which must be considered as material impairment of the health of the worker.

C. Mutagenicity

A wide range of tests, ranging from bacteria to human cells, have been conducted to determine the mutagenic effects of cadmium. For example, the mutagenicity of cadmium has been tested in bacteria, plants, insects, and mammalian cells, including human cells, *in vitro* and *in vivo*. Comprehensive reviews of these various investigations have been provided by Friberg (Ex. 8–086b, p. 223), Degraeve (Ex. 4–24), and EPA (Ex. 4–04). Both positive and negative results have been reported from these studies. This has lead to a somewhat confusing picture as to the mutagenicity of cadmium. The following section will give an overview of the more pertinent studies covered in the above reviews.

Cadmium has been shown to modify the metabolism of both RNA and DNA. Evidence has been obtained both *in vitro* and *in vivo* in microorganisms, plants, and mammalian cells showing enhancement and inhibition of RNA synthesis, degradation of DNA repair, inhibition of DNA synthesis, and inhibition of thymidine incorporation into DNA.

Gene mutation studies on microorganisms, yeasts, and mammalian cells have given mixed results on cadmium's mutagenic effects. For example, positive and negative mutagenic responses were observed in histidine reverse mutation assays using the bacteria *Salmonella typhimurium*. Some of these studies were considered inconclusive because several protocols were used in the assays. For example, different strains of *S. typhimurium* were tested using different dose regimens (e.g. single doses and doses with other chemicals). Conflicting and inconclusive results were also observed in gene mutation studies using yeast. For example, in a test for the induction of petite mutations, p-mutants were induced at the high and low doses but not at the middle dose. In a simlar yeast assay, no p-mutants were induced at all, however; the dose was so toxic that only 1% of the yeast cells survived. Gene mutation assays using mammalian cell cultures of mouse lymphoma and chinese hamster cells have shown increased mutation frequencies with cadmium treatment.

Conflicting results were also reported in mutagenicity tests on fruit flies. Negative results were observed in sex-linked recessive lethal mutation tests, but positive results were observed in dominant lethal mutation tests. However, among the negative results it was noted that in one case too few chromosomes were tested while in another case the number of chromosomes tested was not reported. Thus, the scope of the tests may have been too small to detect a positive response.

In higher order plants, the mutagenicity tests have been mostly positive. Aberrations such as chromosomal lesions and breaks were induced in several different species of plants.

In mammalian cells, *in vitro* studies on human lymphocytes, have shown increased incidences of structural chromosomal aberrations after treatment with cadmium. Among the observed aberrations were chromatid breaks, symmetrical and asymmetrical translocations, and deletions. *In vitro* tests on other mammalian cells in culture, such as Chinese hamster cells, displayed no increase in structural chromosomal aberrations with cadmium treatment but did show an increase in numerical chromosomal aberrations (e.g. hyperploidy and diploidy).

Numerical aberrations were also observed *in vivo* in the oocytes of mice and hamsters treated with cadmium. In these studies no structural chromosomal aberrations were noted. Numerical aberrations were also observed in the blastocytes of cadmium treated mice, indicating that aberrations induced in the oocytes may be transferred to the embryo. Other *in vivo* tests on mice have shown negative responses. For example, in micronucleus assays, the frequency of micronuclei in experimental groups did not increase compared to control groups. Also, in dominant lethal assays no increase in mutants was observed in mice injected with cadmium chloride compared to controls. Heritable translocation assays revealed no observable translocations in the spermatocytes of the F_1 progeny of mice injected with cadmium chloride.

As in other test systems, studies on humans have produced conflicting results. For example, lymphocytes from the blood samples of some patients suffering from Itai-Itai disease showed a high rate of chromosomal aberrations such as chromatid breaks and translocations; however, a similar examination of other Itai-Itai patients showed no aberrations. Similarly, positive and negative results were observed *in vivo* among cadmium exposed workers in two different smelter plants. It was noted that for the positive effects these workers may also have been exposed to other metals such as lead and zinc which might have induced or contributed to the observed aberrations.

Thus, although a number of positive mutagenic responses have been observed, there are also a number of conflicting negative responses. It is difficult to make comparisons or to make conclusions about these conflicting results since the studies investigated different endpoints, and often used different protocols. Thus, until more conclusive mutagenicity studies are conducted and reported, cadmium may be considered to be a potential mutagenic agent.

D. Carcinogenic Health Effects

Cadmium has been shown to induce cancers in laboratory animals and is associated with lung and prostate cancer in man. Cancer is the second most common cause of death in the U.S. today. Lung cancer claims the largest share of cancer deaths among males and the second largest share of cancer deaths among females. The National Center for Health Statistics reports that in 1980, the lung cancer death rate was 68.8 per 100,000 for males and 24.4 per 100,000 for females.

Few cases of lung cancer are curable, despite advances in medical and surgical oncology. Survival rates for lung cancer patients are poor with about 10% surviving five years or more after diagnosis (Ex. 8–62). Because lung cancer is almost certainly fatal, OSHA considers this disease to represent the gravest material impairment of health.

Prostate cancer does not always lead to death. Males may have prostate cancer for some time without any clinical manifestation of the disease. Some of these tumors lack the capacity for rapid growth, while others invade surrounding tissue and metastasize to distant organs and cause death. In 1980, 22,881 men died of prostate cancer; the prostate cancer death rate was 20.8 per 100,000 men. Because workers who work with cadmium are found to be at higher risk (Ex. 8–683) of prostate cancer and because so many men die of this disease, OSHA considers prostate cancer to also represent the gravest material impairment of health.

1. Animal Studies

Cadmium has been shown to be a carcinogen in animals when administered by inhalation. The strongest evidence of carcinogenicity comes from a rat bioassay by Takenaka et al (Ex. 4–67). In this well conducted

study, cadmium was found to induce lung carcinomas in exposed Wistar rats. Incidence in the exposed groups was statistically significantly elevated over the incidence in controls, and a statistically significant dose-response was observed.

Takenaka exposed three groups of male rats continuously for 18 months to cadmium chloride aerosols with nominal cadmium concentrations of 12.5, 25, and 50 $\mu g/m^3$. An additional group of 41 rats served as controls. The animals received water ad libitum during the experiment but were fed only 8 hours per day to minimize food contamination. The rats were observed for 13 months after the last exposure, at which time all surviving rats were sacrificed. There was no statistically significant difference in mean survival times among the four groups of rats, although the mean survival time for the high dose group was slightly shorter than the mean survival time for the other groups.

A histopathological examination was given to all rats surviving the exposure phase of the study unless their bodies were too autolyzed to allow such an exam. Cadmium concentrations were measured in the lungs, liver, and kidneys of a subgroup of each exposure group. Concentrations in the lung were nearly as high as in the liver. In all organs concentrations were observed to increase with dose except that only the low dose rats were found to have a slightly higher concentration in the lung than was found in the middle dose rats.

The incidence of lung carcinomas was 0/38 (0%) in the controls, 6/39 (15.4%) in the low dose group, 20/38 (52.6%) in the middle dose group, and 25/35 (71.4%) in the high dose group. The majority of carcinomas were adenocarcinomas; however, epidermoid carcinomas, mucoepidermoid carcinomas, and combined epidermoid carcinomas and adenocarcinomas were observed. The incidence of each of these tumors is presented in Table V–A.

TABLE V–A.—INCIDENCE OF LUNG CARCINOMAS IN MALE WISTAR RATS EXPOSED TO CADMIUM CHLORIDE AEROSOLS[1]

Tumor type	Controls (percent)	12.5 $\mu g/m^3$ (percent)	25 $\mu g/m^3$ (percent)	50 $\mu g/m^3$ (percent)
Adenocarcinoma	0/38 (0)	4/39 (10)	15/38 (39)	14/35 (40)
Epidermoid carcinoma	0/38 (0)	2/39 (5)	4/38 (11)	7/35 (20)
Mucoepidermoid carcinoma	0/38 (0)	0/39 (0)	0/38 (0)	3/35 (9)
Combined epidermoid carcinoma and adenocarcinoma	0/38 (0)	0/39 (0)	1/38 (3)	1/35 (3)
Total carcinomas	0/38 (0)	6/39 (15)	20/38 (53)	25/35 (71)

[1] From Takenaka et al. (Ex. 4–67)

The Takenaka study appears to have been the first animal study to conclusively document a lung cancer response from inhaled cadmium. Takenaka noted that a number of prior experimental study results had only raised the possibility of lung cancer being induced by cadmium inhalation. Other studies, however, have shown the induction of lung cancer and other cancers as a result of either inhalation or subcutaneous injection of several different cadmium compounds.

The Risk Assessment Guidelines published by the Office of Science and Technology (OSTP) call for taking account of negative as well as positive studies in assessing the weight of evidence on carcinogenicity (Ex. 8–693). Since 1980, OSHA has not published guidelines nor a standard concerning how it will assign weight of evidence in the qualitative evaluation of carcinogenicity in experimental animals. Other agencies have published guidelines, however, including OSTP and EPA. In EPA's guidelines, (51 FR 33992; Sept. 24, 1986), five conditions are identified that, if present, may lead to a relatively high degree of confidence in the results of animal bioassays for determining carcinogenicity: (1) Biologically independent tumors were found at a large number of sites; (2) independent experiments have demonstrated carcinogenic responses in both genders and in multiple species or strains of animals; (3) there is a clear-cut and statistically significant dose-response relationship; (4) there is a dose-related shortening of time-to-tumor occurrence; and (5) there is a dose related increase in the proportion of tumors that are malignant. Of these five conditions, four appear to exist for cadmium. OSHA requests comments concerning the degree of confidence that should be placed on the experimental study results related to cadmium in light of these five criteria.

The Takenaka study grew out of a pilot study by Heering et al. (Ex. 4–04). In that study, 10 rats were exposed for 18 months to cadmium chloride aerosols with a nominal cadmium concentration of 20 $\mu g/m^3$. The animals were sacrificed when exposure ended and four adenomas and one adenocarcinoma were observed.

Results from a study of intratracheal instillations of cadmium oxide are more equivocal. In a study of male Fisher-44 rats, Sanders and Mahaffey found no evidence of cadmium-induced lung carcinomas, but they did observe an increased incidence of mammary fibroadenomas (Ex. 4–61). In that study, three groups of rats were given intratracheal instillations of 25 μg cadmium oxide. Forty-eight rats received one treatment at 70 days of age; 46 rats received two treatments at 70 and 100 days of age for a total dose of 50 μg cadmium oxide; and 50 rats received three treatments at 70, 100, and 130 days for a total dose of 75 μg cadmium oxide. Forty-six rats serving as controls received one intratracheal instillation of 0.9% sodium chloride solution.

The observed incidence of mammary fibroadenomas was 3/45 (7%) in the controls, 7/44 (16%) in the low dose group, 5/41 (12%) in the middle dose group, and 11/48 (23%) in the high dose group. Using the Fisher Exact Test, only the high dose group had a statistically significantly elevated incidence over incidence in the controls ($p = .027$). Two (5%) adenocarcinomas of the lung were observed in the middle dose group. The average number of tumors per tumor bearing rat were 1.4, 1.5, 1.6, and 1.8 for the control, low dose, middle dose, and high dose groups respectively. The authors reported that this difference was significant ($p = .044$) in a chi-square test for independence between number of tumors and treatment groups. Slightly more rats in the control group were found to have no tumors (16%) than treated rats (5 to 7%).

Additional evidence of the carcinogenicity of inhaled cadmium is provided by the results from a long term bioassay by Oldiges et al. (Exs. 12–10i, 12–10h, and 12–35). In this study, groups of 20 male and female Wistar rats were

exposed to cadmium chloride concentrations at 30 $\mu g/m^3$ or 90 $\mu g/m^3$, cadmium oxide dust at concentrations of 30 $\mu g/m^3$ or 90 $\mu g/m^3$, cadmium oxide fumes at concentrations of 10 $\mu g/m^3$ or 30 $\mu g/m^3$, cadmium sulfate at a concentration of 90 $\mu g/m^3$, cadmium sulfide at concentrations of 90 $\mu g/m^3$, 270 $\mu g/m^3$, 810 $\mu g/m^3$, or 2430 $\mu g/m^3$, or a combination of cadmium oxide and zinc oxide dust at concentrations of 30 and 300 $\mu g/m^3$ respectively or 90 and 900 $\mu g/m^3$ respectively. Twenty male rats and 20 female rats served as controls.

Most groups of animals were exposed for 22 hours per day for 7 days per week. For each of these groups, exposure continued for 18 months or until 25% of that group had died. Other groups of animals were exposed to their cadmium compound for 40 hours per week for 6 months. This shorter exposure protocol was chosen to determine whether a brief exposure period would induce primary lung tumors. Animal groups were followed through month 31 of the study or until 75% of a group had died. At many of the exposure concentrations, doses proved to be too toxic and many animals did not survive the 31 months of study.

Preliminary results from this study are presented in Table V–B. The primary tumors observed in these rats were bronchio-alveolar adenomas, adenocarcinomas, and squamous cell tumors. The extremely high mortality rates seem to make this study unsuitable for quantitatively assessing the risk associated with each of the cadmium compounds studied or for assessing their relative carcinogenic potency. The study results indicate, however, that while zinc oxide dust may mitigate the carcinogenic potential of lower doses of cadmium oxide, each of the cadmium compounds alone is carcinogenic in animals exposed to these levels through inhalation.

TABLE V–B.—INCIDENCE OF PRIMARY LUNG TUMORS IN MALE AND FEMALE WISTAR RATS EXPOSED TO FOUR CADMIUM COMPOUNDS [a]

Exposure	Dose ($\mu g/m^3$)	Sex	Months of exposure [b]	Months of study [c]	Lung tumor incidence [d]
Controls		M		31	0/20
		F		31	0/20
Cadmium chloride	30	M	18	30	15/20
	30	F	18	31	13/18
Cadmium chloride	90	M	6	30	11/20
	90	F	6	29	3/18
Cadmium sulfate	90	M	14	31	11/20
	90	F	18	29	18/20
Cadmium sulfide	90	M	18	30	17/20
	90	F	18	31	15/20
Cadmium sulfide	270	M	16	30	14/19
	270	F	16	30	16/19
Cadmium sulfide	810	M	7	30	11/20
	810	F	10	29	13/20
Cadmium sulfide	2430	M	4	30	7/16
	2430	F	3	31	6/19
Cadmium sulfide	[e] 270	M	6	27	3/20
	[e] 270	F	6	29	3/20
Cadmium oxide dust	30	M	18	31	15/20
	30	F	18	31	15/20
Cadmium oxide dust	90	M	7	31	9/17
	90	F	1	31	11/16
Cadmium oxide dust	[e] 90	M	6	31	4/20
	[e] 90	F	6	31	3/20
Cadmium oxide dust	[f] 30	M	18	29	13/18
	[f] 30	F	18	29	12/20
Cadmium oxide fume	10	M	18	31	0/19
	10	F	18	31	0/19
Cadmium oxide fume	30	M	18	31	3/19
	30	F	18	31	4/17
Cadmium oxide and zinc oxide dust		M	18	31	0/20
	[g] 30/300	F	18	31	0/20
Cadmium oxide and zinc oxide dust		M	18	31	8/20
	[g] 90/900	F	18	31	7/20

[a] From Oldiges et al (Exs. 12–10i, 12–10h, and 12–35).
[b] Study protocol called for 6 or 18 months of exposure, but exposure was terminated when 25% of an animal group died.
[c] Months of study includes months of exposure. All animals in a group were sacrificed when mortality in that group exceeded 75%.
[d] Incidence is number of animals with at least one primary tumor divided by the number of animals at risk. Primary lung tumors are bronchio-alveolar adenomas, adenocarcinomas, and squamous cell tumors.
[e] Exposure was for 40 hours per week.
[f] Rats were fed a zinc-reduced diet.
[g] Dose was 30 $\mu g/m^3$ of cadmium and 300 $\mu g/m^3$ of zinc or 90 $\mu g/m^3$ of cadmium and 900 $\mu g/m^3$ of zinc.

Heinrich et al (Ex. 8–694) exposed male and female Syrian golden hamsters and female mice to aerosols of cadmium sulfide, cadmium sulfate, cadmium chloride and cadmium oxide (as dust and fume) in various concentrations ranging from 30 to 1000 μg Cd/m^3. The animals were exposed for either 19 hours a day or 8 hours a day, 5 days a week for up to 14 months. After completion of the exposure period the animals were observed for another 6 to 12 months prior to sacrifice. In hamsters and mice, all cadmium compounds showed toxic effects in the respiratory tract leading to high mortality rates even in those groups where exposure was 30 $\mu g/m^3$ (mice) or 90 $\mu g/m^3$ (hamsters). For example, in mice exposed to cadmium oxide only 5 out of 14 treatment groups did not have shortened lifespans. Out of these 5 groups, 3 had a significant increase in the incidence of lung tumors, but this finding may be distorted by the high mortality rates seen in these groups and the high lung tumor incidence in the control groups. In

mice, all cadmium compounds caused an increased incidence of alveolar lipoproteinosis, interstitial fibrosis and bronchio-alveolar hyperplasia.

In hamsters, Heinrich et al claim to have observed no carcinogenic effect from any of the cadmium compounds, but tabular data were not provided on hamsters. It was observed that all the compounds caused a dose-dependent increase of bronchio-alveolar hyperplasia, thickening of the septa and proliferation of connective tissue, and the incidences of these conditions were statistically significantly increased.

There have been numerous studies involving the subcutaneous or intramuscular injection of cadmium into both rats and mice. The U.S. Environmental Protection Agency's "Updated Mutagenicity and Carcinogenicity Assessment of Cadmium" presents a summary of many of these studies (Ex. 4–4, p. 62–64).

A short summary of several of these studies is provided in the following section. Several studies have failed to demonstrate a carcinogenic effect from cadmium. In a series of studies, rats and mice were given 5 ppm cadmium acetate or oxalate in drinking water throughout their lives (Exs. 8–308, 8–121, 8–196). Compared to controls, there were no significant differences in the incidence of tumors in animals treated with cadmium, although mortality was increased in rats and male mice. In a study of prostatic changes due to cadmium, Levy et al. (Ex. 8–194) treated rats by subcutaneous injection of cadmium sulphate into the flank once weekly for two years in doses of 0.2, 0.1, and 0.05 mg. A low incidence of sarcomata at the injection site was seen in the treated groups. Levy stated that this finding was not unexpected, having been previously reported by Haddow et al. in 1964 (Ex. 4–34), Kazantzis in 1963 (Ex. 8–576), and Health et al., in 1962 (Ex. 3–117). No neoplastic changes were seen in the prostate gland, and there was no treatment-related increase in the incidence of neoplasms at other sites.

In two further studies of the effect of cadmium on the prostate gland by Levy et al. (Ex. 8–034 and 8–117), mice and rats were treated with cadmium sulphate by gastric instillation. Dosing regimens were 0.35, 0.18, and 0.087 mg/kg body weight once weekly for two years for rats, and 1.75, 0.88, and 0.44 mg/kg body weight once weekly for 18 months for mice. Concurrent dosing regimens of mice and rat controls were run using gastric instillation of equivalent amounts of distilled water. In both studies, no neoplastic lesions of the prostate or urinary tract were seen. Tumors seen in other organs could not be related to cadmium treatment.

Loser (Ex. 8–643) treated rats with cadmium chloride in the diet for two years at doses of 1, 3, 10, and 50 ppm. Fifty male and fifty female rats were used for each level; 100 rats of each sex served as concurrent controls. Cadmium treatment was not associated with an increased incidence of total numbers of tumors or any specific type of neoplasia.

Other studies (Exs. 4–55, 4–57, and 8–253) show that the injection of cadmium metal or certain salts of cadmium produce sarcomas at the site of injection as well as interstitial and Leydig cell tumors of the testes in experimental animals. The simultaneous administration of zinc and cadmium has been found to reduce the incidence of cadmium-induced testicular tumors (Ex. 8–253). For a discussion of these studies, please see Elinder (Ex. 8–086B p. 206).

OSHA has not relied upon the injection and peroral studies for assessing carcinogenic risk, nor upon the preliminary data on inhalation. The reasons for this are set forth below in the Significance of Risk section of the preamble.

OSHA relied, in part, upon the review by the International Agency for Research on Cancer [(IARC) Ex. 8–656] using IARC's criteria for categorizing animal data. IARC states that cadmium chloride, cadmium oxide, cadmium sulfate, and cadmium sulfide produced local sarcomas in rats following injection. Cadmium chloride and cadmium sulfate produced testicular tumors in mice and rats after subcutaneous administration. IARC concluded that the animal data are "sufficient", that is, a causal relationship has been established between exposures to cadmium and an increased incidence of malignant neoplasms or a combination of benign and malignant neoplasms in 2 or more species or in 2 or more independent studies in one species. IARC classifies cadmium as a probable human carcinogen because it is biologically plausible and prudent to regard agents for which there is "sufficient" animal evidence of carcinogenicity as if they presented a carcinogenic risk to humans.

Epidemiological Studies

Strong supportive evidence of the carcinogenicity of cadmium in humans comes from a mortality study of cadmium smelter workers by Thun et al (Ex. 4–68). Thun observed an excess of lung cancer deaths which was dependent upon intensity of cadmium exposure. 602 white males were selected for study. Each had spent at least 6 months in a production area of the smelter between 1940 and 1969. Workers were followed through 1978. The mortality status of all but 12 workers (2%) was determined; 411 were still alive (69%) and 179 had died (29%). Twenty-six workers who met the inclusion criteria were omitted from most of the analysis because these workers were hired prior to 1926 when the smelter functioned as an arsenic smelter. Arsenic is a known risk factor in lung cancer.

Worker exposures were estimated by Smith et al who based his estimates on historical area monitoring data adjusted to reflect the actual exposures of workers wearing respirators (Ex. 4–64). Using Smith's exposure estimates and company personnel records, Thun calculated cumulative dose estimates for each worker in his cohort.

Thun analyzed his data using a modified life-table method developed by NIOSH. Expected rates were calculated from the U.S. population and were adjusted for age, sex, race, and calendar time. Both standardized mortality ratios (SMRs) and standardized risk ratios (SRRs) were examined. To analyze his data by cumulative exposure, Thun divided his cohort into three groups. The low dose group had cumulative exposures less than or equal to 584 mg/m^3-days; the middle dose group had cumulative exposures between 585 and 2920 mg/m^3-days; and the high dose group had cumulative exposures greater than or equal to 2921 mg/m^3-days. These exposures correspond to 40 years of exposure at less than or equal to 40 $\mu g/m^3$ for the low dose group; 40 years of exposure between 41 and 200 $\mu g/m^3$ for the middle dose group; and 40 years of exposure at greater than 200 $\mu g/m^3$ for the high dose group. Thun also identified for separate analysis a subset of the low exposure group of his cohort in which the 40-year TWA equivalent exposures ranged from 21–40$\mu g/m^3$. These calculations are based on the assumption that 10 years of exposure at 1 $\mu g/m^3$ has the same carcinogenic effect as 1 year of exposure at 10 $\mu g/m^3$.

Forty-three percent of the workers had less than 2 years of employment. Follow-up time was long; 82.5% had more than 20 years of follow-up and 66.3% had more than 30 years of follow-up. Among the entire cohort of 602 workers, a statistically significant excess of deaths due to respiratory cancer (Obs=20; Exp=12.5; SMR=165; CI=101–254) and deaths due to non-malignant gastrointestinal disease (Obs=9; Exp=2.35; SMR=383; CI=175–727) were observed. All deaths due to lung cancer occurred in workers with more than two years of employment.

When the analysis was restricted to the 576 workers hired after 1926, the excess of lung cancer death was no longer statistically significant, but when the analysis was further restricted to those workers with two or more years of employment, the observed excess was statistically significant (Obs=16; Exp=7.00; SMR=229; CI=131–371).

Analysis of the 576 workers hired after 1926 indicates that the incidence of lung cancer death increases with dose. Among the low dose group, there was a deficit, i.e. lower than expected, of lung cancer deaths (Obs=2; Exp=3.77; SMR=53; SRR=.48). Among the subset of the low exposure group, the lung cancer SMR was 100 and the SRR was 96. For the middle dose group, there was no such deficit (Obs=7; Exp=4.61; SMR=152; SRR=1.55), but the observed excess was not statistically significant. For the high dose group, the excess lung cancer deaths was statistically significant (Obs=7; Exp=2.5; SMR=280; CI=113–577; SRR=3.45). Thun reported that this dose-response trend was also observed when the analysis was restricted to workers with more than 20 years since first exposure. The regression slope of the SRR for lung cancer was statistically significant indicating that an increase in cadmium exposure is producing a real increase in the risk of lung cancer.

OSHA notes that for many reasons, the finding of a deficit in lung cancer in the low dose group may not demonstrate an absence of lung cancer risk at low doses. For example, workers tend to be healthier than the general population. One would therefore expect a lower incidence of lung cancer among workers than in the general population if cadmium exposure posed no carcinogenic risk. This "healthy worker effect" is evidenced by studies which show that active workers experience a mortality risk of 60% to 90% that of the general population which includes sick, disabled, and institutionalized persons (Ex. 8–677).

Thun et al. also observed a significant increase in death from non-malignant gastrointestinal disease (NMGID), 9 observed versus 2.35 expected. The death certificates for six of these individuals suggested peptic ulcer disease. For those hired after 1926, there was a significant linear trend between increased cadmium exposure and the SRR from NMGID. The authors thought this observation was noteworthy in light of previously reported associations between cadmium exposure and severe gastrointestinal irritation in humans.

A non-statistically significant excess of genitourinary cancer was observed for the entire cohort (Obs=6; Exp=4.45; SMR=135; CI=49-293). Three of these deaths were from prostate cancer. The observed mortality from prostate cancer exceeded the expected, but the excess was not statistically significant (Obs=3; Exp=2.2; SMR=136). There were two other cases of prostate cancer, however, which Thun did not include in his analysis. One of these was a death from prostate cancer which occurred in a guard who had not spent 6 months in a production area of the smelter. The second case was not included because prostate cancer was not the underlying cause of death.

Thun et al. also evaluated the potential for arsenic exposure and cigarette smoking to confound the relationship between cadmium exposure and lung cancer. With regard to arsenic exposuree the authors separated their cohort into those hired prior to and subsequent to 1926, since arsenic smelting operations ceased in 1925. Thun *et al.* also had information from company records that the percent of arsenic in ore used at the cadmium smelter subsequent to 1925 was about 5% or lower and that potential for arsenic exposure was limited to only a few operations. They then took into account arsenic exposure to workers based on area and personal sampling data for atmospheric arsenic exposure, respirator use and urinary arsenic excretion. They estimated that there had been an average of 25 ug/m^3 of arsenic exposure for a total of 1,728 person-years of exposure. This estimate was considered biased on the high side. They then calculated the impact of this exposure on the role of lung cancer among employees in the cohort using the risk assessment model preferred by OSHA during its arsenic rulemaking. They concluded that the arsenic exposure received by the cohort would result in no more than 0.77 lung cancer deaths over the entire lifetime of the cohort. Thus, arsenic exposure did not seem to have any major impact on the lung cancer risk observed among the cadmium exposed workers.

Thun et al. also evaluated the role of cigarette smoking on lung cancer among the cohort members (Ex. 8-658). While it is difficult to know the smoking habits of workers in 1965, it is known that a sizable proportion of the cohort consisted of Hispanics who have a lower frequency of cigarette use. Hispanics are known to have a lower rate of lung cancer than the general U.S. white male population partially as a result of this (Ex.8-658). Use of U.S. white male population statistics to generate expected death rates, therefore, would overestimate the expected rates thus lowering the SMR.

OSHA is of the opinion that confounding from arsenic exposure and cigarette smoking is not likely to account for the increased lung cancer risk observed among the cadmium exposed workers. Furthermore, since the majority of this cohort is comprised of Hispanic workers, who have a lower rate of lung cancer mortality than the general U.S. white male population that was used to calculate the expected mortality, the lung cancer risk in the cadmium cohort may have been underestimated.

Varner conducted an earlier study of workers at the same cadmium smelter (Ex. 8–649). His cohort consisted of 644 workers with at least six months employment between 1940 and 1969. The cohort was followed through 1981. Mortality data was analyzed using Standardized Cause Ratios (SCRs). The preliminary findings of the study were statistically significant excesses of mortality due to lung cancer, urinary tract cancer, specific bladder cancers, and total cancers. Mortality due to prostrate cancer was elevated, but the excess was not statistically significant.

Varner attributed the observed excess of lung cancer deaths to arsenic exposure and cigarette smoking. Nonetheless, a dose-response relationship was observed between cadmium exposure and lung cancer and between cadmium exposure and total cancers. Cumulative cadmium exposures were estimated for each member of the cohort using personal monitor measurements made from 1973 through 1976. Exposures measured during this period were assumed to be constant for the entire period of study. The cohort was divided into a low exposure group (0–4 mg/m^3-years), a middle exposure group (5–15 mg/m^3-years), and a high exposure group (16+ mg/m^3-years). The observed SCRs for lung cancer deaths for each exposure group were: 95 for the low dose group, 159 for the middle dose group, and 332 for the high dose group. The observed SCRs for all cancer deaths for each exposure group were: 108 for the low dose group, 123 for the middle dose group, and 168 for the high dose group. If arsenic exposure and smoking were the cause of the excess cancer deaths, one would not expect to see such clear dose-response relationships between cadmium exposures and lung cancer.

Both the Thun study and the Varner study were follow-ups to an earlier study of workers at the same smelter by Lemen et al (Ex. 4–61). Lemen defined his study population differently than Thun. Lemen's study population consisted of 292 white males with a

mind of 2 years employment between 1940 and 1969. A statistically significant excess of deaths due to malignant neoplasms was observed (Obs=27; Exp=17.57; SMR=154;). Twelve of these deaths were due to respiratory cancer which was also a statistically significant excess (Obs=12; Exp=5.11; SMR=235;). Lemen reported that the risk of lung cancer increased with time since first exposure and that the greatest risk was observed among workers with more than 30 years of follow-up. Lemen also reported an excess of deaths due to prostate cancer (Obs=4; Exp=1.15; SMR=347; p>.05) which was significant when the analysis was restricted to workers with more than 20 years since first exposure (Obs=4; Exp=.88; SMR=452).

There have been numerous studies of workers in cadmium battery factories which suggest a link between cadmium exposure and prostate cancer. One of the earliest of these was by Kipling and Waterhouse who observed four prostate cancer cases among a cohort of 248 men employed in a British nickel-cadmium battery factory with cadmium oxide dust exposure (Ex. 4–45). Using incidence rates from a regional cancer registry to calculate the expected number of cases, these authors reported that the observed incidence of prostate cancer was more than seven times greater than the expected 0.58 cases (p=.003).

In a further study of workers from the same factory, Sorahan and Waterhouse observed a statistically significant excess of respiratory cancer (Obs=89; Exp=70.2; SMR=127; p<.05)(Ex. 4–65). An excess of prostate cancer was also observed, but this was not statistically significant (Obs=8; Exp=6.6; SMR=121).

To assess the effect of dose on mortality, the authors devised two measures of cadmium exposure. The first exposure measure was "cumulative duration of employment in high exposure jobs", and the second exposure measure was "cumulative duration of employment in high or moderate exposure jobs." Using the method of regression models in life tables, the authors found that cumulative duration of employment in high cadmium exposure jobs was significantly related to prostate cancer mortality but only when the four original cases described by Kipling and Waterhouse were included in the analysis. When cadmium exposure was measured by cumulative duration of employment in high cadmium exposure jobs, exposure was not statistically significantly associated with lung cancer mortality, but when cadmium exposure was measured by cumulative duration of employment in high or moderate cadmium exposure jobs, a statistically significant association was observed. The authors caution, however, that this observed effect could be confounded by oxyacetylene fume exposure.

Workers at this factory were studied once again by Armstrong and Kazantzis, who conducted a case-control study of workers who had died of prostate cancer, renal cancer, bronchitis or emphysema, or nephritis or nephrosis (Ex. 4–19). Cases were selected from three cohorts of British workers exposed to cadmium. All of the cohorts had been studied previously. Cohort C1 was comprised of workers from a lead-zinc-cadmium smelter previously studied by Armstrong and Kazantzis (Ex. 8–565). Cohort C2 was comprised of workers from the nickel-cadmium battery factory studied by Sorahan and Waterhouse (Ex. 4–65). Cohort C3 was comprised of workers from a copper-cadmium alloy plant previously studied by Holden who had found statistically significant excess of prostate cancers (Ex. 4–40). Cases consisted of workers who died of prostate cancer, chronic respiratory disease or renal disease. Only men born before 1940 with at least one year employment before 1970 were included. For each case, three controls were selected matched by plant, age, and, as nearly as possible, date of birth.

The authors divided these cohorts into three groups: always low cadmium exposure; ever medium cadmium exposure; and ever high cadmium exposure. They found that the odds of prostate cancer for the ever medium or ever high exposure groups were elevated relative to the always low exposure groups (1.55 and 1.35 respectively), but neither of these odds ratios were statistically significant. The authors note, however, that the small number of prostate cancer cases makes interpretation of this finding difficult.

In 1987, Sorahan updated his study of the nickel cadmium battery workers (Ex. 12–12A). Twenty-two additional deaths from lung cancer were reported. According to the author, there was some evidence of an association between risk of death from lung cancer and duration of employment in high or moderate (or slight) exposure jobs for "early workers", (i.e. first employed before 1946), but none for "late workers" (i.e. first employed after 1946). A significant increase in lung cancer was observed for the entire cohort of workers (110 Obs., 84.5 Exp., p<.01). Sorahan did not report a statistically significant increase in lung cancer for his cohort when workers were divided into "early workers" and "late workers", but OSHA's analysis shows that there was a significant excess of lung cancers for the "late workers" (45 Obs., 33 Exp., p<.05—one tail).

Among "late workers", the SMRs for lung cancer were observed to increase with years from first employment. Because this trend was not observed for "early workers", Sorahan suggested that there might be selection bias for the "early workers" and that this sub-cohort may be incomplete. The study's inability to demonstrate a significant relationship between duration of employment and lung cancer risk, however, does not mean that there is no association between cadmium exposure and lung cancer risk. Duration of exposure may not be a surrogate for dose, particularly when the length of exposure periods are not adjusted for the particular years in which the exposure occurs. The observed excess of lung cancer deaths among the "late workers" supports an association between cadmium exposure and lung cancer.

Ades and Kazantzis conducted a study of lung cancer in non-ferrous smelter workers (Ex. 12–14C). This cohort of men employed in a lead-zinc-cadmium smelter was part of Cohort C1 in the Armstrong and Kazantzis study described above (Ex. 4–19). The authors found a significant excess of lung cancer deaths among the entire cohort (182 Obs., 146.2 Exp., p<.005). In subcohorts of workers, a significant excess of lung cancer deaths was observed for workers with 20 to 29 years of employment (44 Obs., 23.1 Exp., p<.005) and for workers with 40 or more years of employment (8 Obs., 2.74 Exp., p<.02).

SMRs for lung cancer death were observed to increase with duration of employment for the cohort. This linear trend was statistically significant. The risk of lung cancer for workers with more than five years of employment relative to the risk for workers with less than five years of employment was also observed to increase with duration of employment. Using a matched logistic regression analysis, the authors were able to associate this increasing risk with exposure to arsenic and lead but not cadmium. This finding, however, could be due in part to the study protocol for choosing controls. Cases and controls were matched by date of hire, but because controls were required to have ten years of follow-up and to survive the matched case, cases and controls may have been inadvertently matched on cadmium exposure as well.

The entire Armstrong and Kazantzis cohort was studied again by Kazantzis and associates (Ex. 8–684). In this

update, the authors followed the workers for an additional five years. Seventy-five additional cases of lung cancer were observed, resulting in a significant excess of mortality due to lung cancer for both the additional five year period (SMR=134; 95% CI=103–164) and the entire study period (Obs=277; Exp=240.9; SMR=115; 95% CI=101–129).

The increased lung cancer risk occurred mainly among those first employed before 1940, and the risk increased with length of employment and length of follow-up. The majority of lung cancer deaths were among workers employed in the non-ferrous smelter studied by Ades and Kazantzis. This worksite provided over 60% of the total study population, but its workers' exposures were characterized only as low or medium. No exposures in the smelter were characterized as high.

Over the entire study period, there was a statistically significant excess of mortality due to stomach cancer (Obs=98; Exp=70.6; SMR=139; 95% CI=111–166). Of the 98 deaths observed, 22 occurred during the five years of added follow-up, giving a statistically significant excess of stomach cancer mortality for that five year period (SMR=179; 95% CI=112–271).

In an update of an earlier study by Kjellstrom *et al* (Ex. 4–48) Elinder *et al* analyzed mortality data on a cohort of 545 male workers at a Swedish cadmium-nickel battery factory (Ex. 4–25). While no statistically significant excess of mortality due to any type of cancer was observed, the authors reported that the SMRs for cancers of the lung, prostate, and bladder increased with time since initial exposure (i.e. latency) among workers with at least 5 years of exposure. Thus, for lung cancer, the SMR, was 133 for the entire cohort, but for workers with at least five years of exposure, the SMR was 163 after 10 years latency and 175 after 20 years latency. For prostate cancer, the SMR was 108 for the entire cohort, but for workers with at least 5 years of exposure, the SMR was 125 after 10 years latency and 148 after 20 years latency. For bladder cancer, the SMR was 181 for the entire cohort, but for workers with at least 5 years of exposure, the SMR was 222 after 10 years latency and 250 after 20 years latency.

In the paper, Elinder summarized the results of 13 studies of occupational cadmium exposure and prostate cancer. Twelve of the 13 studies reported excess cancers of the prostate, and 4 of these excesses were statistically significant. Elinder noted that the median SMR of the combined studies was 167, and when the number of observed and expected cases are combined for the most recent updates of the six independent studies, (7 of the 13 studies were updates of earlier studies), the statistically significant SMR for prostate cancer for all cohorts is 162 (28 obs., 17.2 exps., $p<.02$).

Elinder also summarized the lung cancer mortality observed in these 13 studies. Twelve of these excesses were statistically significant. The SMR for data pooled from the five most recent independent studies was 121, and this too was statistically significant (195 obs., 161.4 exp., $p<.01$).

What is most compelling about all these studies is the consistency of association between lung and prostate cancer and exposure to cadmium among workers in different industries located in different countries. Elinder et al. concluded, "Our interpretation is that the accumulating data on the mortality of cadmium workers with high exposure levels in the past (above 0.3 mg Cd/m^3 support an association between lung cancer and cancer of the prostate and exposure to cadmium." (Ex. 4–25). OSHA agrees with this conclusion.

Some of the cadmium exposed cohort members in some studies had potential for exposure to other potential lung carcinogens. For example, workers in the Elinder *et al* study also had exposure to nickel hydroxide as well as to cadmium oxide. Nickel exposure may also have contributed to the excess of lung cancer seen in the British battery plant. Nickel exposure, however, is not likely to have occurred in the British copper alloy plant nor in the U.S. plant studied by Thun *et al*. Although some workers in the Thun et al. study had potential for exposure to arsenic, the study demonstrated a dose-response for lung cancer in relation to cadmium exposure. If background contamination of arsenic was responsible for the increase in lung cancer observed among the employees in the cohort, one would not expect to see a dose-response in relation to the cadmium exposure unless arsenic and cadmium exposures were correlated. Furthermore, analyses by Thun *et al*. estimated that arsenic contamination could have accounted for less than one lung cancer death in his study.

While there is the potential for some cohort members in some of the studies to have been exposed to other potential lung carcinogens, it is OSA's opinion that the epidemiologic data taken as a whole demonstrate a significant association between cadmium exposure and lung cancer. The data also demonstrate a significant association between cadmium exposure and prostate cancer. These epidemiologic findings are consistent with the results of cancer bioassays demonstrating the carcinogencity of cadmium in experimental animals. Thus, OSHA agrees with IARC (Ex. 8–656) that cadmium is a probable human carcinogen.

VI. Preliminary Quantitative Risk Assessment

A. Introduction

The United States Supreme Court, in the "benzene" decision, (*Industrial Union Department, AFL–CIO* v. *American Petroleum Institute*, 448 U.S. 607 (1980)) has ruled that the OSH Act requires that, prior to the issuance of a new standard, a determination must be made that there is a significant risk of health impairment at existing permissible exposure limits and that issuance of a new standard will substantially reduce or eliminate that risk. The Court stated that "before he can promulgate *any* permanent health or safety standard, the Secretary is required to make a threshold finding that a place of employment is unsafe in the sense that significant risks are present and can be eliminated or lessened by a change in practices" [448 U.S. 642]. The Court also stated "that the Act does limit the Secretary's power to require the elimination of significant risks" [448 U.S. 644].

Although the Court in the cotton dust case (*American Textile Manufacturers Institute* v. *Donovan*, 452 U.S. 490 (1981)) rejected the use of cost-benefit analysis in setting OSHA standards, it reaffirmed its previous position in "benzene" that a risk assessment is not only appropriate, but also required to identify significant health risk to workers and to determine if a proposed standard will achieve a reduction in that risk. Although the Court did not require OSHA to perform a quantitative risk assessment in every case, the Court implied, and OSHA as a matter of policy agrees, that assessments should be put into quantitative terms to the extent possible.

The determining factor in the decision to perform a quantitative risk assessment is the availability of suitable data for use in such an assessment. In the case of cadmium, OSHA has determined that data are available to quantify two types of risk. The first of these is cancer risk. Data from both the Takenaka rat bioassay (Ex. 4–67) and the Thun human mortality study (Ex. 4–68) have been used by others to quantify the risk associated with cadmium. OSHA used both of these data sets for

its quantitative risk assessment. The Agency believes, however, that the exposure measurements are more accurate in the rat study than in the human study. Limited evidence exists concerning the exposure rate and duration of exposure for members of Thun's cohort, and no exposure estimates exist for individuals in the cohort. Furthermore, the Thun data can be used to predict excess lung cancer deaths only, whereas the rat data may be used to predict excess deaths from all types of cancer.

The second type of risk associated with cadmium which OSHA has determined can be quantified is the risk of kidney dysfunction. As discussed in a previous section, a number of studies have shown a dose-response relationship between cadmium exposure and kidney dysfunction. The authors of one study, Ellis, Cohn, and Smith, (Ex. 4–27), used their data to model the observed dose-response relationship. It is this model (a logistic regression model) which OSHA has used to derive its best estimate of risk of kidney dysfunction.

There is uncertainty associated with the quantification of any kind of risk. In this risk assessment, OSHA has tried to describe many of the sources of uncertainty and to address their implications on OSHA's estimates of risk. Additional discussion of the uncertainty in OSHA's cadmium risk assessment is provided below in the Significance of Risk section of this preamble.

B. Estimates of Cancer Risk Derived from Animal Data

1. Choice of Data Base for Quantitative Risk Assessment

The inhalation bioassay conducted by Takenaka et al (Ex. 4–67) provides the best available data for quantifying the carcinogenic risk associated with cadmium exposure. OSHA requests comments concerning how and whether the additional positive and negative experimental studies should be used in developing OSHA's final risk assessment based upon the toxicologic studies. The study, described above, entailed the continuous exposure of three groups of 40 male Wistar rats to cadmium chloride aerosols at nominal cadmium concentrations of 12.5, 25, and 50 $\mu g/m^3$. Forty-one male Wistar rats served as controls. The rats were continuously exposed to the test article for 18 months. They were then followed for an additional 13 months, when all surviving rats were sacrificed. Mean survival was 121.9 weeks for the controls, 119.2 weeks for the low dose group, 124.5 weeks for the middle dose group, and 116.1 weeks for the high dose group.

The Takenaka study is particularly suitable for quantitative risk assessment for several reasons. First of all, the exposure levels are well documented. The study was run with concurrent controls, and a statistically significant excess of malignant neoplasms in the exposed rats and a statistically significant dose-response relationship were observed. Finally, the route of exposure used in this study (i.e. inhalation) is the same as is found in most occupational settings.

The carcinogenic response observed in the rats was carcinoma of the lung. Three different types of carcinoma were observed: adenocarcinoma, epidermoid carcinoma, and mucoepidermoid carcinoma. The majority of tumors were adenocarcinomas. For the purpose of quantifying risk, these tumor types were combined to obtain an overall measure of carcinogenic response. The number of rats at risk in each group is the number of rats examined histologically. Rats were not examined if they died during the 18 months of exposure or if they were too autolyzed to be examined. The observed incidence of lung carcinomas was 0/38 (0%) for controls, 6/39 (15.4%) for the low dose group, 20/38 (52.6%) for the middle dose group, and 25/35 (71.4%) for the high dose group.

2. Measure of Dose

The extrapolation of carcinogenic risk across species rests on the assumption that when dose is measured in equivalent units for both species, then the risk associated with lifetime exposure to a substance is the same for each species at each dose. It does not follow from this assumption, however, that the observed carcinogenic response will be the same across species. Indeed, the cancers associated with exposure to a substance often differ across species and may differ between sexes of the same species. For example, ethylene oxide exposure is associated with peritoneal mesothelioma in male Fischer 344 rats, mononuclear cell leukemia in female Fischer 344 rats, and leukemia in humans. In rulemaking for ethylene oxide, OSHA based its risk assessment of human cancer risk on the rat data despite differences in observed tumor types (Apr. 21, 1983; 48 FR 17284).

Takenaka found that cadmium induced lung cancer in rats. Lung cancers have been reported in association with human exposure to cadmium, but other tumors (e.g., prostate cancer) have also been reported in association with human exposure to cadmium. Thus, OSHA's risk assessment uses data from the rat bioassay to predict the excess human risk of death from all types of cancers associated with occupational exposure to cadmium. This is consistent with OSHAs practice of estimating total excess cancer deaths as was done in the Arsenic, Ethylene Oxide, and Asbestos Standards. Exposure levels are scaled to equivalent doses for rats and man by measuring dose in units of inhaled micrograms per kilogram of body weight per day($\mu g/kg/day$). This conversion may adjust for differences in rates of inhalation, metabolism, and absorption between species.

In the case of an inhaled particulate like cadmium, the dose received by exposed animals or humans is a function of three factors: particulate levels in ambient air; volume of air inspired; and fraction of inhaled particles deposited in the lungs and upper airways. In its cadmium risk assessment, the Office of Health and Environmental Assessment, U.S. Environmental Protection Agency (EPA) raised the question of whether this last factor, fraction of inhaled particles deposited in the lungs and upper airways, can and should be taken into account in estimating internal dose (Ex. 4–04). After noting that particle deposition varied with species, particle size, and depth and rate of inhalation, EPA concluded that it was not possible to adjust internal dose for this factor.

OSHA agrees with EPA's conclusion. Clearly, particle size can not be used to adjust for particle deposition because there is no precise data available on the size of cadmium particles to which workers are exposed. Alveolar deposition of cadmium particles is believed to range from 50% for 0.1 um particles to 5% for 10 um particles (Ex. 8–086A, page 107). Furthermore, as noted by EPA, considerable variability in the fraction of cadmium particles deposited in the lungs was observed not only between studies but also among individuals within each study and within individuals themselves. This last source of variability was attributed to changes in breathing patterns. EPA reported that the fraction of particle deposition in human alveoli exposed to cadmium particles 0.5 um in diameter was observed to vary from approximately 9% to 21%. This range covers the 10% fraction of particle deposition observed in rats exposed to particles 0.55 um in diameter, approximately the size of the particles used in the Takenaka study. Thus, like EPA, OSHA believes that given the available data, it is reasonable to assume that cadmium particle

deposition in the alveoli is similar for rats and humans for cadmium particles of similar size, since the range for humans covers the range for rats, and that no adjustment for species differences in particle deposition is required.

As mentioned in the section of the preamble dealing with chronic pulmonary effects, OSHA does not believe it is possible to quantify the risk of cancer or other diseases of the lung based on differences in particle size. Furthermore, if it were possible to quantify risk based on the particle size distribution of cadmium compounds in various occupational settings, OSHA does not have data concerning the distribution of particle sizes to which workers are exposed in different occupational settings. OSHA therefore requests comments and empirical data concerning the size distribution of actual particles encountered in occupational settings and any information that would improve the ability to assess risks based on particle size. In particular, would different lung disease risks be posed by different particle sizes? Is regulation warranted according to particle size? If distribution of particle size should be measured, what type of sampling and analytical methodology should be used? Is there a need to distinguish the respirable portion of total airborne cadmium particles?

Data for converting experimental dose into units of microgram per kilogram per day (μg/kg/day) are presented in Table VI–A. From the Federation of American Societies for Experimental Biology it is reported that a rat which weighs .113 kg breaths .105 m^3/day. Using surface area proportionality, the volume of air inhaled per day (I m^3) by a rat which weighs W kg may be estimated using the equation:

$$I = .105 \times (W/.113)^{2/3}.$$

To estimate the volume of air inhaled by rats in each of the bioassay exposure groups, the average weight of each group of rats at 18 months was used.

Takenaka reported that the average measured concentrations of cadmium received by the rats was 13.4 μg/m^3 for the low dose group, 25.7 μg/m^3 for the middle dose group, and 50.8 μg/m^3 for the high dose group. For each group of rats, let MC μg/m^3 represent the measured cadmium concentration: let I m^3 = the volume of air inhaled per day; and let W kg = the average weight of the rats at 18 months. The daily dose of cadmium received by that group of rats may be converted into units of μg/kg/day using the equality

$$\text{Dose}(\mu g/kg/day) = \frac{MC(\mu g/m^3) \times I(m^3)}{W(kg)}$$

Once dose has been converted into units of μg/kg/day, it must be adjusted to an equivalent continuous lifetime dose as required by most quantitative risk assessment computer programs. The rats in the Takenaka bioassay were exposed to cadmium for 18 months. If it is assumed that average survival was two years, then the rats were exposed continuously for 75% of their lives. On the assumption that exposure at level Y for 18 months has the same effect as exposure at 75% of level Y for two years, the dose received by each group of rats is multiplied by .75 to arrive at an equivalt continuous lifetime dose. Mean survival ranged from 116.1 weeks to 124.5 weeks for exposed rats. The mean survival control rats was 121.9 weeks. These doses are estimated as 6.01 μg/kg/day for the low dose group, 11.41 μg/kg/day for the middle dose group, and 22.78 μg/kg/day for the high dose group.

TABLE VI–A.—DATA FOR CONVERTING DOSE MEASURED IN μg/m^3 to Units of μg/kg/day for the Takenaka Rat Bioassay

	Low	Middle	High
Nominal dose (μg/m^3)	12.5	25	50
Measured dose [a] (μg/m^3)	13.4	25.7	50.8
Average weight at [b]18 Months (Kg)	.4246	.4376	.4243
Volume air inhaled [c] per day (m^3)	.2538	.2589	.2537
Experimental dose [d](μg/kg/day)	8.01	15.21	30.41
Continuous lifetime [e] dose (μg/kg/day)	6.01	11.41	22.78

[a] Measured concentrations reported by Takenaka.
[b] Average Weight for each rat group at 18 months.
[c] Calculated as $1 = .105 \times (W/.113)$ 2/3, where W is the average weight of the rats.
[d] Calculated as (Measured Dose × Volume Air Inhaled)/Weight.
[e] Calculated as Dose (μg/kg/day) × .75.

Like the experimental dose received by the rats, the occupational doses received by humans must be converted into units of μg/kg/day and adjusted to equivalent continuous lifetime doses. Assuming that a worker weighing 70 kg inhales approximately 10 m^3 of air during an eight hour shift, then for any exposure level Y of cadmium measured in μg/m^3, the worker's dose measured in μg/kg/day is given by

$$\text{Dose}(\mu g/kg/day) = \frac{Y(\mu g/m^3) \times 10(m^3)}{70(kg)}$$

This dose is converted to an equivalent continuous lifetime dose assuming exposure occurs for 250 days per year for 45 years per 74 year lifetime. Doses in units of μg/kg/day and corresponding continuous lifetime doses are presented in Table VI–B for various occupational exposure levels measured in μg/m^3.

TABLE VI–B—DAILY DOSE IN sG/KG/DAY AND EQUIVALENT CONTINUOUS LIFETIME DOSE FOR VARIOUS OCCUPATIONAL EXPOSURE LEVELS OF CADMIUM

Occupational exposure level (μg/m^3)	Daily dose [a] (μg/kg/day)	Continuous dose [b] (μg/kg/day)
1	.1429	.0595
5	.7143	.2975
10	1.4286	.5950
20	2.8571	1.1900
40	5.7143	2.3801
50	7.1429	2.9751
100	14.2857	5.9502
200	28.5714	11.9004

[a] Assumes worker weighs 70 kg and inhales approximately 10 m^3 per 8-hour work shift.
[b] Assumes worker is exposed 250 days per year for 45 out of 74 years.

3. Statistical Models for Low Dose Extrapolation of Risk

While OSHA has consistently evaluated a variety of models for quantitative risk assessment, it has relied primarily upon the multistage model of carcinogenesis to provide its "best estimate" of risk from experimental animal data. This model, from a theory proposed by Armitage and Doll in 1961, is a mechanistic model based on the biological assumption that cancer is induced by carcinogens through a series of stages. It is generally considered to be a conservative model because it assumes no threshold, (i.e. any exposure to a carcinogen is associated with some excess risk), and because it is approximately linear at low doses.

A special case of the multistage model is the one-hit model. It, too, is a mechanistic model, but it is based on the assumption that there is only one stage in the carcinogenic process. Like the multistage model, the one-hit model is linear at low doses, but at moderate and high doses the model is concave. Consequently, the one-hit model does not provide a good fit to many sets of empirical data. At low doses, the one-hit model will, in general, predict risks which are larger than those predicted by a multistage model of two or more stages.

Another type of model is the tolerance distribution model. This type of model is

based on the assumption that for each individual in a population, some critical level of exposure to a carcinogen is required before a tumor will develop. It is these individual thresholds which are modeled by the tolerance distribution models. The probit, logit, and Weibull models are all tolerance distribution models. All predict dose-response curves which are sigmoid in shape. At low doses, these models are not linear. Rather, they approach zero more quickly than does the multistage model, so each will predict smaller risks at low doses than the risks predicted by the multistage model. The probit model will predict the smallest risks of all because it approaches zero the fastest.

While OSHA has examined these models, the Agency prefers to rely on the multistage model for its "best" estimate of risk. OSHA believes that the multistage model has the best empirical and theoretical justification of all low-dose extrapolation models, and because it is a conservative, non-threshold model, OSHA believes that the use of the multistage model in quantitative risk assessment is prudent public health practice.

OSHA has received the following comment:

* * * [T]here is considerable scientific dispute concerning dose-response models, and * * * no particular model is likely to be preferred in all cases. The Office of Science and Technology Policy (OSTP) has cautioned that '[n]o single mathematical procedure is recognized as the most appropriate for low-dose extrapolation in carcinogensis.' (50 FR 10378.) [sic] Moreover, 'if background additivity is assumed * * * then all models are essentially linear in the low-dose region.' (50 FR 10439). [sic] The multistage model has the additional attribute of approximate linearity across the entire range of doses from zero to the current PELs. OSHA * * * [should request] comments as to whether this peculiar feature of the multistage model is desirable or undesirable in the context of estimating low-dose risks from occupational cadmium exposure.

OSHA has analyzed five alternative dose-response models to the Takenaka rat data. At the exposure levels contemplated by OSHA's alternative proposed PELs of 1 $\mu g/m^3$ and 5 $\mu g/m^3$, predicted lifetime excess cancer risks vary by a factor of more than 100 depending on the model used to derive the estimate. Thus, OSHA's determination of significant risk is acutely sensitive to the mathematical model selected to estimate low-dose risks. OSHA * * * [should request] comments as to whether there is a biological basis for preferring any particular model for estimating low-dose cancer risks from inhaled cadmium. In the absence of any such biological basis, OSHA must rely heavily on statistical criteria. Thus, OSHA also * * * [should request] comments as to what statistical criteria are appropriate for comparing dose-response models.

4. Estimates of Risk

Table VI–C presents estimates of the number of deaths from cancer due to occupational exposure to cadmium at a variety of levels. These estimates were derived from the Takenaka rat data using the various models described in the previous section. Both the maximum likelihood estimate (MLE) and the 95% upper confidence limit (UCL) are presented. The MLE is a point estimate which represents that value which maximizes the likelihood of risk. The 95% UCL represents a plausible upper bound below which the true risk is likely to be. Estimates are presented as deaths per 10,000 workers.

The probit, logit, and Weibull models were fit to the data using the computer program Risk 81 developed by J. Kovar and D. Krewski. The multistage and one-hit models were fit to the data using a version of R.B. Howe and K.S. Crump's computer program Global 83 adapted for the microcomputer by M.S. Cohn of the U.S. Consumer Product Safety Commission. The multistage model was fit to the data by constraining the number of stages to be no greater than the number of nonzero dose levels (i.e. three). The model predicted a two stage process; the dose coefficients Q(0) and Q(3) were both zero.

In its publication "Chemical Carcinogens: A Review of the Science and its Associated Principles," the Office of Science and Technology Policy (OSTP) wrote "[n]o single mathematical procedure is recognized as the most appropriate for low-dose extrapolation in carcinogenesis" (Ex. 8–693). OSHA agrees with this position and recognizes that there is debate within the scientific community concerning dose-response models. OSTP has held, however, that "when data and information are limited, and when much uncertainty exists regarding the mechanisms of carcinogenic action, models or procedures which incorporate low-dose linearity are preferred when compatible with limited information." A close examination of Table VI–C shows that only the multistage model and the one-hit model, a special case of the multistage model, are linear at low doses. Thus, OSHA's preference for the multistage model is supported by OSTP. OSTP has noted that "if background additivity is assumed, i.e., if it is presumed that there is a common mechanism of tumor induction, then all models are essentially linear in the low-dose region," but in this case, however, background additivity can not be assumed because there was no background incidence of lung cancers among Takenaka's rats. OSHA seeks comment on the importance of low-dose linearity in selection of low-dose extrapolation models in general and for cadmium in particular.

Table VI–C demonstrates the range of risks predicted by the various models. For occupational doses less than 100 $\mu g/m^3$, the one-hit model gives the largest estimates of risk while the probit model gives the smallest estimates of risk. At an occupational dose of 200 $\mu g/m^3$, however, only the logit model gives higher estimates of risk than the probit model. Regardless of which model one chooses as "best", it is clear that the risk of cancer at the current OSHA PEL of 100 $\mu g/m^3$ for cadmium fume is unacceptably high. At an exposure level of 100 $\mu g/m^3$, these models predict risks ranging from 1862/10,000 to 2660/10,000. Each model shows that a reduction of the PEL to 5 $\mu g/m^3$ will lead to a significant reduction in risk.

At the two levels OSHA is proposing as its TWA PEL,5 $\mu g/m^3$ and 1 $\mu g/m^3$, the estimates of risk vary by a factor of more than 100 across the models considered. The estimates in Table VI–C show that the TWA PEL selected by OSHA for its final rule will depend upon the model OSHA selects for its "best"estimate of risk. Statistically, there is no way to determinewhich model fits best because the goodness-of-fit chi-square may be used only to determine whether or not a model fits the data, and it can not be used to determine whether one model fits the data better than another. Therefore, OSHA must rely on some other criteria for preferring one model over others. As stated above, OSHA prefers the multistage model because it is abiologically based model and it is linear at low doses. The Agency seeks comment on its preference for the multistage model on these grounds and on what criteria should be used to select a low-dose extrapolation model for its cadmium risk assessment.

The estimates presented in Table VI–C are risks associated with occupational exposure to cadmium particles approximately 0.5 μm in diameter. Particle deposition and thus internal dose depends upon particle size and particle size distribution. At any given dose, larger particles may be associated with lower risks of lung cancer because fewer particles are deposited in the lung, and smaller particles may be associated with higher risks because more particles are deposited in the lung.

In addition, various cadmium compounds (e.g. cadmium oxide, cadmium chloride, etc.) also differ in their solubility and may therefore differ in the bioavailability of cadmium.

Nonetheless, since the carcinogenic agent is cadmium and not the ion to which it is bound, it is not clear that less soluble compounds are less toxic. Without specific human absorption data on various cadmium compounds, no adjustment can be made to dose for varying solubility.

In any event, if cadmium is a site-of-contact carcinogen, asindicated by the induction of lung cancer following inhalationof several cadmium compounds, relative insolubility may not reduce the potential of a carcinogenic response. Indeed, one could speculate that the more insoluble forms of cadmium may result in a greater lung cancer risk because they are in contact with lung tissue for a longer period. Conversely, the moresoluble forms may remain at the portal of entry for a shorter period of time but interact to a greater degree with tissues of more distant organs. OSHA requests comment and empirical data concerning differences in particle absorption, toxicity, and carcinogenicity for the major cadmium compounds.

TABLE VI-C.—ESTIMATES OF EXCESS CANCER DEATHS PER 10,000 WORKER WITH 45 YEARS OCCUPATIONAL EXPOSURE TO CADMIUM [a,b]

Dose ($\mu g/m^3$)	Multistage model [c]	One-hit model [d]	Probit model [e]	Logit model [f]	Weibull model [g]
200	4385 (5276)	4612 (5410)	4684 (5520)	4694 (5569)	4449 (5285)
100	2213 (3122)	2660 (3225)	1862 (2778)	1898 (2803)	2097 (2991)
50	1091 (1707)	1433 (1769)	441 (990)	584 (1143)	898 (1570)
40	868 (1390)	1164 (1442)	246 (635)	389 (824)	676 (1256)
20	429 (721)	598 (749)	27 (106)	106 (277)	276 (605)
10	213 (367)	304 (382)	2 (9)	28 (88)	111 (281)
5	106 (185)	153 (193)	0 (0)	7 (27)	45 (128)
1	21 (37)	31 (39)	0 (0)	0 (2)	5 (19)
X^2	3.00	3.63	1.52	1.59	2.58
Degrees of freedom	2	3	1	1	1
P-value	>.25	>.50	.22	.21	.11

[a] Estimates derived using data from the Takenaka rat bioassay.
[b] Numbers in parentheses are the 95% Upper Confidence Limits.
[c] Parameters given as q(0)=0; q(1)=3.559E-2; q(2)=1.065E-3; q(3)=0.
[d] Parameters given as q(0)=0; q(1)=5.197E-2.
[e] Parameters given as A=2.983; B=1.173; C0.
[f] Parameters given as A=4.871; B=1.917; C0.
[g] Parameters given as A=3.806; B=1.323; C0.

C. Estimates of Cancer Risk Derived from Human Data

1. Choice of Data Base for Quantitative Risk Assessment

The best available human data for quantifying the lung cancer risk associated with cadmium exposure is found in the mortality study of a cohort of cadmium smelter workers conducted by Thun et al (Ex. 4-68). This study provides the strongest evidence of a cadmium-induced carcinogenic response in humans, and it has sufficient exposure data to demonstrate a dose-response relationship. The study, described above, is a historical prospective study of 602 white men employed in a production area of the smelter for at least six months between 1940 and 1968. Follow-up continued through 1973.

Prior to 1926, the cadmium smelter functioned as an arsenic smelter. Because arsenic is a known risk factor in lung cancer, a sub-cohort of 26 men hired prior to 1926 were examined and found to have a statistically significantly elevated incidence of death due to lung cancer (Obs=4:Exp=.56: SMR=714). This and all expected incidences are based on calendar time, age-specific respiratory cancer death rates for U.S. white males. To control the influence of this potential confounder, the sub-cohort of 26 men hired prior to 1926 were excluded from further analyses.

Among the 576 workers hired after 1926, an elevated incidence of death due to lung cancer was observed, (Obs=16; Exp=10.87; SMR=147), but it was not statistically significant. When the analysis was restricted to workers with two or more years employment at the smelter, however, the elevated incidence of lung cancer deaths was statistically significant (Obs=16; Exp=7.0; SMR=229).

Thun divided his post-1926 cohort into three groups. The low dose group consisted of workers whose cumulative exposure was less than or equal to an equivalent 8 hour TWA exposure of 40 $\mu g/m^3$ for 40 years. The middle dose group consisted of workers whose cumulative exposure was greater than the low dose group but less than an equivalent 8 hour TWA exposure of 200 $\mu g/m^3$ for 40 years. The high dose group consisted of workers whose cumulative dose was in excess of an equivalent 8 hour TWA exposure of 200 $\mu g/m^3$ for 40 years.

With the cohort divided into three dose groups, a dose-response relationship between cadmium and lung cancer became apparent. For the low dose group, 2 deaths due to lung cancer were observed while 3.77 were expected (SMR=53). For the middle dose group, 7 deaths due to lung cancer were observed while 4.61 were expected (SMR=152). For the high dose group, 7 deaths due to lung cancer were observed while 2.50 were expected (SMR=280). Workers in the low dose group had fewer lung cancer deaths than expected, but the middle and high dose groups had more than expected, and the ratio of observed to expected increased with dose. These data, along with other data relevant to quantifying risk, are presented in Table VI-D.

TABLE VI–D.—DATA USED FOR ESTIMATING RISKS FROM A MORTALITY STUDY OF CADMIUM SMELTER WORKERS BY THUN ET AL.

Cumulative Exposure (mg/m^3-days)	Person Years At Risk	# Lung Cancers Observed	# Lung Cancers Expected [a]	SMR
< 584	7005	2	3.77	53
585–2920	5825	7	4.61	152
>2921	2214	7	2.50	280

Cumulative exposure (mg/m^3-days)	TWA equivalent ($\mu g/m^3$)		Median dose [d] (mg/m^3-days)	Continuous dose [e] ($\mu g/m^3$-years)
	40-year [b]	45-year [c]		
< 584	>40	>36	280	168
585–2920	40–200	36–178	1210	727
>2921	>200	>178	4200	2522

[a] Expected incidence based on calendar time, age-specific death rates for U.S. white males.
[b] Calculated as (cumulative dose × 1000)/(365 × 40).
[c] Calculated as (cumulative dose × 1000)/(365 × 45).
[d] As provided by Thun to EPA.
[e] Calculated as median dose × 1000 × (8/24) × (1/365) × (240/365).

2. Measure of Dose

Thun arrived at an estimate of cumulative dose for each member of his cohort using the industrial hygiene data from the smelter provided by Smith et al (Ex. 4–64). Thun describes his methods for estimating cumulative dose in his paper (Ex. 4–68) and in an addendum to that paper (Ex 4–68a). Below is a brief description of those methods.

For five time periods, pre-1950, 1950–1954, 1955–1959, 1960–1964, and 1965–1976, Smith estimated airborne cadmium concentrations measured as 8 hour TWAs for nine departments in the smelter and for office and laboratories combined (i.e. non-production work areas). Thun classified each of the nine departments into either high or low exposure categories. Then, for each time period, he calculated a weighted average "high exposure dose" from estimates for the high exposure departments, and a weighted average "low exposure dose" from estimates for the low exposure departments. He used the non-production work area exposure estimates as Smith reported them. This resulted in three exposure vectors: one for high exposure, one for low exposure, and one for "non-production work" exposure estimates corresponding to the time periods provided by Smith.

Thun estimated individual cumulative cadmium exposure first by assigning all employment into seven broad work categories and then by determining which exposure vector applied to each work category. High exposure production work and plant maintenance work were the work categories assumed to have high exposures. Low exposure production work, shop maintenance work, and supervisory work in production areas (i.e. foremen) were the work categories assumed to have low exposures. Office work and other work (e.g. guard, laboratory technician, etc.) were the work categories assumed to have "non-production work" exposures.

For each worker, Thun recorded the number of days a worker was employed in each work category during each time period. Dose for that time period and work category was then multiplied by the number of days and summed across all work categories and time periods to calculate cumulative dose in milligram per cubic meter-days (mg/m^3-days). So, for example, if a worker spent 100 days in a high exposure production job between 1955 and 1959 where exposure was estimated to be A mg/m^3, 100 days in a low exposure production job between 1955 and 1959 where exposure was estimated to be B mg/m^3, and 200 days in an office job between 1960 and 1964 where exposure was estimated to be C mg/m^3, then that workers cumulative dose would be given by: $[(100\times A)+(100\times B)+(200\times C)]mg/m^3$-days.

Once cumulative dose was estimated for each worker, each worker was assigned to the high, medium, or low exposure group. Thun provided EPA with the median observation of exposure within each group. Following EPA, the median dose, in mg/m^3-days, is converted into units of $\mu g/m^3$-years by multiplying dose by 1000 and dividing by 365. Dose is then converted into a 24 hour continuous dose by multiplying it by 8/24 (exposure was for 8/24 hours) and 240/365 (an employee worked 240 days/years). This last adjustment must be made because Thun computed exposure days on the basis of elapsed calendar time in a work category, not on the basis of working days (i.e. Thun assumed 1 month in a work category meant 30 days of exposure). The median dose for each group is given in Table VI–D. For the purpose of this risk assessment, the 24 hour continuous median dose for each exposure group will be taken as the dose received by the entire exposure group.

3. Statistical Models for Estimation of Risk

The methods used by OSHA to quantify risks from the Thun data closely follow those used by EPA. In addition to the absolute risk model used by EPA, however, OSHA has examined the relative risk model. EPA chose the absolute risk model because it was the simplest model that could be used with Thun's data. OSHA chose to examine both the absolute risk model and the relative risk model because although both are linear models, the two models are based on different assumptions which lead to different estimates of risk.

The absolute risk model starts from the assumption that the absolute risk of lung cancer death attributable to cadmium exposure, $h_e(t)$, is proportional to cumulative dose up to time t, or

$$h_e(t)=\beta X,$$

where X represents cumulative dose up to time t. An individual's total risk of lung cancer death at time t, h(t), is a function of that individual's background

risk of lung cancer at time t, $h_o(t)$, plus the risk due to cadmium exposure, or

$$h(t)=h_o(t)+h_e(t)$$
$$=h_o(t)+\beta X.$$

This model, also known as the additive model, is of the form

$$Y=a+bX.$$

Here, $h_o(t)$ is the intercept (i.e. the risk of lung cancer death with no exposure), and β is the slope of the dose-response line representing the change in absolute risk per unit dose.

If we consider each person year of observation to be an independent Bernoulli trial, (i.e. an event with only two possible outcomes), and sum over all person years of observation for the jth exposure group, then the expected number of lung cancer deaths for the period of observation, $E(O_j)$, is given by

$$E(O_j)=E_j+\beta X_j W_j,$$

where E_j is the expected number of cases assuming no cadmium exposure, (i.e. background), X_j is the median cumulative dose for exposure group j, and W_j is the number of person years of observation. If we assume that the observed number of deaths is a Poisson random variable with expectation given above, then the likelihood of observed results is given by

$$LIK=\prod_{j=1}^{3} [\exp-(E_j+\beta X_j W_j)]\,(EG5J+\beta X_j W_j)]\,/\,O_j$$

The maximum likelihood estimate of the unknown parameter β is obtained by maximizing the first derivative of the log likelihood with respect to β. The variance of β is given by the inverse of the observed information. (The Fisher's information may also be used; the estimates of the variance given by the observed information and the Fisher's information are very close.) We solve for the parameter β using a Newton-Raphson algorithm, a computing algorithm for finding the root of a polynomial. Estimates of β and its variance derived from the Thun data using the absolute risk model are given in Table VI–E.

The absolute risk model rests on the assumption that the risk attributable to cadmium exposure is dependent only on cumulative dose. This means that for any given dose, the risk of lung cancer attributable to cadmium exposure is constant regardless of age. However, we know that the background risk of lung cancer death increases with age, so an assumption of constant absolute risk implies that the relative risk of lung cancer death for cadmium-exposed individuals decreases with age.

The relative risk model is based on the assumption that the increase in the relative risk of lung cancer death due to cadmium exposure is the product of an individual's background risk at the time t, $h_o(t)$, and the risk attributable to cadmium exposure, $h_e(t)$. As with the absolute risk model, the risk attributed to cadmium exposure is given by

$$h_e(t)=\beta X,$$

where X represents cumulative dose up to time t. An individual's total risk of lung cancer death at time t, h(t), is given by

$$h(t)=h_o(t)+(h_o(t)\,h_e(t))$$
$$=h_o(t)+(h_o(t)\,\beta X).$$

This model can also be written as a linear model where

$$\frac{h(t)}{h_o(t)}=1+\beta X.$$

Here, 1 is the intercept (i.e. the relative risk assuming no exposure), and β is the slope of the dose-response line representing the change in relative risk per unit dose.

If we consider each individual to be an independent Bernoulli trial and sum over all individuals in the jth exposure group, we obtain the expected number of lung cancer deaths for the period of observation, $E(O_j)$, which is given by

$$E(O_j)=E_j+(E_j\beta X_j).$$

Again, E_j is the expected number of cases assuming no cadmium exposure, (i.e. background), and X_j is the median dose for exposure group j. Assuming that the observed number of deaths is distributed as a Poisson random variable with expectation given above, we obtain the likelihood of observed results

$$LIK=\prod_{j=1}^{3} [\exp-(E_j+(E_j\beta X_j)]\,[E_j+(E_j\beta_j)]\,/\,O_j$$

As with the absolute risk model, the maximum likelihood estimate of the unknown parameter β is obtained by maximizing the first derivative of the log likelihood with respect to β. The variance of β is given by the inverse of the observed information. We solve for the parameter β using a Newton-Raphson algorithm. Estimates of β and its variance derived from the Thun data using the relative risk model are given in Table VI–E.

TABLE VI–E.—PARAMETER ESTIMATES FROM THE ABSOLUTE AND RELATIVE RISK MODELS USING THE THUN MORTALITY DATA

Parameter	Absolute risk model	Relative risk model
#	6.4118E-7	6.6971E-4
Var (β)	1.1936E-13	1.2696E-7

* Variance is estimated by the observed information.

The relative risk model rests on the assumption that the ratio of the risk of lung cancer death for cadmium-exposed individuals to the risk of lung cancer death for individuals with no cadmium exposure depends only on dose and is constant across age groups. In other words, for any given cumulative dose, the risk of death for a twenty year old exposed individual relative to a non-exposed twenty year old exposed individual relative to a non-exposed twenty year old individual is the same

as the risk of death for a fifty year old exposed individual relative to a non-exposed individual of the same age.

OSHA recognizes that this difference in assumptions may be important in estimating true occupational risk. Thus, OSHA specifically requests comments concerning the significance of assumptions between these models and their applicability for estimating risks from exposure to inhaled cadmium.

After fitting both models to the Thun data, it is reasonable to ask whether or not the fits are good. The standard approach for measuring goodness-of-fit is to perform a chi-square test, in this case calculating the deviation of the number of lung cancers predicted for each exposure group from the number of lung cancers observed in each group. For the absolute risk model, the number of lung cancers predicted for the jth exposure group, $_{oj}$, is given by

$$_{oj}=E_j + \{\beta X_j W_j\},$$

Where E_j is the expected number of lung cancers for the jth exposure group (given in Table VI-D), X_j is the median continuous dose expressed in $\mu g/m^3$-years for the jth exposure group (given in Table VI-D), W_j is the number of person years at risk for the jth exposure group (given in Table VI-D), and β is the estimated parameter for the absolute risk model (given in Table VI-E). for the relative risk model, the number of lung cancers predicted for the jth exposure group, $^{o}_{j}$, is given by

$$_{oj}=E_j + \{E_j \beta X_j\},$$

Where E_j and X_j are as defined above, and β is the estimated parameter for the relative risk model (given in Table VI-E).

The numbers of lung cancers predicted by each model for each exposure group are presented in Table VI-F. In addition, the predicted SMRs (calculated as the predicted number of lung cancers divided by the expected number of lung cancers times 100) are also presented. Using the numbers presented in Table VI-F, the goodness-of-fit chi-square for the absolute risk model is 1.53 on two degrees of freedom ($.5 > p > .25$). For the relative risk model, the goodness-of-fit chi-square is 1.17 on two degrees of freedom ($.75 > p > .5$). Neither of these chi-square is statistically significant at the .05 level, therefore OSHA concludes that both models provide good fits to the observed Thun data.

TABLE VI–F.—OBSERVED AND PREDICTED LUNG CANCER DEATHS AND SMRS FROM THE ABSOLUT AND RELATIVE RISK MODELS USING THE THUN MORTALITY DATA

Exposure group [a]	#Lung cancers observed	#Lung cancers predicted [b]	
		Absolute risk model	Relative risk model
Low	2	4.5	4.2
Medium	7	7.3	6.9
High	7	6.1	6.7

Predicted SMR [c]	Exposure group [a]	Observed *SMR*	
		Obsolute risk model	Relative *risk model*
Low	53	120	111
Medium	152	159	149
High	280	243	269

[a] The low exposure group is the group with exposures less than or equal to 584 mg/m³-day. The medium exposure group is the group with exposures between 585 and 2920 mg/m³-days.

[b] The numbers of lung cancers predictedc by the models are calculated as # lung cancers expected + 16.4118E-7 × continuous dose ($\mu g/m^3$-years) × person years at risk] for the absolute risk model and as # lung cancers expected + [6.6971E-4 x Continuous Dose ($\mu g/m3$ × # lung cancers expected] for the relative risk model.

[c] Calculated as (# lung cancers predicted)/(# lung cancers expected) for each exposure group and model.

4. Estimates of Risk

Gail describes an approach for estimating the excess risk of cancer death due to constant exposure to environmental carcinogens in the presence of competing risks (Ex. 8–651). This method is easily adopted to estimate the excess risk of lung cancer death due to occupational exposure to cadmium.

Occupational dose was first converted to continuous dose on the assumption that exposure occurs for 8/24 hours and 240/365 days. OSHA assumed further that exposure begins at age 20 and continues at a constant level for 45 years, and that life expectancy is 74 years. OSHA used 1984 U.S. male age-specific death rates for all races for all causes, and the 1982 U.S. male age-specific lung cancer deaths rates for all races. The lung cancer death rates, which were given for five-year age intervals, were assumed to be constant throughout each interval.

Let d_i = the cumulative dose received at the midpoint of the ith age interval. Thus, for example, if an individual is exposed at a constant level X from age 20 on, then at age 24, d_{24} would equal 4.5X. From age 65 on, cumulative exposure would be 45X. Let $q_x(i)$ = the probability of death from all causes at age i, and let $q_L(i)$ = the probability of lung cancer death at age i. Using the absolute risk model and the MLE of β derived from this model above, the lifetime excess risk of lung cancer due to 45 years of occupational exposure to cadmium is given by

$$\sum_{i=20}^{74} \beta d_i \exp\left[-\sum_{j=20}^{i} \beta d_i + q_x(i)\right].$$

Using the relative risk model and the MLE of β derived from this model above, the lifetime excess risk of lung cancer due to 45 years of occupational exposure to cadmium is given by

$$\sum_{i=20}^{74} \beta d_i q_L(i) \exp\left[-\sum_{j=20}^{i} \beta d_j q_L(j) + q_x(i)\right].$$

Table VI–G presents estimates of excess deaths derived from the Thun data using the method described here. In addition, 95% upper confidence limits and 5% lower confidence limits were constructed for each of the MLEs. This was done by replacing β by $\beta \pm K\ 1.645\ \Sigma E(\beta)$ and using the formulas above.

The estimates of excess lung cancer death from the relative risk model are nearly twice as large as those from the absolute risk model, but both models predict significant risk at the current OSHA PEL. At 100 $\mu g/m^3$, these models predict between 16 and 30 excess lung cancer deaths per 1000 exposed workers. At exposure levels as low as 5 $\mu g/m^3$, the excess risk of lung cancer death estimated by these models is about 1 per 1000 exposed workers.

TABLE VI–G.—ESTIMATES OF EXCESS LUNG CANCER DEATHS PER 10,000 WORKERS WITH 45 YEARS OCCUPATIONAL EXPOSURE TO CADMIUM [a,b]

Dose (μg/m³)		# Excess deaths	
TWA	Continuous [c]	Absolute risk model	Relative risk model
200	43.84	323 (37,599)	602 (78,1089)
100	21.92	163 (19,305)	307 (39,566)
50	10.96	82 (9,154)	155 (20,289)
40	8.77	66 (7,123)	125 (16,232)
20	4.38	33 (4,62)	63 (8,117)
10	2.19	16 (2,31)	31 (4,59)
5	1.10	8 (1,15)	16 (2,29)
1	.22	2 (0,3)	3 (0,6)

[a] Estimates derived using data from the Thun mortality study of cadmium smelter workers.
[b] Numbers in parentheses are 5% lower and 95% upper confidence limits.
[c] Assumes exposure occurs for 8/24 hours and 240/365 days.

There are some issues which arise in applying these estimates of risk to populations other than the Thun cohort. Even after 1926, some arsenic exposure continued, but estimates of the exposure among the workers in the cadmium cohort suggest that such exposure made little contribution to the excess lung cancer risk. Thun also reported that there is some evidence that the smoking rate for these workers was less than that for the general white male population that was used to calculate the expected number of deaths in his study (Ex. 8–673).

Estimates of cancer risk due to cadmium exposure have been calculated using both human and animal data. OSHA has presented the methodology used to derive the risk estimates from these data and has indicated the strengths and weaknesses of the data sets and of each estimation technique. OSHA's approach to its quantitative risk assessment is in accord with the Office of Science and Technology Policy's position that "the risk assessment process should not be viewed as strictly 'scientific' in the usual sense of the word. Instead, risk assessment involves a complex blend of current scientific data, reasonable assumptions and scientific judgements that permit decisions to be made in the absence of complete information" (Ex. 8–693).

On the basis of the risk assessment using the Takenaka study and the multistage model, OSHA proposes a PEL of 1 μg/m³. However, there is support for the use of the Thun study of cadmium smelter workers as the basis for establishing an exposure level since no extrapolation across species is required. The estimates of risk derived from the Thun data are lower than those derived from the Takenaka data. OSHA's estimate from the Thun data at 5 μg/m³ (1 to 2 per 1000) is approximately equal to OSHA's best estimate from the Takenaka data at 1 μg/m³ (2 per 1000). OSHA is therefore proposing alternate PELs of 1 μg/m³ and 5 μg/m³ based in part upon these estimates and in part upon the concerns for the technological feasibility of achieving a PEL of 1 μg/m³.

OSHA solicits comments on the quality of the Takenaka and Thun studies, the appropriate risk assessment model to use for each data set, and its choice of the Takenaka study for its best estimate. OSHA also solicits comments (as noted in the list of questions in the introductory portion of this preamble) on the appropriate level for the PEL.

D. Estimates of Risk of Kidney Dysfunction

1. Choice of Data Base for Quantitative Risk Assessment

The effects of cadmium on the kidney are well documented. As discussed above, there are many studies which show a relationship between cadmium exposure and kidney dysfunction. Dysfunction is most commonly manifested as proteinuria, a condition characterized by excess serum proteins in the urine. Proteinuria indicates that damage has occurred to the proximal tubules and/or glomerulus, and because this damage is irreversible and can lead to still more serious health effects, OSHA considers such dysfunction to represent material impairment of health.

OSHA has attempted to quantify the risk of kidney dysfunction due to occupational exposure to cadmium. Two studies of cadmium-exposed workers provide adequate exposure data for such an assessment. The first of these is a study of cadmium smelter workers conducted by Ellis et al (Ex. 4–27). The second is a study of workers at a refrigeration compressor production plant conducted by Falck et al (Ex. 4–28). In both studies, kidney dysfunction is defined as the presence of excess proteins in the urine.

Ellis studied 82 male workers at the same smelter as was studied by Thun. The cohort was comprised of 51 active workers and 31 retired workers with experience in production, non-production, office, and laboratory work. Cumulative exposure estimates were made for each member of the cohort using industrial hygiene data provided by Smith (Ex. 4–64). The chronological record of each worker's job assignments was obtained from personnel files at the smelter. For each worker, the time-weighted inhalation exposure (TWE) was calculated by multiplying the duration of exposure in a given work area (t_i) by the estimated inhalation exposure for that area and year (E_i) and then summing these values to obtain cumulative exposure or

$$TWE = \frac{\Sigma}{i} E_i t_i.$$

Each cohort member completed a health history questionnaire, took a physical exam, gave specimens for blood and urine tests, and provided 24-hour urine samples. The 24-hour urine samples were used to determine whether a worker had abnormal kidney function. Kidney function was judged to be abnormal if urinary levels of the low molecular weight protein β_2-microglobulin exceeded 200 μg/g creatinine or if total urinary protein levels exceeded 250 mg/g creatinine. Eighteen active workers and twenty-three retired workers were classified as having abnormal kidney function. Descriptive statistics for the entire cohort are presented in Table VI–H.

TABLE VI–H.—DESCRIPTIVE STATISTICS FOR A COHORT OF 82 ACTIVE AND RETIRED CADMIUM SMELTER EMPLOYEES [a]

	Normal kidney function	Abnormal kidney function
	Mean (SD) [b]	Mean (SD)
Active Workers		
N	33	18
Age (yrs)	42.6 (13.3)	53.6 (6.8)
Duration of exposure (mos)	141 (118)	264 (105)
TWE [c] ($\mu g/m^3$-years)	105 (9.0)	1690 (2.7)
Renal cadmium [d] (μg/g)	125 (2.8)	230 (2.0)
Liver cadmium (ppm)	11.3 (2.8)	63.9 (1.5)
Retired Workers		
N	8	23
Age (yrs)	69.0 (8.3)	67.9 (6.9)
Duration of exposure (mos)	342 (75)	329 (103)
TWE [c] ($\mu g/m^3$-years)	379 (3.3)	3143 (3.6)
Renal cadmium [d] (μg/g)	148 (2.1)	169 (1.7)
Liver cadmium (ppm)	14.0 (3.1)	33.6 (2.9)

[a] Data taken from Ellis et al. (Ex. 4–27).
[b] Mean (Standard Deviation) presented. Means and SDs for age and duration of exposure are arithmetic means and SDs. All others are geometric means and SDs.
[c] Time-weighted inhalation exposure estimate (i.e., dose).
[d] Renal cortex cadmium concentration; assumes 145 g weight for the total kidney and a 1.5 ratio between cortex and total kidney concentration.

Falck studied 33 male workers at a plant which produces refrigeration compressors with silver brazed copper fittings. The silver brazing contained between 18% and 24% cadmium, and compressors were brazed either manually or by an automated process. Estimates of cumulative exposure were made for each worker using data from air monitoring done by the Michigan Department of Industrial Health. Air monitoring had been done at the plant since 1961. The mean estimated cadium exposure on the automated brazing line was $39 \pm 7.8\ \mu g/m^3$ for the 11 year period of operation for which sampling data was available. The mean estimated cadmium exposure on the manual brazing line was $110 \pm 25.5\ \mu g/m^3$ for a 21 year period of operation. Work history records were obtained for each employee in the study, and a time-weighted exposure for each worker was calculated by multiplying the length of time on each brazing line (t_i) by the mean estimated exposure for that brazing line (E_i) or

$$TWE = \frac{\Sigma}{i} E_i t_i.$$

Each of the 33 workers provided medical histories and spot blood and urine samples. Three workers were dropped from further analysis because of health conditions which affect kidney function. Of the remaining 30 workers, 8 were asked to provide 24-hour urine samples because their urinary glucose, protein, and/or β_2-microglobulin levels exceeded the 95% tolerance limits constructed for these variables from the spot urine samples of 41 unexposed workers who served as controls. Glucose, protein, β_2-microglobulin, and creatinine levels were measured in the 24-hour urine samples of the eight workers and in the 24-hour urine samples of seven age-matched male controls. Seven of the eight workers were found to have urinary protein levels in excess of the 95% tolerance limit constructed for urinary protein from the controls, and these workers were judged to have abnormal kidney function. Descriptive statistics for the cohort are presented in Table VI–I.

TABLE VI–I.—DESCRIPTIVE STATISTICS FOR A COHORT OF 30 EMPLOYEES AT A REFRIGERATION COMPRESSOR PRODUCTION PLANT [a]

	Normal kidney function	Abnormal kidney function	P-Value [b]
	Mean (95% CI) [c]	Mean (95% CI)	
N	23	7	
Age (yrs)	49 (47,51)	53 (51,55)	.13
TWE [d] ($\mu g/m^3$-years)	459 (332,634)	1137 (741,1737)	.02
Smoking Habits (pack-years)	14 (9,19)	24 (14,34)	.07
Urine Ratios:			
Protein/Creatinine (mg/g)	34 (26,43)	246 (132,456)	<.001
β_2-M/Creatinine ($\mu g/g$) [e]	53 (31,90)	6375 (1115,36463)	<.001
Cadmium/Creatinine ($\mu g/g$)	11 (10,13)	16 (8,36)	.07
Serum Ratios:			
Creatinine/Serum (mg/100 ml)	1.1 (1.1,2)	1.4 (1.2, 1.7)	.003
β_2-M/Serum (μg/ml)	2 (1.6,2.4)	2.3 (1.8,2.8)	.32

[a] Data taken from Falck et al (Ex. 4–23).
[b] P-value associated with a test of differences between group means.
[c] Mean and 95% confidence intervals are presented. Means for age and smoking habits are arithmetic means; all others are geometric means. Confidence intervals are constructed from arithmetic standard deviations for age and smoking; all others from the geometric standard deviations.
[d] Time-weighted inhalation exposure estimate (i.e. dose).
[e] β_2-M = β_2-microglobulin.

2. Statistical Models for Estimation of Risk

Logistic regression may be used to model the relationship between cadmium exposure and the presence or absence of kidney dysfunction, a dichotomous outcome variable. Logistic regression models are based on the assumption that the probability (p) of an event is distributed as a binomial random variable and that the logic function is linear, or

$\log(p/1\text{-}p) = \alpha + \beta x$.

Ellis used this technique to analyze his data. Regressing kidney dysfunction expressed as a (0,1) variable, (0 = normal kidney function; 1 = abnormal kidney function), on the log of cumulative dose, he obtained the model

$\log(p/1\text{-}p) = -8.34 + 1.24 \log(\text{dose})$, or
$p = \text{dose}^{1.24}/[e^{8.34} + \text{dose}^{1.24}]$.

Here, p represents the probability of kidney dysfunction for any given cumulative dose.

Falck did not perform a logistic regression analysis, but he provided the cumulative dose data so that such an analysis could be done. Using Falck's data, OSHA obtained parameter estimates for the logistic model

$\log(p/1\text{-}p) = -19.75 + 2.78 \log(\text{dose})$, or
$p = \text{dose}^{2.78}/[e^{19.75} + \text{dose}^{2.78}]$,

where again, p is the probability of kidney dysfunction for any given dose.

3. Estimates of Risk

Using the logistic regression models above, OSHA estimated the risk of kidney dysfunction from 45 years of exposure to a variety of occupational doses. For any hypothetical 8-hour time-weighted average exposure level Y, the cumulative dose measured in $\mu g/m^3$-years was calculated as

Cumulative Dose = Y × 45.

Estimates of risk derived from the Ellis and Falck models for a variety of occupational doses are presented in Table VI–J.

TABLE VI–J.—ESTIMATES OF KIDNEY DYSFUNCTION PER 10,000 WORKERS WITH 45 YEARS OF OCCUPATIONAL EXPOSURE TO CADMIUM

8-hour TWA dose ($\mu g/m^3$)	Cumulative dose ($\mu g/m^3$-yrs)	Incidence of kidney dysfunction	
		Ellis model	Falck model
1	45	261	1
5	225	1646	90
10	450	3177	589
20	900	5237	3005
40	1800	7220	7467
50	2250	7740	8457
100	4500	8900	9741

These logistic regression models are simple and do not take into account the role of other factors which may predict dysfunction. Age and smoking are two such factors. Age is a potential confounder in relating kidney dysfunction to cadmium exposure when dysfunction is measured by urinary protein levels because for men, urinary protein levels increase with age (Ex. 8–618). Cigarettes represent an additional source of cadmium exposure because each cigarette contains approximately 2 μg of cadmium (Ex. 8–668). In order to examine the importance of age and smoking for predicting kidney dysfunction, Falck has provided OSHA with data on these variables for each member of his cohort (Ex. 4–28A).

OSHA analyzed these data using a forward stepwise logistic regression procedure. This procedure allows an investigator to determine which independent variables, (e.g. age, dose, etc.), alone or in combination with one another, best predict some outcome, in this case the probability of kidney dysfunction. As each term is added to the model, a statistic is calculated reflecting the contribution of that term to the predictive value of the model. When no additional term will make a significant contribution, then the model is considered "best".

In its analysis, OSHA considered four independent variables: age, smoking status (current, past, or never), pack-years smoked, and occupational cadmium dose measured as the log of the time-weighted exposures (TWEs). Dose was the only independent variable to make a significant contribution to the predictive value of the model ($p = .0019$). Pack-years made the smallest contribution ($p = .1133$), while the contribution of age and smoking status approached significance but did not achieve it ($p = .0692$ and $p = .0568$ respectively).

The three remaining independent variables, age, smoking status, and pack-years smoked, were added one at a time to the model

$\log(p/1-p) = a + \beta \log(\text{dose})$.

No additional term was found to make a significant contribution to the predictive value of the model. This means that once dose is in the model, none of the other independent variables considered make a meaningful contribution to predicting the probability of kidney dysfunction. The finding that this is the best model for predicting dysfunction is consistent with Falck's report that there was no statistically significant difference in age and smoking history between workers with normal kidney function and workers with abnormal kidney functions.

The additional data provided by Falck helps answer some questions about other factors which could possibly affect kidney function in the Falck cohort. In addition, there are other variables which may play some role in kidney dysfunction and which may have been overlooked. Duration of exposure, for example, is one such factor. In a study of 37 cadmium smelter workers, Gompertz et al found that a small group of workers with an average of 4.6 years of exposure had high liver cadmium concentrations but no evidence of renal dysfunction (Ex. 4–32). For workers with more than 10 years of cadmium exposure, elevated liver cadmium concentrations were associated with kidney dysfunction. Duration of exposure, however, will be closely correlated with cumulative dose, and indeed, this covariate may be in these models by proxy.

Table VI–J shows that up to a dose of approximately 35 $\mu g/m^3$ (1600 $\mu g/m^3$-years), the Ellis model predicts risks which are higher than those predicted by the Falck model. For doses greater than 35 $\mu g/m^3$, the Falck model predicts higher risks. It is possible that the Ellis model may be over predicting risks at low doses. One member of the Ellis cohort with a cumulative exposure of only 51 $\mu g/m^3$-years had abnormal kidney function, and, as acknowledged by Ellis, this worker perhaps should have been excluded from the analysis. The worker was an 82 year old retired office worker who had not worked for fifteen years. His level of urinary β_2-microglobulin was just slightly elevated over the 200 mg/g creatinine limit. This worker was the only member of the cohort with abnormal kidney function at a cumulative exposure level of less than 400 $\mu g/m^3$-years.

Because one observation may be very influential in a logistic regression, OSHA attempted to reproduce Ellis's analysis excluding this one case. Although the Agency was unable to obtain the raw data used by Ellis, by visual review of the graphs presented in the Ellis paper OSHA was able to reproduce dose data for each member of the cohort (Ex. 4–27A). To measure the accuracy of the eyeballed estimates, a logistic regression was run with all of the reproduced data. The Agency obtained the parameter estimates: $a = -8.29$ and $\beta = 1.24$. These are very close to the parameter estimates of $a = -8.34$ and $\beta = 1.24$ reported by Ellis.

A second logistic regression was run with the reproduced data excluding the case described above. Without this case, OSHA obtained the model

$\log(p/1-p) = -10.83 + 1.59 \log(\text{dose})$, or

$p = \text{dose}^{1.59} / [e^{10.83} + \text{dose}^{1.59}]$.

where, p represents the probability of kidney dysfunction for any given cumulative dose. This model will be referred to as the Ellis/OSHA model. Estimates of risk derived from this model for a variety of occupational doses are presented in Table VI–K.

TABLE VI–K.—ESTIMATES OF KIDNEY DYSFUNCTION PER 10,000 WORKERS WITH 45 YEARS OF OCCUPATIONAL EXPOSURE TO CADMIUM DERIVED FROM THE ELLIS/OSHA MODEL

8-hour TWA dose ($\mu g/m^3$)	Cumulative dose ($\mu g/m^3$-yrs)	Dysfunction incidence
1	45	83
5	225	981
10	450	2467
20	900	4965
40	1800	7480
50	2250	8089
100	4500	9272

At low doses, the estimates derived from the Ellis/OSHA model are much closer to those derived from the Falck model than are the estimates derived from the original Ellis model. The results in Table VI–K indicate that the one case

was an influential observation. OSHA is unwilling, however, to rely upon the Ellis/OSHA model instead of the original Ellis model for its risk estimates. The Ellis/OSHA model was obtained using crude estimates and not the actual data. Furthermore, because a case is unusual does not mean it should be excluded. Rather, its role as an influential observation should be examined and acknowledged. OSHA notes that Ellis was aware that this case was unusual, yet he did not exclude it from his analysis. Therefore, OSHA does not believe it should be excluded.

While the logistic regression technique is useful for regressing dichotomous variables such as normal/abnormal kidney function against continuous variables such as dose, the models derived from the Ellis data and the Falck data can not reliably predict the risk of kidney dysfunction at low doses. Part of the reason for this is that both data sets have very small sample sizes. As sample size increases, the uncertainty associated with any logistic regression estimates decreases.

The most important reason that these models can not reliably predict the risk of kidney dysfunction at low doses, however, is that these are non-threshold models whereas cadmium-induced kidney dysfunction is known to be a threshold effect. For any level of cadmium exposure, regardless how small, the models derived from the Ellis and Falck data will predict some risk. This is contrary to the evidence which indicates that there must be a minimum cadmium burden in the kidneys before cadmium-induced dysfunction can occur. The cadmium burden necessary to induce dysfunction may vary from person to person, and the cumulative exposure level necessary to achieve that burden may also depend upon individual sensitivity.

Ellis acknowledged the limitation of his logistic regression model when he wrote that the model was used "to investigate the concept of an allowable limit for the inhalation exposure estimate such that exposures beyond this value would ultimately be associated with renal dysfunction." Thus, Ellis chose this model to determine the air concentration level below which workers would be safe from kidney dysfunction. OSHA seeks comment on the use of the logistic regression for estimating the risk of kidney dysfunction.

An alternative model for determining the air concentration level of cadmium associated with the kidney dysfunction threshold is the two phase linear model used by Mason et. al., (Ex. 8–669). This allows two linear models with two different slopes to be fit to the same data set at the same time. The advantage of this model is that dose is related to various biological indicators (e.g., β_2-microglobulin, albumin, etc.) instead of the dichotomous outcome variable normal/abnormal kidney function. Therefore, a medical doctor does not have to make an *a priori* determination of who is normal and who is not, as both Ellis and Falck did for their respective cohorts.

Interpretation of the two phase linear model, however, is difficult. The model can only tell us at what dose the relationship between exposure and the biological indicators changes significantly. It can not tell us at what dose the risk of illness is unacceptably high.

OSHA has not been delegated the responsibility of performing original research to determine the biological basis for threshold effects of kidney dysfunction. OSHA relies upon the research of others to assess the damage resulting from cadmium diffused in work environments. Any inferences OSHA makes are deducible from the experiments of others by classical, statistical methodology. The experiments upon which OSHA's inferences are based are clearly set forth in the proposed standard. OSHA seeks comment on the use of the above mentioned models or any other model for the estimation of risk of kidney dysfunction due to occupational exposure to cadmium, including a discussion of advantages and drawbacks to the models.

OSHA believes that the logistic regression models derived from the data from the Ellis and Falck cohorts are adequate for quantifying the risk of kidney dysfunction due to occupational exposure to cadmium. OSHA is impressed by the consistency of these risk estimates derived from workers in two different industries by two independent investigators. Although the models predict varying risks at very low doses, at doses as low as 5 $\mu g/m^3$, (225 $\mu g/m^3$ years) both models predict risks in excess of 1 per 1000. For cumulative doses greater than 300 $\mu g/m^3$-years, (approximately 7 $\mu g/m^3$ as an 8-hour TWA for 45 years), the risks predicted by these models differ by less than a factor of ten. At the current OSHA PEL of 100 $\mu g/m^3$, both models predict unacceptably high risks for 45 years of occupational exposure.

OSHA has received the following comment:

> OSHA [should request] comment on the appropriate threshold model to use to estimate the risk of renal dysfunction. If the underlying health effects in fact behave according to a threshold, any non-threshold probability model will invariably overestimate risks at low doses and underestimate risks at high doses. Given that two of the epidemiologic studies of cadmium-related renal dysfunction [Falck *et al.* (1985); Mason *et al.* (1988)] suggest that cadmium-related renal dysfunction is a threshold event, is there a biological basis for estimating renal dysfunction risks using non-threshold models? What is the magnitude of bias introduced by using a non-threshold model?
>
> Mason *et al.* (1988) found that analysis of several relevant biochemical variables (urinary total protein, albumin, beta-2 microglobulin, and retinol binding protein) indicated that the excess risk threshold for cadmium was approximately 1,100 $\mu g/m^3$-years. This value corresponds to a 45-years 8-hour PEL of 16 $\mu g/m^3$. Are there any epidemiologic studies that argue for locating the threshold at a point lower than 16 $\mu g/m^3$? Is there a scientific basis for concluding that cadmium exposures below 16 $\mu g/m^3$ constitute a significant risk of renal dysfunction?
>
> Logistic regression is one many statistical methods normally reserved for qualitative dependent variables. Observations may fall in only one of two (or more) categories. Generally, these categories correspond to objectively observable phenomena. In OSHA's analysis of renal dysfunction risks, the dependent variable is a derived index of several continuously measured variables (e.g., beta-2 microglobulin, albumin). To classify workers into the alternative states of function and dysfunction, OSHA established subjective thresholds for each criterion variable [sic] used to construct the index (e.g., beta-2 microglobulin > X, albumin > Y). OSHA * * * [should request] comment on the statistical validity of subjectively transforming continuously measured variables into an index, then using the index as a qualitative and meaningful dependent variable. How do the indices used by Ellis differ from those used by other researchers, such as Falck *et al.* (1985) and Kjellstrom *et al.* (1977)? Is there a scientific consensus or a divergence of opinion as to what thresholds constitute renal dysfunction? How would OSHA's estimates of renal dysfunction risk vary depending on these thresholds?
>
> Mason *et al.* (1988) uses a two phase linear model (i.e., kinked) [sic] to identify the most likely location of the threshold. What other estimation methods exist for threshold-related phenomena?
>
> In each of the epidemiologic studies concerning renal dysfunction there were confounding factors, including occupational exposures to other substances and cigarette smoking. Kjellstrom *et al.* (1977) reported an average 19 percent incidence of renal dysfunction associated with exposures of approximately 50 $\mu g/m^3$ for 6–12 years. However, this figure masks a statistically significant difference in incidence between smokers and non-smokers. For an exposure range of 10 to 122 $\mu g/m^3$, Kjellstrom reported an incidence of 100 percent for two cohorts of non-smokers and 0 percent for a third. For similarly exposed smokers, however,

Kjellstrom reported incidence rates of 22 percent for two cohorts and 29 percent for the third. [See Table 6 in Kjellstrom *et al.* (1977).] Smoking also was a confounding factor in Falck *et al.* (1985). Falck reported that workers classified as having abnormal renal function smoked an average of 24 pack-years, whereas workers classified as having normal renal function smoked an average of 14 pack-years. Falck dismissed the confounding effects of smoking by noting that this difference was not statistically significant using a two-tailed test and alpha =.05. Would a one-tailed test have been more appropriate? What do these results suggest as to the effect of cadmium exposure *independent* of smoking?

Another confounding factor in Kjellstrom is that workers were simultaneously exposed to nickel hydroxide [$Ni(OH)_2$] dust as well as cadmium. According to Kjellstrom, nickel hydroxide also causes proteinuria, and nickel hydroxide concentrations were typically two to ten times *greater* than cadmium oxide levels. What do these results suggest as to the effect of cadmium exposure *independent* of nickel hydroxide? Does OSHA's risk model appropriately capture the *independent* effects of cadmium exposure by controlling for confounding factors, such as smoking and exposure to other substances?

E. Other Estimates of Risk

Under contract to OSHA, two quantitative assessments of the risks associated with occupational exposure to cadmium were prepared jointly by Meridian Research and Roth Associates (Ex. 16–A and Ex. 16–B). The first of these deals with cancer risks. For occupational exposure at the current OSHA PEL of 100 $\mu g/m^3$ for 45 years, Meridian and Roth predicted 2130 excess cancer deaths per 10,000 exposed workers based on the rat data and a range from 167 to 339 excess cancer deaths per 10,000 exposed workers based on the Thun data. In their assessment of kidney dysfunction risks, Meridian and Roth predicted a range from 1292 to 9743 cases of kidney dysfunction per 10,000 workers exposed at 100 $\mu g/m^3$ for 45 years.

OSHA is in the process of reviewing these risk assessments. They have been placed in the OSHA cadmium docket and are available for public review and comment.

VII. Significance of Risk

In the 1980 benzene decision, the Supreme Court, in its discussion of the level of risk that Congress authorized OSHA to regulate, indicated when a reasonable person might consider a risk significant and take steps to decrease it. The court stated:

> It is the Agency's responsibility to determine in the first instance what it considers to be a "significant" risk. Some risks are plainly acceptable and others are plainly unacceptable. If, for example, the odds are one in a billion that a person will die from cancer by taking a drink of chlorinated water, the risk clearly could not be considered significant. On the other hand, if the odds are one in a thousand that regular inhalation of gasoline vapors that are 2 percent benzene will be fatal a reasonable person might well consider the risk significant and take the appropriate steps to decrease or eliminate it. (*I.U.D.* v. A.P.I., 448 U.S. 607, 655).

The Court further stated that "while the Agency must support its findings that a certain level of risk exists with substantial evidence, we recognize that its determination that a particular level of risk is significant will be based largely on policy considerations." The Court added that the significant risk determination required by the OSH Act is "not a mathematical straitjacket," and that "OSHA is not required to support its findings with anything approaching scientific certainty." The Court ruled that "a reviewing court [is] to give OSHA some leeway where its findings must be made on the frontiers of scientific knowledge [and that] * * * the Agency is free to use conservative assumptions in interpreting the data with respect to carcinogens, risking error on the side of overprotection rather than underprotection" (448 U.S. at 655, 656).

As part of the overall significant risk determination, OSHA considers a number of factors. These include the type of risk presented, the quality of the underlying data, the reasonableness of the risk assessments, the statistical significance of the findings and the significance of risk (48 FR 1864; January 14, 1983).

Cadmium exposure causes a number of extremely serious adverse health effects. In 1971 OSHA adopted the ANSI standard with a TWA PEL of 100 $\mu g/m^3$ for cadmium fume and a TWA PEL of 200 $\mu g/m^3$ for cadmium dust to prevent the acute effects caused by exposure to cadmium at levels higher than these. Since 1971, however, a body of evidence has developed which shows that exposure to any cadmium, dust or fumes, at levels below these TWA PELs can also lead to very serious health effects such as kidney dysfunction and cancer. Because current occupational cadmium exposure levels generally are below 100 $\mu g/m^3$, this discussion of the significance of risk focuses exclusively on these non-acute effects.

As indicated in Section V, the health effects section of this preamble, exposure to cadmium causes cancer, kidney dysfunction, reduced pulmonary function, and chronic lung disease indicative of emphysema. Other health effects, such as improper bone mineralization have been reported. In addition to these major effects in humans, studies of experimental animals suggest that exposure to cadmium may also cause anemia, change in liver morphology, decrease in immunosuppression, and hypertension.

As discussed in Section V, there are numerous epidemiologic studies which show an elevated risk of lung cancer among cadmium exposed workers. Because lung cancer is almost certainly fatal, OSHA considers this disease to represent the greatest material impairment to health. A number of studies of workers also suggest an association between occupational cadmium exposures and increased deaths from other cancer, most notably prostate cancer. The relationship between cadmium exposure at low levels and prostate cancer, however, is difficult to establish. Most epidemiological investigations use mortality rates to estimate incidence rates, but because prostate cancer does not always lead to death, most studies probably underestimate the true incidence of the disease. Although prostate cancer is not always fatal, OSHA nonetheless considers it to be a very serious material impairment to health.

Chronic exposure to cadmium is also known to cause renal dysfunction. This impairment of kidney function typically is manifested as proteinuria, a condition characterized by an excess of serum proteins in the urine. The damage to the proximal tubules and/or glomerulus in the kidney indicated by proteinuria is irreversible. Because of the body's ability to accumulate and store cadmium over long periods of time, the loss of kidney function may develop even after a reduction or cessation of external cadmium exposure. Upon prolonged exposure, tubular proteinuria may progress to more severe forms of renel dysfunction such as glycosuria, aminoaciduria, phosphaturia and glomular proteinuria. OSHA therefore also considers tubular proteinuria to be a material impairment of health.

Long term exposure to cadmium appears to cause other adverse effects on the respiratory system in addition to lung cancer. Workers with prolonged exposure to cadmium dust or fumes have exhibited shortness of breath, impaired pulmonary function associated with poor physical working capacity, and chronic lung disease indicative of emphysema. Workers with progressive forms of proteinuria have exhibited adverse bone effects associated with improper bone mineralization, such as osteoporosis and osteomalacia.

These other disease risks are serious, though not usually fatal. However, this discussion of significant risk concentrates on the cancer risk and concludes that that risk is significant in and of itself. The risk of permanent impairment of the kidney, which is quantifiable and is included in this discussion, also poses a significant risk. The other risks, though not as readily quantifiable, add to the significance of risk presented.

The underlying epidemiologic and experimental animal studies that provide the basis for this quantification of risk are of reasonable quality and demonstrate a relationship between cadmium exposure, on the one hand, and cancer and kidney dysfunction, on the other. There is a reasonable basis for determining the exposed population, estimating dose, and excluding other potentially causal agents of the observed diseases. The Environmental Protection Agency (EPA) has concluded that the available data are adequate to quantify the risk of cancer due to cadmium exposure. This is OSHA's preliminary conclusion as well.

OSHA has received the following comment:

> The epidemiologic study by Thun *et al.* (1985), however, provides the strongest evidence of a carcinogenic response in humans, and has sufficient exposure data to demonstrate a dose-response relationship. Given that Takenaka obtained only lung cancers, is the Takenaka study in fact superior than [sic] the available epidemiologic studies for estimating cancer risks at other sites? Should the Takenaka animal bioassay be judged superior to the Thun epidemiologic study for assessing human risk because of weaknesses in the exposure data in the Thun study?"

OSHA used two data sets for its quantitative assessment of the risk of death from cancer. One set was from the rat bioassay by Takenaka and others (Ex. 4–67). The other is from the human mortality study by Thun and others (Ex. 4–68). For its preliminary quantitative risk assessment, the Agency has relied on the rat data for its best estimate of total risk of cancer death because OSHA believes the measures of exposure are more accurate in the rat study and because the rat study can be used to predict all cancer deaths attributable to occupational exposure to cadmium. By contrast, the Thun data can be used to predict only lung cancer deaths attributable to occupational exposure to cadmium. This use of animal data to predict total cancer deaths is consistent with risk assessments conducted for other standards and upheld in the Courts (e.g. ethylene oxide).

OSHA requests comment on its preliminary preference for the Takenaka study, and on the criteria that OSHA should use in the final rule to determine its preference, if a preference is appropriate, for any particular animal or epidemiological study. OSHA is interested in comments regarding the tradeoff in strengths and weaknesses in the uncertainties in quantitative risk assessment using the various studies.

In Section VI, OSHA discusses at length its risk assessments for cadmium, including the bases and criticisms of those assessments. Although OSHA prefers the multistage model for its best estimates of risk, the Agency has also fit several other models to the experimental animal data to obtain a range of estimates of risk of cancer death attributable to occupational exposure to cadmium over a working lifetime of 45 years. At 100 $\mu g/m^3$, the current OSHA TWA PEL for cadmium fume, the excess risk of death from cancer ranges under the various models from 186.2 to 266 per 1,000 workers. Even at the lowest point in this range, the estimate of excess risk of cancer death is significant and unacceptably high. The Agency's best estimate of total cancer risk is 221.3 per 1,000 (Table VI–C, above).

OSHA requests comments on whether the estimates based on the multistage model and reflected in Table VI–C, above, are the best estimates of risk. The multistage model is a mechanistic model based on the biological assumption that cancer is induced by carcinogens through a series of stages. The model generally is considered conservative in the sense that it risks error on the side of over protection rather than under protection, because it assumes no threshold for carcinogenesis and because it is approximately linear at low doses. OSHA believes that the use of such a model is prudent public health practice.

Using the multistage model, OSHA projects that under current employment conditions at current exposure levels, 824 cancer deaths attributable to cadmium exposure will occur among cadmium-exposed workers over their working lives. Using the same model, OSHA estimates that a reduction of exposure levels to meet a TWA PEL of 5 $\mu g/m^3$ would reduce the number of cancer deaths attributable to cadmium exposure to 652, a reduction of 21%. Reducing exposure levels further to meet a TWA PEL of 1 $\mu g/m^3$ would reduce the number of cancer deaths attributable to cadmium exposure to 186, a reduction of 77% (for details of these calculations, see OSHA's Preliminary Regulatory Impact Analysis, Exs.15–A and 15–B). It is important to note that while reducing exposures to meet a TWA PEL of 1 $\mu g/m^3$ greatly reduces the number of cancer deaths attributable to cadmium exposure, the estimate of risk at 1 $\mu g/m^3$ using this methodology, 2.1 per 1,000 workers, is still significant.

In addition to its risk assessment based on the animal data, OSHA also performed a risk assessment using data from a mortality study of a cohort of cadmium smelter workers conducted by Thun and others (Ex. 4–68). This study, which is an historical prospective study of 602 white men employed in production areas of the smelter for at least six months between 1940 and 1969, provides the strongest evidence of the carcinogencity of cadmium in humans. For workers with two or more years of employment at the smelter, the incidence of lung cancer was statistically significantly elevated (SMR=229). Dividing the cohort of workers into those with low, middle and high cumulative exposures to cadmium, a dose-response relationship between cadmium and lung cancer was observed.

The methods used to quantify risk from the Thun data closely follow those used by EPA (Ex. 4–04). Unlike EPA, however, OSHA fit a relative risk model as well as an absolute risk model to the data. At an exposure level of 100 $\mu g/m^3$, the absolute risk model predicts 16.3 lung cancer deaths and the relative risk model predicts 30.7 lung cancer deaths attributable to occupational exposure to cadmium per 1000 workers with 45 years of exposure. At a proposed TWA PEL of 5 $\mu g/m^3$, the risk of lung cancer death attributable to cadmium exposure per 1000 workers with 45 years exposure is 0.8 using the absolute risk model and 1.6 using the relative risk model. At a proposed TWA PEL of 1 $\mu g/m^3$, the same risks are 0.2 using the absolute risk model and 0.3 using the relative risk model (see Table VI–G above). Although the estimates of risk derived from the relative risk model are twice as large as those derived from the absolute risk model, both estimates at the current OSHA TWA PEL of 100 $\mu g/m^3$ are indisputably significant.

OSHA relied upon two studies of workers to quantify the risk of kidney dysfunction associated with occupational exposure to cadmium. These studies were chosen because they provided adequate exposure data to perform such an assessment. One study, by Ellis and others (Ex. 4–27), examined 82 male workers at the same cadmium smelter studied by Thun. The other, by Falck and others (Ex. 4–28), examined 33 workers at a plant that produces refrigeration compressors with silver

brazed copper fittings containing between 18% and 24% cadmium. Ellis used a logistic regression model to describe the relationship between kidney dysfunction and cadmium exposure. OSHA performed a logistic regression on Falck's data as well. Although, as explained in Section VI, the Ellis' model may over estimate risk at low doses, and although both models may omit variables that may be associated with kidney dysfunction, such as age and duration of exposure, OSHA nonetheless believes that these logistic regression models are adequate for quantifying the risk of kidney dysfunction due to occupational exposure to cadmium.

At the current TWA PEL of 100 $\mu g/m^3$, the incidence of kidney dysfunction per 1000 workers with 45 years of occupational cadmium exposure is predicted to be 890 from the Ellis model and 974 from the Falck model. At the proposed TWA PEL of 5 $\mu g/m^3$, the estimated incidence of kidney dysfunction ranges from 9 per 1000 workers (Falck) to 165 per 1000 workers (Ellis), and at a proposed TWA PEL of 1 $\mu g/m^3$, the estimated incidence of kidney dysfunction ranges from 0.1 per 1000 workers (Falck) to 26.1 per 1000 workers (Ellis). (See Table VI–J.) Although the Ellis and Falck models predict different risks at low doses, at the current OSHA TWA PEL of 100 $\mu g/m^3$ both models predict unacceptably high risks and even at doses as low as 5 $\mu g/m^3$ both models predict a risk well in excess of 1 per 1,000 workers.

Using both the Ellis and Falck models, OSHA projects that between 576 (Falck) and 10,273 (Ellis) of the approximately 512,000 cadmium-exposed workers will develop occupationally related kidney dysfunction if exposed at current levels over their working lives. Thus, under both models, the number of workers who will suffer kidney dysfunction due to occupational exposure to cadmium at current levels is unacceptably high. OSHA anticipates that reducing the TWA PEL to 5 $\mu g/m^3$ will prevent between 477 (Falck) and 1853 (Ellis) of these cases of kidney dysfunction, a reduction which ranges from 18% to 83%, while reducing the TWA PEL to 1 $\mu g/m^3$ will prevent between 574 (Falck) and 9127 (Ellis) of these cases of kidney dysfunction, a reduction which ranges from 89% to 99%. (For details of these calculation, see OSHA's Preliminary Regulatory Impact Analysis, Exs.15–A and 15–B).

Thus, rodent and human studies support OSHA's conclusion that cadmium is a potential occupational carcinogen. Other health science organizations that have considered this issue in recent years, such as IARC, NIOSH, EPA, and ACGIH, have also concluded that cadmium is a potential human carcinogen. Cadmium has been shown to cause lung cancer in male rats by inhalation and in rats, hamsters and mice by injection. In addition, preliminary results from an inhalation study in male and female Wistar rats using four cadmium compounds show formation of primary lung tumors.

However, not all the studies point to an association between exposure to cadmium and cancer. Studies involving the oral administration and intratracheal instillation of cadmium and preliminary results from some long-term inhalation studies do not show a positive association in mice and hamsters. While a number of these studies may have flaws that make interpretation of their data difficult (Ex. 12–41), as discussed in the carcinogenicity section, above, collectively they may raise some questions about the association across species.

Although OSHA believes that the evidence supports its conclusion that cadmium is a potential occupational carcinogen, the Agency has less confidence in the specific quantitative estimate of risk of cancer associated with particular levels of exposure to cadmium. This reduction in confidence has two sources: first, the inherent uncertainties in using quantitative analysis to describe the real world; and, second, the limitations on the scientific studies that are available.

The Takenaka and Thun studies are amenable to quantitative risk analysis. Both of these studies provide measures of dose and response that allow their use for such analysis. Other studies, both positive and negative, that do not provide such measures can be considered in qualitative assessments, but there is no way to determine what weight to give such studies in a quantitative risk assessment.

OSHA believes the Takenaka rat study is suitable for quantitative risk assessment because exposure levels were well documented, the study was run with concurrent controls, there was no opportunity for confounding exposures, and the route of exposure, inhalation, is the same as the primary route of exposure in occupational settings. The drawbacks to this study, however, are that the animals were dosed continuously and the test material was cadmium chloride. By contrast, workers generally are exposed only eight hours a day, and their exposure is mostly to cadmium and cadmium compounds other than cadmium chloride. In addition, deriving estimates of human risk from rat data requires cross species extrapolation, which introduces uncertainty into any estimate of risk.

OSHA recognizes these drawbacks to reliance upon the Takenaka study for its preferred estimate of risk. Nevertheless, the Agency feels there are reasons to rely upon this study. Cadmium chloride may be more soluble than other cadmium compounds, but OSHA believes that the active agent in carcinogenesis is cadmium, and not the ion to which it is bound. Rats in the study were dosed continuously, whereas workers are not, but cancer risk assessments have always been based upon total dose. Scientists do not know how to account for differences in dose regimen.

As indicated above, to quantify risk from cadmium exposure using the Takenaka rat data, OSHA has examined five low-dose extrapolation models. Each of these models—the multistage model, the one-hit model, the probit model, the logit model, and the Weibull model—provides a good fit to the data. At the current OSHA PEL of 100 $\mu g/m^3$, all of the models predict risks well in excess of 1 per 1,000.

The lowest risks are predicted by the probit, the logit, and the Weibull models, which are tolerance distribution models. These models are based on "growth" curves found in bioassays and predict dose-response curves that are generally sigmoid in shape. Because these curves are not necessarily linear at low doses, they tend to approach zero more rapidly than does the dose-response curve derived from the multistage model. Thus, for example, the risks they predict at low doses are lower than those predicted by the multistage model. Among these tolerance distribution models, the lowest risks are predicated by the probit model. If one were to select that model as one's choice of best model, the risk of lung cancer from cadmium exposure at 10 $\mu g/m^3$ would drop below 1 per 1,000.

The choice of model is very important. It involves scientific judgment. There is no certain way to determine which model is correct. The statistics that allow us to measure goodness of fit cannot provide help in judging "best" fit. Consequently, the best (correct) model must be chosen on the basis of some other criterion.

OSHA prefers the multistage model as its best model because the Agency believes the multistage model has the best empirical and theoretical justification of all the models for

estimating carcinogenic dose-response. The multistage model is a nonthreshold model that is linear at low doses. The Agency believes that this model conforms most closely to what we know of the etiology of cancer. OSHA's preference is consistent with the position of the Office of Science and Technology Policy, which recommends that "when data and information are limited, and when much uncertainty exists regarding the mechanisms of carcinogenic action, models or procedures that incorporate low-dose linearity are preferred when compatible with limited information (Ex. 8–693).

At doses of 10 $\mu g/m^3$ or lower the models differ widely in their estimates of risk. The fact that all the models fit the rat data so well and yet predict a wide range of risks at low doses, adds some uncertainty to OSHA's estimates of risk. Some confidence is added, however, by the fact that the risk estimates from OSHA's preferred model, the multistage model, differ by less than a factor of 10 from the risk estimates derived from the Thun epidemiological study.

OSHA has also performed a quantitative risk assessment using the epidemiological data reported by Thun et. al. This study has strengths and weaknesses for use in a quantitative cancer risk assessment. Its major strengths are that it is based upon observation of workers, it has individual dose measurements, and vital status was determined for 98% of the cohort members. The study also provides extensive follow-up of cohort members, most having been followed for at least 20 years. It is the only epidemiological study of cadmium exposed workers that has dose estimates adequate for dose-response analysis.

However, questions have been raised about the methods used to determine historical cadmium exposure levels and about the role of arsenic contamination and cigarette smoking in the excess lung cancer risk observed by Thun et al. Concern also has been raised about confounding from the fact that the cohort is comprised of about 40% Hispanics, who have about one-third the rate of lung cancer as compared to the U.S. white male population that was used to derive the expected lung cancer rates in the study. Nor was any adjustment made for the healthy worker effect. The authors evaluated all but the latter two of these potentially confounding factors and concluded that the former factors played little role in the excess lung cancer risk. The amount of confidence one can place in the cadmium exposure estimates and in the resolution of the issues related to confounding as mentioned above will ultimately be a factor in OSHA's determination of how much the Agency should rely on the Thun study in its quantitative estimates of cancer risk.

If OSHA were to rely on the Thun data, the estimated excess lung cancer risk would be 30.7 per 1,000 workers exposed to cadmium at 100 $\mu g/m^3$ over a working lifetime. The estimated risk for workers exposed to cadmium at 5 $\mu g/m^3$ and 1 $\mu g/m^3$ would be 1.6 and 0.3 per 1,000, respectively. This risk is approximately one-seventh the risk estimated using the Takenaka data.

OSHA has received the following comment:

> Using on [sic] the Takenaka results, each of the five low-dose extrapolation models predicts excess lifetime lung cancer risks greater than one in six (2×10^{-1}) at exposure levels equivalent to 100 $\mu g/m^3$, and excess lifetime lung cancer risks greater than one in two (7×10^{-1}) for exposures exceeding 400 $\mu g/m^3$. Given the fact that exposures historically equalled or exceeded these levels in some occupational settings, it is useful to compare high-dose risk estimates derived from the Takenaka data with the available epidemiological evidence from equivalently high-dose exposure.
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> This is important for two reasons. First, it provides a real-world test of whether similarly high risks might be expected to arise in human populations. All risk assessments are uncertain as to the degree to which the dose-response observed in animals is an accurate indicator of the dose-response in humans. Confidence in animal bioassay results is enhanced when dose-equivalent cancer rates predicted in human populations are roughly equivalent to those obtained from bioassay. However, confidence in animal bioassay results is diminished if cancer rates observed differ substantially from dose-equivalent cancer rates predicted in human populations.
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> Second, estimates of low-dose cancer risks derived from animal bioassays are influenced by tumor incidence observed at high doses. If tumor incidence observed in animals at high doses is substantially less than incidence predicted to arise from equivalent doses in humans, then estimated low-dose risks derived from animal data are likely to understate actual human cancer risks at low doses. Conversely, if high-dose animal risks substantially exceed predicted high-dose human risks, then estimates of risk at low doses are likely to overstate actual human cancer risks.
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> * * * [M]ore than a dozen epidemiological studies * * * have examined the carcinogenic effects of inhaled cadmium compounds. None of these studies, however, shows lung cancer rates among cadmium-exposed workers as great as observed in the Takenaka rat data. For example, total lung cancer incidence was 14 percent (based on person-years at risk) in the high exposure cohort of the study by Thun *et al.* This exposure cohort is interesting because it is roughly equivalent to the high-dose rat cohort examined by Takenaka; median exposure in this cohort was estimated to be 4,200 mg/m^3-days, or 369 $\mu g/m^3$ [sic] based on a 45-year 8-hour TWA. As is the case for all retrospective mortality studies, of course, this cancer rate is preliminary in the sense that a substantial fraction of the high-exposure cohort was still alive when the study was conducted. Thus, the "ultimate" lung cancer incidence for this cohort will not be known for many years. It can be shown, however, that for this "ultimate" cancer rate to reach 70% (the rate observed by Takenaka at the rat-equivalent dose), *virtually every living member* of the cohort must contract cadmium-induced lung cancer.
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> * * * [T]his apparent discrepancy between the animal and human data at equivalently high doses * * * [has] implications for the estimation of low-dose cancer risks. OSHA * * * [should request] comment and analysis as to the significance of this problem and what bearing it should have in the development of a final risk assessment.

To see this result, first note that the baseline mortality rate was no less than 35 percent of the workers in the high-exposure cohort. The highest plausible exposure scenario involves workers exposed prior to 1960 in any one of three plant departments at a level of 1.5 mg/m^3. Since the lower bound of Thun's high-exposure cohort is (2,921) mg/m^3-days, the minimum length of exposure in the cohort must be [2,921 mg/m^3-days]/<[1.5 $mg/m^3\times$(240/12) days/months]>[sic]=93.6 months, or 7.8 years. This means that all members of the high-exposure cohort must have been exposed for at least two years. According to Thun (Table 2), 119 of 345 (35%) workers in this group had died when the study was conducted.

Using this 35 percent mortality rate as a lower-bound for the high-exposure cohort provides a conservative test of the plausibility of observing a 70 percent lung cancer rate once the entire cohort has died. The question to answer is: What proportion of the living cohort members must contract cancer to obtain a total cancer incidence equal to that observed by Takenaka in the high-dose rat cohort? If this proportion is reasonable, then Takenaka's results would appear to be a credible proxy for human experience. If it is unreasonable, however, then the Takenaka results would appear to be an inaccurate indicator of human cancer risks at equivalent doses. Inconsistencies in risk estimates that arise at high doses imply similar discrepancies at low doses, thus making this time an important source of uncertainty that must be reckoned with by regulatory decision makers.

The observed total cancer rate in the high-exposure cohort is 14.2% [7 cancer deaths/(2214 person-years at risk/45 years per working lifetime)]. Determining the proportion of the 222 living workers that must contract cancer for the 'ultimate' cancer rate to reach 70% involves solving for x in the following equation:

$(119*0.14)+(222*x)=344*0.70.$

$x=1.01.$

Thus, even if every living member of the high-exposure cohort contracted lung cancer, the total cancer rate for the cohort still would not equal the 70 percent rate observed by Takenaka in rats at equivalent doses. Furthermore, any total cancer rate predicted in humans reflects baseline lung cancer risks arising from other factors (e.g., smoking), not just the *incremental* effect attributed to cadmium exposure, which is the interpretation of the 70 percent incidence rate observed by Takenaka.

This result is robust with respect to the baseline mortality rate of high-exposure cohort. The baseline mortality rate of 35 percent for workers exposed more than two years is likely to understate the mortality rate of the high-exposure cohort, which was not reported in the study. This 35 percent figure is a weighted average of workers belonging to the low-, medium-, and high-exposure cohorts. Given the observed dose-response relationship, it is almost certain that the mortality rate in the high-exposure cohort exceeds 35 percent. Hence, the proportion from this cohort still alive when the study was conducted is likely to be lower than 64 percent. A higher baseline mortality rate increases the magnitude of the first term in the equation above and makes it even less plausible that sufficient cancers could arise in the remaining members of the cohort to observe in humans the high cancer rate found in rats.

With regard to the science of quantitative risk assessment, OSHA believes the risks derived from the animal and human data are not incompatible. However, the Agency would like to explore the possible reasons for the differences in the estimated cancer risks based on the animal and epidemiological data. On the one hand, if one accepts the quantitative risk assessment results from the epidemiologic study as representing the "true" dose-response relationship, then the dose-response relationship based on the animal data may have overestimated the risk, and the difference in the quantification of risk may be a reflection of an incorrect assumption in extrapolating risks to humans from the Takenaka study. On the other hand, if the estimate of risk from the animal data represents the "true" dose-response relationship, then the dose-response relationship based upon the epidemiologic data may have underestimated the risk, and the difference may be due to error in dose estimation, confounding from cigarette smoking, Hispanic composition of the cohort, as well as lack of adjustment for the healthy worker effect.

OSHA requests public comment on all these points and on the uncertainties involved in using the Takenaka rat data or the epidemiological data from the Thun study to perform its quantitative assessment of the risk of cancer associated with occupational exposure to cadmium. OSHA further requests public comment on how the Agency might better resolve these issues.

OSHA has also assessed the risk of kidney dysfunction associated with occupational cadmium exposure. The Agency relied upon the studies by Ellis et al. and by Falck et al. to model this relationship. A logistic regression technique was used to estimate risk at a variety of exposure levels. This technique was chosen because it allows one to relate a continuous independent variable (dose) to a dichotomous dependent variable (sickness or nonsickness).

The drawback of this model, however, is that it is a nonthreshold model: Any exposure is associated with some risk. In fact, the scientific evidence indicates that kidney dysfunction has a threshold. Some cadmium must be accumulated in the kidney before dysfunction occurs. This means that estimates of risk derived from this model at doses lower than the threshold are not reliable. What that threshold is, however, is uncertain. There are established ranges of cumulative air cadmium levels and of kidney cadmium burdens associated with kidney damage. But within those ranges, OSHA does not know the location of the threshold level for kidney damage. Additional uncertainty is caused by the small size of the cohorts studied by Ellis and Falck.

OSHA requests public comment on its use of this logistic regression model and on other uncertainties involved in using the Ellis and Falck data to perform its quantitative risk assessment for kidney dysfunction. OSHA further requests public input on other techniques for modeling this relationship.

OSHA's conclusion that the risk of death from cancer and the risk of kidney dysfunction resulting from exposure to cadmium at 100 $\mu g/m^3$ over a working lifetime are both significant is consistent with OSHA's determination of significance of risk at the previously existing TWA PELs for two carcinogens recently subject to rulemaking. The two carcinogens are inorganic arsenic (Jan. 14, 1983; 48 FR 1864, 1986); and ethylene oxide (Apr. 21, 1983; 48 FR 17284). The risk estimates per 1000 employees for a working lifetime exposure to each of these carcinogens ranged from 148 to 425 lung cancer deaths from inorganic arsenic and from 63 to 109 cancer deaths from ethlyene oxide.

In addition, for both carcinogens, OSHA concluded that, if it were feasible, OSHA would seek to further reduce the predicted remaining risk at the new proposed or set TWA PELs. That remaining excess risk of death for a working lifetime exposure per 1,000 workers was 8 for inorganic arsenic and 1 to 2 for ethylene oxide.

Further guidance for the Agency in evaluating significant risk is provided by an examination of occupational risk rates, legislative intent, and language of the Supreme Court of the United States. For example, in the high risk occupations of mining and quarrying (Division B), the average risk of death from an occupational injury or an acute occupationally-related illness over a lifetime of employment (45 years) is 15.1 per 1,000 workers. Typical occuptional risks of deaths for all manufacturing (Division D) are 1.98 per 1,000. Typical lifetime occupational risk of death in an occupation of relatively low risk, like retail trade, is 0.82 per 1,000 (Division G). (These rates are averages derived from 1984–1986 Bureau of Labor Statistics data for employers with 11 or more employees, adjusted to 45 years of employment, for 50 weeks per year.)

There are relatively few data on risk rates for occupational cancer, as distinguished from occupational injury and acute illness. The estimated cancer fatality rate from the maximum permissible occupational exposure to ionizing radiation is 17 to 29 per 1,000 (47 years at 5 rems; Committee on Biological Effects of Ionizing Radiation (BEIR) III predictions). However, most radiation standards require that exposure limits be reduced to the lowest level reasonably achievable below the exposure limit (the ALARA principle). Consequently, approximately 95% of radiation workers have exposures less than one-tenth the maximum permitted level. The risk at one-tenth the permitted level is 1.7 to 2.9 per 1,000 exposed employees.

Congress passed the Occupational Safety and Health Act of 1970 because of a determination that occupational safety and health risks were too high. Congress therefore gave OSHA authority to reduce above-average or average risks when feasible. In discussing the level of risk that Congress authorized OSHA to reduce, the Supreme Court stated that "if the odds are one in a thousand that regular inhalation of gasoline vapors that are 2% benzene will be fatal a reasonable person might well consider the risk significant and take the appropriate steps to decrease or eliminate it." (*I.U.D. v. A.P.I.*, 448 U.S. 607, 655).

Within this context, OSHA's preliminary best estimates of risk from occupational exposure to cadmium at the current TWA PELs are substantially higher than other risks that OSHA has concluded are significant, are substantially higher than the risk of

fatality in high-risk occupations, and are substantially higher than the example presented by the Supreme Court. Consequently, OSHA preliminarily concludes that its best estimate of risk, 221 cancer deaths per 1,000 workers, associated with the current TWA PEL of 100 $\mu g/m^3$ presents a significant risk. OSHA's estimate of risk, derived from the same data and model, shows that at an exposure level of 5 $\mu g/m^3$, the risk is 10.6 per thousand, and at an exposure level of 1 $\mu g/m^3$, the risk is 2.1 deaths per thousand, both of which would also be significant based on the above reasoning.

OSHA further notes that a large number of employees are exposed to cadmium well under the current exposure limit. Many employers appear to be keeping exposures relatively low. Consequently, most currently cadmium-exposed employees are exposed to risks below the risk levels presented.

OSHA preliminarily concludes that either the proposed TWA PEL of 5 $\mu g/m^3$ or the proposed TWA PEL of 1 $\mu g/m^3$ will substantially reduce significant risk of cancer. Compared to the risk of cancer death attributable to occupational exposure to cadmium at the current TWA PEL of 100 $\mu g/m^3$, using the same data and model, a 5 $\mu g/m^3$ standard will result in a reduction of at least 211 cancer deaths per 1000 workers exposed, a 95% reduction in risk, while a 1 $\mu g/m^3$ standard will result in a reduction of at least 219 cancer deaths per 1000 workers, a 99% reduction in risk.

The actual reduction is likely to be greater at either TWA PEL and the remaining risk is likely to be smaller than estimated for a number of reasons. First, the proposed action levels, which would trigger medical surveillance and other measures to protect employees from the adverse effects of cadmium exposure, are set at 2.5 $\mu g/m^3$ for a TWA PEL of 5 $\mu g/m^3$ and at .5 $\mu g/m^3$ for a TWA PEL of 1 $\mu g/m^3$. This means that employers will be required to implement the medical surveillance program and other ancillary provisions for workers exposed at or above the action level. For workers exposed over the action level, illness and injury may be identified at an early enough stage to prevent irreversible damage. Consequently, as discussed in the medical surveillance portion of the Summary and Explanation section of this preamble, the program triggered by the action level will further decrease the incidence of disease beyond the predicted reductions attributable merely to a lower TWA PEL.

Many employers may be motivated to reduce exposures below the action level, if it is feasible, to avoid the obligations of medical surveillance and other ancillary provisions of the standard. This would further reduce risk as well as reduce industrial hygiene costs. In addition, since cadmium accumulates in the body thereby increasing the risk of death from lung and prostrate cancer and increasing the excess risk of kidney dysfunction, it will accumulate more slowly in the body below the action level. At the lower proposed action level of .5 $\mu g/m^3$, the Takenaka rat data applied to the multistage model predicts a risk of excess total cancer deaths just above 1 death per 1000 workers. The risk of kidney dysfunction at this level could be as high as 26 per 1000. The rat data applied to the multistage model predict that cancer risks at the alternative action level of 2.5 $\mu g/m^3$ are higher, as is the risk of kidney dysfunction. Thus, the action level provides added employee protection while increasing the cost effectiveness and performance orientation of the standard.

OSHA is also proposing an excursion limit (EL) of 25 $\mu g/m^3$ for a TWA PEL of 5 $\mu g/m^3$ and an EL of 5 $\mu g/m^3$, for a TWA PEL of 1 $\mu g/m^3$. This should further limit employee exposures and therefore risk in certain circumstances.

Although OSHA cannot quantify the reductions in risk that may be expected from these and other similar provisions in the proposed standard, OSHA believes that the effect of including these provisions in a final standard will further reduce the remaining risks estimated at the proposed TWA PELs. Therefore, OSHA's preliminary conclusion is that either of the proposed TWA PELs of 5 $\mu g/m^3$ or 1 $\mu g/m^3$ will substantially reduce a significant risk in areas where the reduction is quantifiable and in addition, will result in very real further substantial reductions in risk.

OSHA, therefore, preliminarily concludes that both of the proposed TWA PELs reduce risk within the limits of feasibility.

As just discussed, OSHA expects the action level, the EL, the medical surveillance provisions and other industrial hygiene requirements of the final standard to substantially reduce the risk remaining at the proposed TWA PELs, although the additional reduction cannot be quantified. As a result, OSHA preliminarily concludes that its proposed TWA PELs of 5 $\mu g/m^3$ or 1 $\mu g/m^3$ will protect employees and that employers who comply with the provisions of the standard will be taking reasonable steps to protect their employees from the hazards of cadmium.

VIII. Summary of the Regulatory Impact and Flexibility Analysis

A. Introduction

Executive Order 12291 (46 FR 13197, Feb. 19, 1981) requires that a regulatory analysis be conducted for any rule having major economic consequences on the national economy, individual industries, geographical regions, or levels of government. The Regulatory Flexibility Act (5 U.S.C. 601 et seq.) similarly requires the Occupational Safety and Health Administration (OSHA) to consider the impact of the proposed regulation on small entities.

Consistent with these requirements, OSHA has prepared a Preliminary Regulatory Impact and Regulatory Flexibility Analysis (PRIA) for the proposed cadmium standard with 5 $\mu g/m^3$ and 1 $\mu g/m^3$ eight hour time weighted average permissible exposure limits (TWA PELs). This analysis describes the industries affected by the standard, the regulatory alternatives considered, some of the potential benefits that will accrue to employees exposed to cadmium at their places of work, the costs of compliance with the proposed standard, and the technological and economic feasibility of the proposed provisions. The following is a summary of this analysis.

B. Industry Profiles

This section provides information on those industries and occupations most likely to be affected by a change in OSHA's current cadmium standard. Employees are potentially exposed to cadmium in industries which are involved in refining cadmium and cadmium-bearing ores, and in industries and occupations which make or use cadmium and cadmium compounds. Production processes include cadmium and zinc refining, nickel-cadmium battery production, electroplating, the production and use of cadmium pigments, the production and use of cadmium stabilizers, and the production and use of cadmium-containing alloys. Occupations where cadmium is found include brazers and solderers of metals and furnace operators.

The principal source of information for this profile is JACA Corporation's final report, "Economic Impact Analysis of the Proposed Revision to the Cadmium Standard," Chapter 2, March 15, 1988 [Ex. H–057a]. References to original material may be found in the JACA Report.

Cadmium Production

Cadmium is a silver-white, malleable metal with a variety of industrial applications that range from electroplating to the stabilization of plastics. Cadmium is marketed as a metal and as a compound, depending on the application. Cadmium metal (grades of 99.95% purity) is sold in balls or sticks for use in electroplating and alloys production while cadmium compounds, such as cadmium sulfide and cadmium selenide, are used to produce plastic stabilizers and additives.

JACA Corporation [Ex. H–057a] reports that in 1985, world cadmium production amounted to 18,660 metric tons, down slightly from the 1984 level of 19,170 metric tons. The leading world producers of cadmium metal include Canada, the Soviet Union, West Germany, Belgium, the United States, Japan, and Australia. These nations accounted for 64 percent of the total cadmium metal production in 1985.

International trade is an important aspect of the cadmium industry. Canada, Australia, Finland, and the Netherlands are all major cadmium exporters, while the United States, the United Kingdom, France, Belgium, and West Germany are all major importers.

JACA found that in 1985, domestic cadmium production amounted to 1,600 metric tons [Ex. H–057a]. U.S. production accounted for nine percent of world cadmium metal production. Presently, four refining facilities are producing cadmium metal in the United States. In addition to cadmium metal, three of these companies also produce one or more of the compounds cadmium oxide, cadmium sulfide, and cadmium selenide.

Cadmium does not exist in sufficient quantities to warrant mining it exclusively. It is generally found in the ores of other metals—primarily zinc, copper, and lead. The majority of cadmium is recovered from zinc ores as by-products of zinc metal refining. Three of the four cadmium production facilities are primary zinc producers.

Cadmium (metal and/or oxide) can be produced as a by-product of roaster calcine leachate at zinc smelters or from lead smelter baghouse dusts. Exposures occur during the melting of cadmium sponge or sheet (intermediate products) and can be expected when the molten cadmium is cast into various shapes. Exposures can also occur when bags containing lead smelter baghouse dust, which can be up to 60 to 65 percent cadmium, are handled and emptied. If cadmium oxide or cadmium metal powder are produced, exposures are likely to occur during the reheating of cast cadmium in the retort furnace and during the packaging of the powdered material.

Cadmium and Zinc Refining

Zinc is a metal which is surpassed only by iron, aluminum, and copper in industrial usage. It is used mainly as a protective coating on steel and iron (galvanizing), in alloys for diecastings, as an alloying metal with copper, and as a chemical compound in rubber and paints. Zinc oxide is the primary zinc-based chemical compound.

After extraction, zinc ores are treated at a mill for separation of mineral constituents. The zinc product (zinc concentrate) is then refined at a smelter by either electrolytic deposition (electrolysis) or distillation in retorts or furnaces.

According to JACA, domestic production of zinc metal reached an all time high in 1969 at 944,000 metric tons. By 1985, output was 67 percent lower. Unlike domestic production, world production has grown over the decade. In 1984 the leading zinc producing countries were Canada, the Soviet Union, Australia, and Peru, while the U.S. accounted for 4 percent of world mine output and 5 percent of world smelter output. There are currently four primary zinc smelters in the U.S.

In zinc refining, cadmium exposures can be expected during the handling of zinc ores, which contain from 0.3 to 0.4 percent cadmium, and during routine baghouse maintenance. Storage and handling of a cadmium-containing leach residue produced during sintering can also expose workers to cadmium, as can the production of zinc oxide.

Electroplating

Electroplating is the electrodeposition of a metal (typically zinc, chromium, copper, nickel, or cadmium) onto a surface in order to import characteristics of the plating material. Plating is done across many manufacturing industries with the heaviest use in the automotive, electronics, industrial hardware, and aerospace industries.

JACA reports that electroplating in the U.S. consumed 1,270 metric tons of cadmium in 1985. This represented 34 percent of the total cadmium consumed domestically. Since 1973, the U.S. has been dedicating approximately one third of its cadmium consumption to elactroplating operation.

Electroplating is done captively and on a job shop basis. Captive electroplating includes companies which electroplate parts or materials that go into their products. Job shop electroplaters are companies which, on a contract basis, electroplate parts or materials for another company. Since a great deal of electroplating is done captively and many job shops are quite small, reliable data on the number of electroplating operations are difficult to find. JACA reviewed data published by the Census Bureau and by the National Association of Metal Finishers. Their report indicates that there are approximately 5,300 plating operations in the U.S., including 3,400 job shops and 1,900 captives. "Finisher's Management" estimates that there are currently 1,166 plants which electroplate predominantly with cadmium. Electroplating with cadmium is usually conducted in a cyanide bath. The solution is prepared from cadmium oxide in sodium cyanide. Cadmium exposure due to this type of bath is expected to be minimal since the cadmium is used in a liquid solution that is kept well below the boiling point. In addition to the baths, employees could also be exposed during the handling of the cadmium before the plating solution is prepared.

Battery Manufacture

Cadmium is used in the negative plate of nickel-cadmium, silver-cadmium, and mercury-cadmium batteries. Of these types, nickel-cadmium (Ni-Cd) batteries are the most common.

Ni-Cd batteries can be divided into two main groups. The first consists of open or vented cell batteries, which are used mainly in industrial applications. The vented cells are constructed using either a pocket plate design or a sintered design, depending on the application and power requirements. The second group consists of sealed cell batteries, which are used primarily in consumer applications. Sealed cells are smaller than their vented counterparts and have lower power capabilities.

The JACA study states that in 1985, the Ni-Cd battery industry consumed just over 1,000 metric tons of cadmium. The demand for Ni-Cd batteries grew rapidly through the 1960's and early 1970's. By 1985 domestic consumption for battery production reached 27 percent of total cadmium demand. Worldwide demand for cadmium in Ni-Cd production has continued to grow and it is estimated that 37 percent of the cadmium consumed in Japan, West Germany, and Great Britain is used to produce batteries.

The manufacturers involved in the production of Ni-Cd batteries in the U.S. comprise a diverse group. They include large, highly diversified corporations as well as smaller, more specialized companies. Several of the Ni-Cd producers also manufacture lead-acid

batteries or other energy storage systems.

Vented cell batteries are produced using either the pocket plate design or the sintered plate design. Exposures can occur in pocket plate battery production during preparation of cadmium oxide (the pocket plate starting material) or during routine maintenance operations. Exposure can occur in the sintered cell process when handling the cadmium metal before it is put into solution, as well as during abrasion and cutting activities.

Cadmium Pigments

Cadmium pigments are inorganic compounds ranging in color from yellow to red which are used to color plastics, paints, ceramics, and printing inks. They are usually produced as powders but are also produced in other forms such as pastes and liquids. For applications in the plastics industry, cadmium compounds are available in master batch pellets. These are compounded polymer resins into which pigments have been incorporated.

As reported by JACA, worldwide use of cadmium for pigment production has been relatively stable since 1960, but slight declines have been seen in recent years. At present, approximately 25 percent of cadmium consumption in the major consuming nations of Japan, West Germany, the U.S., and the U.K. is used in the production of pigments. In 1985, U.S. producers used approximately 595 metric tons of cadmium in the production of cadmium-based pigments. Production in the U.S. is dominated by five companies.

Cadmium emissions from cadmium pigments production occur as particulate matter from solid cadmium-containing raw materials and powders. The major potential sources of emmissions are the calcining operations, cadmium sulfate production, drying operations, grinding operations, blending operations, and packaging operations.

Plastic Stabilizers

Cadmium stabilizers are cadmium-based compounds which are added to plastic resins to provide heat stability and protection from ultraviolet light. These compounds are used primarily in the production of polyvinyl chloride (PVC) and are usually carboxylates of barium-cadmium. Stabilizers are used in both liquid and solid forms and can be added to either the flexible or rigid types of PVC.

The U.S. consumed 520 metric tons of cadmium in the production of plastic stabilizers in 1985. The use of cadmium stabilizers was at its peak in 1970, when 1,340 metric tons of cadmium were used in stabilizer production. At that time, stabilizers accounted for one-third of domestic cadmium consumption. By 1976 cadmium consumption in stabilizer manufacture slipped to about 13 percent of total domestic consumption. Cadmium consumption in this industry has remained relatively stable since 1976, with current consumption at approximately 15 percent of total.

The combined use of cadmium by Japan, West Germany, the U.S., and the U.K. for stabilizer production in 1985 represented 12 percent of total consumption. Similar to the pattern in the U.S., consumption increased in the 1960's and peaked in the early 70's. Environmental factors and the high price of cadmium-based stabilizers have led to the slow decline of cadmium use in stabilizers.

Two-thirds of the cadmium stabilizers produced in the United States are in liquid form. The liquids contain barium, cadmium, and zinc soaps combined with materials such as antioxidants and phosphates. These liquid stabilizers generally contain one to four percent cadmium. The powdered stabilizers are soaps of barium and cadmium and fatty acids. The powders are more expensive than the liquids because they contain 7 to 15 percent cadmium.

The potential source of cadmium emissions in liquid stabilizer production is in the handling of cadmium metal or cadmium oxide before it is dissolved in an acid and solvent. In solid stabilizer manufacture, emissions can occur when cadmium oxide is added to acid to produce a cadmium chloride solution or during drying, handling, and packaging of the final product.

OSHA estimates there are approximately 5,200 workers exposed to cadmium in these industry sectors. Table VIII–A contains a frequency distribution of workers at various exposure levels based upon sample data obtained from JACA site visits, the cadmium docket, OSHA's IMIS and NIOSH's NOS computerized data base.

TABLE VIII–A.—EMPLOYMENT AND FREQUENCY DISTRIBUTION OF CADMIUM EXPOSURE OBSERVATIONS IN AFFECTED INDUSTRIES

Industry	Percent distribution of exposure observations and distribution of employees exposed to cadmium at exposure levels (μg/m)—									
	0–5	6–9	10–14	15–19	20–49	50–99	100–249	250–499	500+	Total
Cadmium Refining:										
Observations	55.42%	4.82%	2.41%	0.00%	13.25%	2.41%	7.23%	3.61%	10.84%	100.00%
(Employees)	(81)	(7)	(4)	(0)	(19)	(4)	(11)	(5)	(16)	(147)
Dry Process Stabilizer Production:										
Observations	49.98%	6.12%	0.00%	0.00%	12.24%	4.08%	12.24%	2.04%	14.29%	100.00%
(Employees)	(44)	(5)	(0)	(0)	(11)	(4)	(11)	(2)	(13)	(89)
Wet Process Stabilizer Production:										
Observations	50.00%	3.13%	0.00%	0.00%	15.63%	3.13%	12.50%	3.13%	12.50%	100.00%
(Employees)	(55)	(3)	(0)	(0)	(17)	(3)	(14)	(3)	(14)	(110)
Pigment Production:										
Observations	47.83%	10.14%	1.45%	2.90%	11.59	2.90%	8.70%	4.35%	10.14%	100.00%
(Employees)	(38)	(8)	(1)	(2)	(9)	(2)	(7)	(3)	(8)	(79)
NI–CD Battery Production:										
Observations	36.47%	7.06%	10.59%	2.35%	15.29%	8.24%	9.41%	5.88%	4.71%	100.00%
(Employees)	(105)	(20)	(31)	(7)	(44)	(24)	(27)	(17)	(14)	(289)
Electro Plating:										
Observations	97.62%	0.00%	0.00%	2.38%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
(Employees)	(3415)	(0)	(0)	(83)	(0)	(0)	(0)	(0)	(0)	(3499)
Lead Smelting:										
Observations	53.80%	15.38%	6.59%	2.20%	9.89%	7.14%	3.85%	1.65%	0.00%	100.00%
(Employees)	(521)	(150)	(64)	(21)	(97)	(70)	(38)	(16)	(0)	(977)
Total Employees	4259	193	100	113	197	107	108	46	65	5189

Some observations were used in more than one industry to represent similar operations. Numbers may not add due to rounding.
Source: Office of Regulatory Analysis, 1988.

Occupational Exposure

In addition to employees exposed in cadmium producing and using industries, a number of workers across a broad cross section of U.S. industries are occupationally exposed to cadmium. OSHA has identified twelve general occupations outside the above industries which use cadmium on a regular basis. These include: Chemical mixers and millers; electroplaters; furnace operators and molders; kiln or kettle operators; heat treaters; equipment cleaners; metal machining operators; painters; maintenance painters; repair and utility workers; hand welders, brazers, and solderers; and machine welders, brazers, and solderers. Workers in these occupations may be exposed to cadmium in a variety of the following ways.

Chemical mixers: exposed while mixing cadmium-based plastic stabilizers, cadmium-based pigments, cadmium in the metallic coating of materials, cadmium compounds used in the production of fungicides, and other compounds containing cadmium. Chemical mixers add dry cadmium (and other) compounds to a chemical or mechanical mixing operation. Exposures to cadmium are generally in the form of dust. Workers in this occupation include production testers and weighers, and mixing operatives who attend machines which crush, grind, blend, and mix a variety of substances including cadmium.

Electroplaters: exposed while measuring and adding dry cadmium-bearing powder to the plating tank. Included in this group are electrolytic plating and coating machine setters, operators, and tenders who work on plating or coating machines.

Furnace Operators and Molders: exposed to cadmium fumes given off by molten metal during molding, casting, and forging operations. Includes forging machine operators, metal molders, coremakers, casting machine operators, melting and refining furnace operators, and metal pourers and casters.

Kiln or Kettle Operators: exposed to cadmium compounds during chemical conversions, molding operations, or when glazes, paints, or other coatings are heated. Includes oven operators, annealing, roasting, and converting furnace operators, dryer operators, metal molding, coremaking, casting machine operators, and kiln operators.

Heat Treaters: exposed to cadmium fumes when heating metals coated with or containing cadmium. Exposure occurs while tending machines such as furnaces, baths, flame-hardening machines, and electronic induction machines.

Equipment Cleaners: exposed to cadmium when cleaning equipment contaminated with either cadmium metal or its compounds, including baghouses, electrostatic precipitators, process equipment, and the process area.

Metal Machine Operators: exposed to dust containing cadmium generated while grinding or forming metal bearing cadmium. Includes machinists, grinders, filers, sharpeners, grinding machine operators, and other machine operators.

Painters: exposed to cadmium when using cadmium-based pigments and cadmium metal in paint and metal sprays. Includes workers employed in detail design, decoration, coating machine operation, the operation of nonelectrolytic plating and coating machines, and other areas.

Maintenance Painters: exposed to cadmium-based pigments while spray painting during construction or maintenance projects.

Repair and Utility Workers: exposed to cadmium fumes generated by painting, welding, soldering, and brazing operations for repair and maintenance. Includes mechanics, millwrights, automotive body repairers, general utility maintenance repairers, bus and truck mechanics, and others.

Hand Welders, Brazers, and Solderers: exposed to fumes released from cadmium-bearing base metals, brazing rods, or solders. Includes structural metal workers, metal pattern workers, metal fabricators, and others.

Machine Welders, Brazers, and Solderers: exposed to cadmium fumes released from cadmium-bearing base metals, brazing rods, or solders. Includes welding machine operators in all areas, glaziers, assemblers, fabricators, and others.

There are approximately 506,900 workers in these occupations. OSHA estimates that these workers may be exposed to cadmium on a regular basis. Table VIII–B presents a profile of workers included in these cross-industry occupations and their exposures.

TABLE VIII–B.—EMPLOYMENT AND FREQUENCY DISTRIBUTION OF CADMIUM EXPOSURE OBSERVATIONS IN AFFECTED CROSS-INDUSTRY OCCUPATIONS

Occupation	Percent distribution of exposure observations and distribution of employees exposed to cadmium at exposure levels (μg/m)—										
	0–5	6–9	10–14	15–19	20–29	30–49	50–99	100–249	250–499	500+	Total
Chemical Mixer:											
Observations	51.09%	10.92%	6.99%	2.18%	5.68%	7.42%	6.55%	5.68%	2.62%	0.87%	100.00%
(Employees)	(10,386)	(2,219)	(1,420)	(443)	(1,154)	(1,509)	(1,331)	(1,154)	(532)	(177)	(20,329)
Electroplater:											
Observations	85.71%	0.00%	3.57%	0.00%	10.71%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
(Employees)	5,286	(0)	(220)	(0)	(661)	(0)	(0)	(0)	(0)	(0)	(6,168)
Furnace Operator; Molder:											
Observations	91.39%	1.91%	0.96%	0.48%	0.96%	0.96%	2.39%	0.00%	0.00%	0.96%	100.00%
(Employees)	(18,530)	(388)	(194)	(97)	(194)	(194)	(485)	(0)	(0)	(194)	(20,277)
Kiln or Kettle Operator:											
Observations	86.67%	6.67%	6.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
(Employees)	(887)	(68)	(68)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(1,024)
Heat Treater:											
Observations	50.00%	0.00%	16.67%	0.00%	0.00%	16.67%	0.00%	16.67%	0.00%	0.00%	10.00%
(Employees)	(260)	(0)	(87)	(0)	(0)	(87)	(0)	(87)	(0)	(0)	(519)
Equipment Cleaner:											
Observations	83.33%	0.00%	4.17%	8.33%	0.00%	4.17%	0.00%	0.00%	0.00%	0.00%	100.00%
(Employees)	(111)	(0)	(6)	(11)	(0)	(6)	(0)	(0)	(0)	(0)	(133)
Metal Machine Operator:											
Observations	63.11%	4.10%	7.38%	1.64%	6.56%	6.56%	4.92%	2.46%	3.28%	0.00%	100.00%
(Employees)	(40,060)	(2,601)	(4,682)	(1,041)	(4,162)	(4,162)	(3,122)	(1,561)	(2,081)	(0)	(63,472)
Painter:											
Observations	76.80%	160%	2.40%	0.80%	0.80%	3.20%	4.00%	1.60%	4.80%	4.00%	100.00%
(Employees)	(8,656)	(180)	(271)	(90)	(90)	(361)	(451)	(180)	(541)	(451)	(11,271)

TABLE VIII-B.—EMPLOYMENT AND FREQUENCY DISTRIBUTION OF CADMIUM EXPOSURE OBSERVATIONS IN AFFECTED CROSS-INDUSTRY OCCUPATIONS—Continued

Occupation	Percent distribution of exposure observations and distribution of employees exposed to cadmium at exposure levels (μg/m)—										
	0-5	6-9	10-14	15-19	20-29	30-49	50-99	100-249	250-499	500+	Total
Construction, Maintenance Painter:											
Observations	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
(Employees)	(742)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(742)
Repair and Utility Worker:											
Observations	57.14%	10.00%	4.29%	1.43%	10.00%	5.71%	2.86%	7.14%	1.43%	0.00%	100.00%
(Employees)	(88,746)	(15,531)	(6,656)	(2,219)	(15,531)	(8,875)	(4,437)	(11,093)	(2,219)	(0)	(155,306)
Welder, Brazer Solderer-Hand:											
Observations	88.03%	2.56%	128%	0.85%	0.43%	1.71%	3.42%	1.71%	0.00%	0.00%	100.00%
(Employees)	(23,798)	(693)	(347)	(231)	(116)	(462)	(924)	(462)	(0)	(0)	(27,033)
Welder, Brazer Solderer-Machine:											
Observations	78.00%	3.14%	3.14%	1.98%	3.03%	3.49%	3.61%	2.10%	0.81%	0.70%	100.00%
(Employees)	(156,512)	(6,307)	(6,307)	(3,971)	(6,074)	(7,008)	(7,242)	(4,205)	(1,635)	(1,402)	(200,662)
Total: Employees	353,976	27,988	20,257	8,103	27,980	22,662	17,992	18,741	7,008	2,224	506,936

Numbers may not add due to rounding. Office of Regulatory Analysis, 1988.

C. Benefits Analysis

The benefits of a revised federal standard for occupational exposure to cadmium would be reductions in the incidence of cancer (primarily prostate and lung cancers) and kidney disorders. In estimating these benefits, OSHA used the exposure profile presented above in conjunction with quantitative risk assessments generated for each of the two types of illness.

The exposure estimates are based primarily on data contained in NIOSH's Health Hazard Evaluation (HHE) reports and OSHA's Integrated Management Information System (IMIS). Neither of these data sets was designed or intended to be used for extrapolation to all workplace exposures. The HHEs are generated as a result of written requests from plant managers or workers to inspect and monitor the workplace, and the IMIS data are based on OSHA monitoring of workplaces as a result of enforcement activities. Since neither is based on a random sample, their use may result in biased estimates of overall worker exposure and, consequently, occupational risk. OSHA requests comments regarding technical problems (including the direction and magnitude of biases) associated with estimating costs and benefits based on these data sets, as well as suggested methodologies that might be used to resolve these problems.

The estimates of reduced incidence of cancer and kidney dysfunction are based on median cadmium exposures. OSHA chose this measure because it is a fairly robust measure of central tendency, particularly in the absence of information to suggest that another measure would be more appropriate (e.g., when the underlying distribution is unknown). Occupational exposures often are assumed to be distributed lognormally, and on this basis the geometric mean is often considered to be the preferred measure of central tendency. However, the exposure data do not support the use of the geometric mean. (A standard statistical test for goodness of fit (the chi-square test) revealed that the hypothesis of a lognormal distribution for occupational cadmium exposure could be rejected at the 95% confidence level.) This could be, at least in part, a result of the sampling problems described above. Nevertheless, the exposure data do not justify a preference for any one underlying distribution assumption over another. Therefore, OSHA believes that using the median will help to reduce the effects of any errors that may be introduced into the analysis stemming from an inappropriate measure of central tendency as a result of an incorrect underlying distribution assumption.

OSHA requests comment on the desirability of using the median as opposed to the geometric mean (or some other measure of central tendency) under these circumstances. Furthermore, OSHA requests comments concerning the direction and magnitude of biases that may be introduced into the benefit estimates by using median exposures, especially under sampling conditions that are not random.

Cancer Risk

Evidence of the carcinogenicity of cadmium derives from both epidemiological studies and animal experimentation.

Several studies of workers exposed to cadmium indicate that the incidence rates of prostatic and lung cancers are elevated relative to the general population. OSHA's risk assessment of occupational exposure to cadmium was derived from the Takenaka rat bioassay data using the multistage model.

To estimate the expected number of cancer cases avoided due to the proposed revision of the standard, OSHA identified those workers now exposed to cadmium and calculated their cancer risk. Benefits which could be attributed to enforcement of the existing standard were not included (i.e., baseline exposures above 200 $\mu g/m^3$ were capped at 200 $\mu g/m^3$). OSHA estimates that by reducing the TWA PEL to 1 $\mu g/m^3$, the number of excess cancer deaths caused by overexposure to cadmium will be reduced by 638 deaths over a 45 year period, or 14 deaths per year. OSHA estimates that by reducing the TWA PEL to 5 $\mu g/m^3$, the number of excess cancer deaths caused by overexposure to cadmium will be reduced by 172 deaths over a 45 year period, or 4 deaths per year.

Kidney Dysfunction

There is also evidence that exposure to cadmium causes dysfunctions in the kidney.

OSHA's risk estimate of renal disorder is based upon two models, one developed by Falck and one developed by Ellis. Both models estimate the likelihood of developing kidney disease based on dose. Based on these models, OSHA has developed a range of the number of kidney disorder cases which may be prevented as a result of the proposed reductions in the PEL. OSHA examined each worker's job category to determine median exposure levels. It was assumed that workers do not rotate among positions and that the exposure

level remained constant. The benefits of each proposed standard with respect to this illness were then calculated by comparing the number of expected cases of kidney disorder before and after implementation of OSHA's proposed PELs. Using this methodology, OSHA estimates that for a TWA PEL of 1 $\mu g/m^3$ between 573 (Falck) and 8501 (Ellis) cases of occupationally related kidney disorders will be avoided over a working lifetime of 45 years (or 13 to 189 cases per year). OSHA also estimates that for a TWA PEL of 5 $\mu g/m^3$, between 476 (Falck) and 1852 (Ellis) cases of occupationally related kidney disorders will be avoided over a working lifetime of 45 years (or 11 to 41 cases per year).

OSHA believes that proper medical examinations can identify urine abnormalities in workers exposed to cadmium, often prior to the onset of more serious symptoms. The workers' exposures can then be reduced. However, OSHA has not attempted to quantify any benefits that may occur from the proposed medical surveillance program.

This proposal contains several provisions intended to reduce potential adverse effects of exposures to cadmium. Some of the provisions are interrelated. Careful analysis may suggest ways in which resources could be reallocated among the provisions to achieve a greater degree of worker protection for the same total cost. OSHA requests comments on the benefits to be expected from each of the separate provisions as they relate to each other and in light of the available health evidence. For example, how would evidence of a threshold effect with regard to kidney dysfunction affect the benefits of medical surveillance to detect kidney dysfunction at levels of exposure below the threshold?

D. Technological Feasibility

Under section 6(b)(5) of the OSH Act, the Agency is to set standards that "to the extent feasible" best protect workers from significant risks of material impairment of health (29 U.S.C. 655(b)(3)). OSHA does not believe that it can satisfy this obligation by using a lowest-common-denominator approach to protecting workers, i.e. by protecting all workers only to the extent that the most severe feasibility constraint on protecting any worker would allow. On the contrary, OSHA believes that if a minority of workers cannot be as effectively protected as the majority, that fact is not an adequate reason to forego protecting the majority to the extent feasible.

OSHA has developed this understanding of technological feasibility as a matter of policy from recent court decisions. The meaning of feasibility is most thoroughly analyzed in *USWA* v. *Marshall* 647 F. 2d at 1189. That analysis is adopted and further developed in a very recent decision concerning the asbestos standard, *Bldg. and Construction Trades Dept., AFL–CIO* vs. *Brock*, 838 F. 2d at 1258.

Under the OSH Act, which has been interpreted by the courts to be "technology forcing," OSHA is "not bound to the technological status quo." OSHA "at the very least, can impose a standard which only the most technologically advanced plants in an industry have been able to achieve—even if only in some of their operations some of the time. * * * OSHA can also force industry to develop and diffuse new technology. * * * So long as [OSHA] presents substantial evidence that companies acting vigorously and in good faith can develop the technology, OSHA can require industry to meet PELs never attained anywhere." *USWA* v. *Marshall*, 647 F. 2d at 1264–65.

In proving technological feasibility, OSHA is not required by the courts to provide "anything like certainty. * * * OSHA's duty is to show that modern technology has at least conceived some industrial strategies or devices which are likely to be capable of meeting the PEL and which the industries are generally capable of adopting." *Id.*, at 1266.

With such broad authority, OSHA must bear "the initial burden of proving the general feasibility of the standard for the industry as a whole at the rulemaking stage * * *. This proof creates a presumption of general feasibility, which shifts "to the employer in later proceedings the task of overcoming OSHA's initial finding." "[S]ince the presumption of feasibility remains rebuttable, in pre-enforcement review the court would not expect OSHA to prove the standard *certainly* feasible for *all* firms at *all* times in *all* jobs" (emphasis in original). Rather, OSHA "would have to justify the presumption, and the attendant shift in burden, with reasonable technological * * * evidence and analysis." *Id.*, at 1270.

Decribing this preliminary test of general feasibility that an OSHA standard must pass in a pre-enforcement review, the court sums up OSHA's burden of proof as follows:

> First, within the limits of the best available evidence, and subject to the court's search for substantial evidence, OSHA must prove a reasonable possibility that the typical firm will be able to develop and install engineering and work practice controls that can meet the PEL in most of its operations. OSHA can do so by pointing to technology that is either already in use or has been conceived and is reasonably capable of experimental refinement and distribution within the standard's deadlines. The effect of such proof is to establish a presumption that industry can meet the PEL without relying on respirators, a presumption which firms will have to overcome to obtain relief in any secondary inquiry into feasibility * * *. Insufficient proof of technological feasibility for a few isolated operations within an industry, or even OSHA's concession that respirators will be necessary in a few such operations, will not undermine this general presumption in favor of feasibility. Rather, in such operations, firms will remain responsible for installing engineering and work practice controls to the extent feasible, and for using them to reduce [exposures] as far as these controls can do so. In any proceeding to obtain relief from an impractical standard for such operations, however, the insufficient proof or conceded lack of proof will *reduce* the strength of the presumption a firm will have to overcome in justifying its use of respirators (emphasis in original) * * *. Such a standard of review for feasibility, of course, in no way ensures that all companies at all times and in all jobs can meet OSHA's demands * * *. *Id.* at 1272.

1. *Proposed TWA PEL of 1$\mu g/m^3$*

OSHA has preliminarily determined that the proposed standard with a TWA PEL of 1$\mu g/m^3$ is technologically feasible. OSHA recognizes that some industries may not be able to achieve the TWA PEL with engineering controls and work practices alone.

The methods which can be used to reduce employee exposure to cadmium include conventional technologies such as local exhaust ventilation systems, mechanized material transfer systems, improved housekeeping practices such as vacuuming and sealing fugitive emissions, and the use of respiratory protection if engineering controls are infeasible. Such technologies are commonly known, readily available, and currently used to some degree in the affected industries and occupations. OSHA's assessment of technological feasibility is based on information collected by the JACA Corporation and PEI Associates, consultants to OSHA, on current exposure levels resulting from existing controls, on the availability of controls needed to reduce exposures from current levels, and on other evidence present in the docket.

Local exhaust ventilation and process enclosure are the two principal types of engineering controls used to reduce employee exposure to cadmium dust and fume. Local exhaust ventilation systems consist of hoods, duct work, and collectors (baghouses). Hoods are recommended for various processes

within the affected industries and occupations, including the furnace operation and solution operation in the cadmium refining industry; the solution operation, wet solids operation, calcine operation, and dry solids operation in the pigment production industry; the solution operation and dry solids operation in the cadmium stabilizer production industry; and the impregnation operation, the coating operation, and plate preparation operation in the nickel-cadmium battery production industry. An enclosed screw conveyor is recommended for use in the cement transfer operation in the cadmium refining industry. In the twelve cross-industry occupations, a hood and exhaust system is recommended for workers in the chemical mixing, electroplating, and metal machine operator occupations.

Improving housekeeping practices, such as increasing the frequency of vacuuming, is recommended for all industries except electroplating, where exposures are already low.

In addition to the above engineering controls, worker exposures to cadmium may be reduced through implementing a fugitive emissions detection program, and through improved cleaning of equipment prior to maintenance operations.

OSHA anticipates that some respirator use will be necessary to meet the proposed TWA PEL of 1 $\mu g/m^3$ for certain processes in cadmium producing and using industries and in certain occupations. Tables VIII–C and VIII–D present estimated respirator use under a TWA PEL of 1 $\mu g/m^3$. In many of the plants in the affected industries respirators are already being used in some job categories. Most of the workers in the affected occupations already have exposures below a TWA PEL of 1 $\mu g/m^3$, but some of the remaining employees may not be able to be protected with engineering controls and would be required to use respirators. OSHA estimates that these employees would include approximately 26,000 metal machine operators that may need to be protected by respirators full time, and 155,000 repair and utility workers that may need to wear a respirator an average of 2 hours per week for intermittent exposures.

TABLE VIII–C.—RESPIRATOR USE TO COMPLY WITH A PEL OF 1 $\mu G/M$ AFTER ENGINEERING CONTROLS ARE IMPLEMENTED; INDUSTRIES

Industry	Employment	Number of employees requiring respirators	Portion of shift (percent) respirators required	Number of employees, full-time equivalent respirator use
Cadmium refining and zinc smelting				
Solution operator	12	12	25	3
Cement operator	12	12	50	6
Furnace operator	37	37	100	37
Materials handler	37	0	0	0
Process supervisor	6	6	25	2
Maintenance technician	43	43	40	17
Total	147	110		65
Percent wearing respirators		75		44
Plastic stabilizer				
Dry process				
Solution operator	16	16	100	16
Dry solids operator	53	53	100	53
Process supervisor	4	4	25	1
Maintenance technician	16	16	40	6
Total	89	89		76
Percent wearing respirators		100		86
Plastic stabilizer				
Wet process				
Solution operator	88	88	100	88
Maintenance technician	22	22	40	9
Total	110	110		97
Percent wearing respirators		100		88
Pigment production				
Solution operator	18	18	100	18
Wet solids operator	22	22	100	22
Calcine operator	9	9	100	9
Dry solids operator	22	0	0	0
Process supervisor	4	4	25	1
Maintenance technician	4	4	50	2
Total	79	57		52
Percent wearing respirators		72		66
Electroplating				
Dry solids operator	2333	0	0	0
Maintenance technician	1165	0	0	0
Total	3498	0		0
Percent wearing respirators		0		0
Nickel-cadmium battery manufacture				
Materials handler	18	0	0	0
Impregnation operator	44	44	100	44
Coating operator	13	13	100	13
Plate preparation operator	70	70	100	70
Assembler	118	118	100	118
Process supervisor	4	4	50	2

TABLE VIII-C.—RESPIRATOR USE TO COMPLY WITH A PEL OF 1 μG/M AFTER ENGINEERING CONTROLS ARE IMPLEMENTED: INDUSTRIES—Continued

Industry	Employment	Number of employees requiring respirators	Portion of shift (percent) respirators required	Number of employees, full-time equivalent respirator use
Maintenance technician	22	22	65	14
Total	289	271		261
Percent wearing respirators		94		90
Lead smelter				
Furnace operator	217	217	100	217
Material handler	82	82	100	82
Maintenance technician	320	320	75	240
Process supervisor	98	98	50	49
Sinter machine operator	95	95	100	95
Mixing room operator	13	13	100	13
Refinery operator	152	152	100	152
Total	977	977		848
Percent wearing respirators		100		87
Totals	5198	1614		1399
Percent wearing respirators		31		27

Source: Office of Regulatory Analysis, 1988.

TABLE VIII-D.—RESPIRATOR USE TO COMPLY WITH A PEL 1μg/m AFTER ENGINEERING CONTROLS ARE IMPLEMENTED: OCCUPATIONS

Occupation	Employment	Number of employees requiring respirators	Portion of shift (%) respirators required (percent)	Number of employees full-time equivalent respirator use
Chemical mixer	20,329	5,091	100	5,091
Electroplater	6,168	3,084	25	771
Furnace operator molders	20,277	0	0	0
Kiln or kettle operator	1,024	0	0	0
Heat treater	519	519	100	519
Equipment cleaner	133	133	25	33
Metal machine operator	63,472	25,685	100	25,685
Painter-prod'n & constr	11,271	0	0	0
Maintenance painter	742	0	0	0
Repair, utility worker[1]	155,306	155,306	5	7,765
Welder, brazer, and solderer—hand	27,033	0	0	0
Welder, brazer, and solderer—machine	200,662	0	0	0
Total	506,936	189,818		39,865
Percent wearing respirators		37		8

[1] Workers in this category are assumed to need respirators an average of one shift out of 5 and 25% of the shift.
Source: Office of Regulatory Analysis, 1988.

2. Proposed TWA PEL of 5 $\mu g/m^3$

OSHA has preliminarily determined that the proposed standard with a TWA PEL of 5 $\mu g/m^3$ is technologically feasible. OSHA recognizes that some industries may not be able to achieve the TWA PEL with engineering controls and work practices alone.

The methods which can be used to reduce employee exposure to cadmium include conventional technologies such as local exhaust ventilation systems, mechanized material transfer systems, improved housekeeping practices such as vacuuming and sealing fugitive emissions, and the use of respiratory protection if engineering controls are infeasible. Such technologies are commonly known, readily available, and currently used to some degree in the affected industries and occupations. OSHA's assessment of technological feasibility is based on information collected by the JACA Corporation and PEI Associates, consultants to OSHA, on current exposure levels resulting from existing controls, on the availability of controls needed to reduce exposures from current levels, and on other evidence present in the docket.

Local exhaust ventilation and process enclosure are the two principal types of engineering controls used to reduce employee exposure to cadmium dust and fume. Local exhaust ventilation systems consist of hoods, duct work, and collectors (baghouses). Hoods are recommended for various processes within the affected industries and occupations, including the furnace operation and solution operation in the cadmium refining industry; the solution operation, wet solids operation, and calcine operation in the pigment production industry; the solution operation and dry solids operation in the cadmium stabilizer production industry; and the impregnation operation, the coating operation, and plate preparation operation in the nickel-cadmium battery production industry. An enclosed screw conveyor is recommended for use in the cement transfer operation in the cadmium refining industry. In the twelve cross-industry occupations, a hood and exhaust system is recommended for workers in the chemical mixing occupation.

Improving housekeeping practices, such as increasing the frequency of vacuuming, is recommended for all

industries except electroplating, where exposures are already low.

In addition to the above engineering controls, worker exposures to cadmium may be reduced through implementing a fugitive emissions detection program, and through improved cleaning of equipment prior to maintenance operations.

OSHA anticipates that some respirator use will be necessary to meet the proposed TWA PEL of 5 $\mu g/m^3$ for certain processes in cadmium producing and using industries and in certain occupations. Tables VIII–E and VIII-F present estimated respirator use under a TWA PEL of 5 $\mu g/m^3$. In many of the plants in the affected industries respirators are already being in some job categories. Most of the workers in the affected occupations already have exposures below a TWA PEL of 5 $\mu g/m^3$, but some of the remaining employees may not be able to be protected with engineering controls and would be required to use respirators. OSHA estimates that these employees would include approximately 5,000 chemical mixers and 500 heat treaters that may need to be protected by respirators full time.

TABLE VIII–E.—RESPIRATOR USE TO COMPLY WITH A PEL OF 5 µG/M AFTER ENGINEERING CONTROLS ARE IMPLEMENTED: INDUSTRIES

Industry	Employment	Number of employees wearing respirators	Portion of shift respirators required (percent)	Number of employees, full-time equivalent respirator use
Cadmium refining and zinc smelting				
Solution operator	12	0	0	0
Cement operator	12	12	50	6
Furnace operator	37	37	100	37
Materials handler	37	0	0	0
Process supervisor	6	0	0	0
Maintenance technician	43	43	40	17
Total	147	92		60
Percent wearing respirators		63%		41%
Plastic stabilizer dry process				
Solution operator	16	0	0	0
Dry solids operator	53	0	0	0
Process supervisor	4	0	0	0
Maintenance technician	16	0	0	0
Total	89	0		0
Percent wearing respirators		0%		0%
Plastic stabilizer wet process				
Solution operator	88	0	0	0
Maintenance technician	22	0	0	0
Total	110	0		0
Percent wearing respirators		0%		0%
Pigment production				
Solution operator	18	0	0	0
Wet solids operator	22	0	0	0
Calcine operator	9	9	100	9
Dry solids operator	22	0	0	0
Process supervisor	4	0	0	0
Maintenance technician	4	0	0	0
Total	79	9		9
Percent wearing respirators		11%		11%
Electroplating				
Dry solids operator	2333	0	0	0
Maintenance technician	1165	0	0	0
Total	3498	0		0
Percent wearing respirators		0%		0%
Nickel-cadmium battery manufacture				
Materials handler	18	0	0	0
Impregnation operator	44	0	0	0
Coating operator	13	0	0	0
Plate preparation operator	70	70	100	70
Assembler	118	118	100	118
Process supervisor	4	0	0	0
Maintenance technician	22	0	0	0
Total	289	188		188
Percent wearing respirators		65%		65%
Lead smelter				
Furnace operator	217	217	100	217
Materials handler	82	82	100	82
Maintenance technician	320	320	75	240
Process supervisor	98	0	0	0
Sinter machine operator	95	95	100	95
Mixing room operator	13	13	100	13
Refinery operator	152	0	0	0

TABLE VIII-E.—RESPIRATOR USE TO COMPLY WITH A PEL OF 5 μG/M AFTER ENGINEERING CONTROLS ARE IMPLEMENTED: INDUSTRIES—Continued

Industry	Employment	Number of employees wearing respirators	Portion of shift respirators required (percent)	Number of employees, full-time equivalent respirator use
Total	977	727		647
Percent wearing respirators		74%		66%
Totals	5189	1016		904
Percent wearing respirators		20%		17%

Source: Office of Regulatory Analysis, 1988.

TABLE VIII-F.—RESPIRATOR USE TO COMPLY WITH A PEL OF 5sG/M AFTER ENGINEERING CONTROLS ARE IMPLEMENTED: OCCUPATIONS

Occupation	Employment	Number of employees wearing respirators	Portion of shift (%) respirators required (percent)	Number of employees, full-time equivalent respirator use
Chemical mixer	20,329	5,091	100	5,091
Electroplater	6,168	0	0	0
Furnace operator, molders	20,277	0	0	0
Kiln or kettle operator	1,024	0	0	0
Heat treater	519	519	100	519
Equipment cleaner	133	0	0	0
Metal machine operator	63,472	0	0	0
Painter-prod'n & constr.	11,271	0	0	0
Maintenance painter	742	0	0	0
Repair, utility worker	155,306	0	0	0
Welder, brazer, and				
Solderer—hand	27,033	0	0	0
Welder, brazer, and				
Solderer—machine	200,662	0	0	0
Total	506,936	5,610		5,610
Percent wearing respirators		1%		1%

Source: Office of Regulatory Analysis, 1988.

E. Cost of Compliance

This section presents OSHA's estimates of the compliance costs that may be incurred by employers in the seven industry sectors and twelve cross-industry occupations affected by the proposed cadmium standard.

A baseline of current industry practice was determined for each cadmium producing and using industry from information on current production methods and available engineering controls obtained during the PEI and JACA information gathering efforts, and from submissions to the record. Costs of engineering controls recommended to achieve the proposed TWA PEL were estimated on the assumption that new controls would be added to those already in place or would be adopted where none are currently used. Separate cost calculations were done for the twelve cross-industry occupations identified as having cadmium exposures.

In addition to the costs for engineering controls and respirators, costs were estimated for the following regulatory provisions.

Exposure Monitoring

This provision of the proposed standard would require employers to determine whether any employee may be exposed to airborne concentrations of cadmium. Measurements would be made by monitoring the breathing zone of one representative employee over an eight hour period for each job classification and for each shift. Exposure monitoring would have to be done initially to determine current exposure levels. If initial monitoring indicated that exposures were less than the action level, no further monitoring would be required. Exposure monitoring would have to be done every three months if exposures were greater than the TWA PEL, or every six months when exposures are less than the TWA PEL but greater than or equal to the action level. Exposure monitoring for the 15 minute excursion limit would have to be done in conjunction with, and with the same frequency as, exposure monitoring for the TWA PEL. Recordkeeping would be required with exposure monitoring.

OSHA believes that at least two methods and types of monitoring devices, charcoal tubes and passive dosimeters, are currently available to take these measurements.

Protective Clothing and Equipment

This provision would require the employer to provide protective clothing and equipment when the employee is exposed to cadmium above the TWA PEL or the excursion limit. Protective clothing and equipment which may be required by the standard include gloves, head coverings, foot coverings, coveralls, face shields, and vented goggles. Many industries already provide personal protective clothing and equipment to workers exposed to high levels of cadmium.

Regulated Areas

This would require employers to establish a separate regulated area where air exposure levels exceed the TWA PEL or the excursion limit. This provision includes appropriate signs, limited access to the area, the provision of respirators to those entering the area, and the prohibition of activities including smoking, eating, drinking, chewing gum or tabacco, and the application of cosmetics.

Hygiene Facilities and Practices

This provision would require the employer to provide change rooms, showers, and separate lunch rooms for employees working in areas where airborne exposure to cadmium exceeds the TWA PEL. Based upon JACA site visits, it is assumed that showering and lunchroom facilities are already provided as part of the baseline in the major cadmium-using and -producing industries. A substantial part of the cost of this provision is attributable to wages for employee time to shower at the end of each workshift.

Medical Surveillance

This proposed provision would require preplacement, annual, and termination medical examinations for employees who will be or have been exposed to airborne concentrations of cadmium at levels at or above the action level. These examinations would require, but would not be limited to, a medical and work history, a complete medical examination, pulmonary function tests, blood analysis, and urinalysis. OSHA believes that all of these examinations can be performed at any clinic, doctor's office, or hospital, and are currently provided by many employers in the seven specific cadmium-using and -producing industries. Employees in the cross-industry occupations also are currently provided with all the required provisions of the medical exam except the urine and blood analysis.

Medical removal would be required if a physician determines in a written opinion that the employee should be removed from exposures at or above the action level or that the employee cannot wear a respirator. The employer is required to maintain records of employee medical exams.

Employer Obligations Under the Hazard Communication Standard

29 CFR 1910.1200 requires employers to train employees in handling hazardous chemicals present in the workplace. The Hazard Communication Standard also requires the use of labels and Material Safety Data Sheets to communicate hazards to employees. OSHA expects that by complying with the Hazard Communication Standard, employees working in areas which may be contaminated with cadmium will be made aware of the existing health hazards of cadmium exposure. However, some additional training and information requirements incremental to what is required by the Hazard Communication Standard are included in this standard.

Summary of Costs

Tables VIII–G and VIII–H summarize industry and occupation compliance cost estimates of the proposed cadmium standard with a 1 μg^3 TWA PEL and .5 $\mu g/m^3$ action level. Tables VIII–I and VIII–J summarize industry and occupation compliance cost estimates of the proposed cadmium standard with a 5 $\mu g/m^3$ TWA PEL and 2.5 $\mu g/m^3$ action level. The engineering costs associated with reaching the TWA PEL include ventilation control systems and enclosed material transfer systems. Non-engineering costs needed to achieve the proposed TWA PEL are related to work practices, including an emissions detection program, additional cleaning and decontamination time prior to maintenance activities, and improved housekeeping. Additional costs would be incurred to cover personal protective equipment including respirators, respirator programs, and respirator fit testing. Costs associated with the other provisions of the standard include those for medical surveillance (except medical removal), exposure monitoring, information and training, hygiene facilities, and regulated areas. In the instance that a worker must be medically removed and there is no alternative job for him/her, the unit cost for removal would include an administrative cost, wage retention for six months, training costs for a new hire to replace the removed employee, and the necessary medical examinations. (Since the extent of potential application of this provision is unknown, a total cost for the provision is not estimated in the summary of costs).

TABLE VIII–G.—SUMMARY OF ESTIMATED TOTAL ANNUAL COSTS ASSOCIATED WITH A 1 μG/M STANDARD FOR CADMIUM: INDUSTRIES

Proposed provisions	Cadmium refining	Dry process stabilizer production	Wet process stabilizer production	Pigment production	Nickel-cadmium battery production	Lead smelting	Electro plating	Total
Ventilation systems	$228,000	$111,500	$63,800	$230,600	$194,000	$0	$0	$827,900
Material transfer systems [1]	0	0	0	0	0	0	0	0
Total annual engineering costs	228,000	111,500	63,800	230,600	194,000	0	0	827,900
Fugitive emissions program	0	33,700	0	0	0	0	0	33,700
Decontamination program	1,000	0	0	0	0	0	0	1,000
Respirators	0	26,700	32,800	8,500	75,900	0	0	143,900
Respirator fit testing	0	900	1,100	0	2,200	0	0	4,200
Exposure monitoring	11,800	13,500	8,700	10,900	13,900	20,700	194,700	274,200
Medical surveillance	1,800	1,400	1,700	900	4,200	15,300	0	25,300
Hygiene practices	0	48,200	59,000	30,500	117,600	0	0	255,300
Information and training	700	2,200	2,600	1,800	2,500	9,300	0	19,100
Regulated areas	200	100	50	200	300	150	0	1,000
Housekeeping	40,700	74,900	32,300	32,300	6,400	19,400	0	206,000
Recordkeeping	500	400	500	400	800	2,400	0	5,000
Total annual nonengineering costs	56,700	202,000	138,750	85,500	223,800	67,250	194,700	968,700
Total annual cost of compliance: Industries	284,700	313,500	202,550	316,100	417,800	67,250	194,700	1,796,000

[1] Enclosed and automated system for use in cadmium refining industry only; estimated annual operating and maintenance costs and capital costs are more than offset by labor savings.

Source: Office of Regulatory Analysis, 1988, based on JACA Corporation, 1988.

TABLE VIII-H.—SUMMARY OF ESTIMATED TOTAL ANNUAL COSTS ASSOCIATED WITH A 1 μG/M STANDARD FOR CADMIUM: OCCUPATIONS

Proposed provisions:	Chemical mixer	Electro-plater	Furnace Operator; holder	Kiln or Kettle operator	Heat treater	Equip-ment cleaner	Metal machine operator	Painter	Mainte-nance painter	Repair and utility worker	Welder; brazer solder-er—hand	Welder, brazer solderer—machine	Total annual cost: Cross-industry occupations
Ventilation systems	$13,626,300	$2,757,800	$0	$0	$0	$0	$33,790,300	$0	$0	$0	$0	$0	$50,174,400
Material transfer systems [1]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total annual engineering costs	$13,626,300	$2,757,800	$0	$0	$0	$0	$33,790,300	$0	$0	$0	$0	$0	$50,174,400
Fugitive emissions program	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Decontamination program	0	0	0	0	0	0	0	0	0	0	0	0	0
Respirators	2,717,100	1,031,600	0	0	287,100	44,500	13,708,000	0	0	10,390,400	0	0	28,178,700
Respirator fit testing	37,800	22,900	0	0	3,900	1,000	190,500	0	0	1,151,600	0	0	1,407,700
Exposure monitoring	506,400	205,700	308,800	15,600	28,000	7,200	1,959,800	171,600	11,300	8,371,000	411,700	3,055,600	15,052,700
Medical surveillance	594,700	292,000	0	0	51,200	15,900	2,534,900	0	0	15,000,400	0	0	18,489,100
Hygiene practices	3,000,500	1,817,600	0	0	305,900	78,400	15,138,200	0	0	18,306,800	0	0	38,647,400
Information and training	111,700	67,700	0	0	11,400	2,900	563,500	0	0	3,407,100	0	0	4,164,300
Regulated areas	4,600	2,800	0	0	500	0	23,000	0	0	7,000	0	0	37,900
Housekeeping	0	0	0	0	0	0	0	0	0	0	0	0	0
Recordkeeping	28,200	17,100	0	0	2,900	800	142,100	0	0	859,100	0	0	1,050,200
Total annual nonengin-eering costs	$7,001,000	$3,457,400	$308,800	$15,600	$690,900	$150,700	$34,260,000	$171,600	$11,300	$57,493,400	$411,700	$3,055,600	$107,028,000
Total annual cost of compliance: Occupations	$20,627,300	$6,215,200	$308,800	$15,600	$690,900	$150,700	$68,050,300	$171,600	$11,300	$57,493,400	$411,700	$3,055,600	$157,202,400

[1] Enclosed and automated system for use in cadmium refining industry only; estimated annual operating and maintenance costs and capital costs are more than offset by labor savings.

Source: Office of Regulatory Analysis, 1988, based on JACA Corporation, 1988.

TABLE VIII-I.—SUMMARY OF ESTIMATED TOTAL ANNUAL COSTS ASSOCIATED WITH A 5 μG/M STANDARD FOR CADMIUM: INDUSTRIES

Proposed provisions:	Cadium refining	Dry process stabilizer production	Wet process stabilizer production	Pigment production	Nickel-cadmium battery production	Electroplating	Lead smelting	Total
Ventilation systems	$228,100	$111,500	$63,800	$194,000	$194,000	$0	$0	$791,400
Material transfer systems [1]	0	0	0	0	0	0	0	0
Total annual engineering costs	$228,100	$111,500	$63,800	$194,000	$194,000	$0	$0	$791,400
Fugitive emissions program	$0	$33,700	$0	$0	$0	$0	$0	$33,700
Decontamination program	1,000	0	0	0	0	0	0	1,000
Respirators	0	0	0	1,400	52,700	0	0	54,100
Respirator fit testing	0	0	0	0	1,500	0	0	1,500
Exposure monitoring	5,800	6,800	4,600	6,600	9,100	194,700	16,500	244,100
Medical surveillance	1,800	1,400	1,700	900	4,200	0	15,300	25,300
Hygiene practices	0	0	0	4,900	82,000	0	0	86,900
Information and training	700	2,200	2,600	1,700	2,500	0	9,300	19,000
Regulated areas	150	0	0	100	200	0	100	550
Housekeeping	40,700	74,900	32,300	32,300	6,400	0	19,400	206,000
Recordkeeping	500	400	500	400	800	0	2,400	5,000
Total annual nonengin-eering costs	$50,650	$119,400	$41,700	$48,300	$159,400	$194,700	$63,000	$677,150
Total annual cost of compliance: Industries	$278,750	$230,900	$105,500	$242,300	$353,400	$194,700	$63,000	$1,468,550

[1] Enclosed and automated system for use in cadmium refining industry only; estimated annual operating and maintenance costs and capital costs are more than offset by labor savings.

Source: Office of Regulatory Analysis, 1988, based on JACA Corporation, 1988.

TABLE VIII-J.—SUMMARY OF ESTIMATED TOTAL ANNUAL COSTS ASSOCIATED WITH A 5 μg/m STANDARD FOR CADMIUM: OCCUPATIONS

Proposed provisions:	Chemical mixer	Electro-plater	Furnace operator; molder	Kiln or kettle operator	Heat treater	Equip-ment cleaner	Metal machine operator	Painter	Mainte-nance painter	Repair and utility worker	Welder, brazer, solderer—hand	Welder, brazer solderer—machine	Total annual cost: Cross-industry occupations
Ventilation systems	$13,626,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13,626,300
Material transfer systems [1]	0	0	0	0	0	0	0	0	0	0	0	0	0
Total annual engineering costs	$13,626,300	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13,626,300

TABLE VIII–J.—SUMMARY OF ESTIMATED TOTAL ANNUAL COSTS ASSOCIATED WITH A 5 μg/m STANDARD FOR CADMIUM: OCCUPATIONS—Continued

Proposed provisions:	Chemical mixer	Electro-plater	Furnace operator; molder	Kiln or kettle operator	Heat treater	Equip-ment cleaner	Metal machine operator	Painter	Mainte-nance painter	Repair and utility worker	Welder, brazer, soiderer—hand	Welder, brazer soiderer—machine	Total annual cost: Cross-industry occupations
Fugitive emissions program	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Decontamination program	0	0	0	0	0	0	0	0	0	0	0	0	0
Respirators	2,717,100	0	0	0	277,000	0	0	0	0	0	0	0	2,994,100
Respirator fit testing	37,800	0	0	0	3,800	0	0	0	0	0	0	0	41,600
Exposure monitoring	506,400	93,900	308,800	15,600	28,000	4,600	1,463,200	171,600	11,300	5,368,000	411,700	3,055,600	11,438,700
Medical surveillance	594,700	292,000	0	0	51,200	15,900	2,534,900	0	0	15,000,400	0	0	18,489,100
Hygiene practices	3,000,500	0	0	0	305,900	0	0	0	0	0	0	0	3,306,400
Information and training	111,700	67,700	0	0	11,400	2,900	563,500	0	0	3,407,100	0	0	4,164,300
Regulated areas	4,600	0	0	0	500	0	0	0	0	0	0	0	5,100
Housekeeping	0	0	0	0	0	0	0	0	0	0	0	0	0
Recordkeeping	28,200	17,100	0	0	2,900	800	142,100	0	0	859,100	0	0	1,050,200
Total annual nonengineering costs	$7,001,100	$470,700	$308,800	$15,600	$680,700	$24,200	$4,703,700	$171,600	$11,300	$24,634,600	$411,700	$3,055,600	$41,489,500
Total annual cost of compliance: Occupations	$20,627,300	$470,700	$308,800	$15,600	$680,700	$24,200	$4,703,700	$171,600	$11,300	$24,634,600	$411,700	$3,055,600	$55,115,800

[1] Enclosed and automated system for use in cadmium refining industry only; estimated annual operating and maintenance costs and capital costs are more than offset by labor savings.
Source: Office of Regulatory Analysis, 1988, based on JACA Corporation, 1988.

Annualized costs of capital include a 10% compound interest charge and the capital repayment over the useful life of the equipment. Variations in the useful life of each type of equipment were taken into account.

For a 1 μg/m³ TWA PEL, total annual cost for the industry sectors identified is $1.8 million, affecting approximately 5200 employees. The total annual cost for the 506,900 employees in the twelve cross-industry occupations is $157.2 million. The combined annual cost for all affected industries and occupations with a TWA PEL of 1 ug/m³ is $159.0 million.

For a 5 ug/m³ TWA PEL, total annual cost for the industry sectors identified is $1.5 million, affecting approximately 5200 employees. The total annual cost for the 506,900 employees in the twelve cross-industry occupations is $55.1 million. The combined annual cost for all affected industries and occupations with a TWA PEL of 5 ug/m³ is $56.6 million.

F. Economic Feasibility Analysis

The criteria for determining economic feasibility are provided in the "lead decision." There the court said:

> A standard is not infeasible simply because it is financially burdensome (citation omitted) or even because it threatens the survival of some companies within an industry * * *. A standard is feasible if it does not threaten "massive dislocation * * *. No matter how initially frightening the projected * * * costs of compliance appear, a court must examine those cuts in relation to the financial health and profitability of the industry and the likely effect of such costs on unit consumer prices * * *. [T]he practical question is whether the standard threatens the competitive stability of an industry (citation omitted) or whether * * * the standard might wreck such stability or lead to undue concentration. * * * [To demonstrate economic feasibility], OSHA must construct a reasonable likelihood that these costs will not threaten the existence or competitive structure of an industry, even if it does portend disaster for some marginal firms. *USWA* v. *Marshall*, 647 F.2d 1189.

Thus, the fact that compliance costs could be burdensome to an industry or that some firms could go out of business because of these costs does not mean a standard is economically infeasible. The issue is not whether the standard creates economic hardship for specific firms in an industry or even for the industry as a whole. For a standard to be economically infeasible the courts require more. A standard is economically infeasible when the costs imposed are so overwhelming that they create "massive dislocation" of the industry, threaten the "existence" or "competitive stability" of the industry or lead to "undue concentration" within the industry. *USWA* v. *Marshall*, 647 F.2d 1189.

OSHA believes that it must base its determination of economic feasibility upon substantial evidence that an industry sector is not threatened with massive dislocation, undue concentration, or competitive instability attributable to the cost of complying with the standard at the time compliance deadlines arrive. In order to make this judgment, projected capital or annual costs of compliance must be examined in relation to the financial health and profitability of an industry sector and the likely effect of such costs on prices. A standard is economically feasible if costs can be passed on in price increases and/or absorbed by firms, and any necessary absorption of costs will not threaten the competitive stability of the industry.

OSHA has preliminarily determined that it is economically feasible for the affected industries and occupations to comply with the provisions of the proposed cadmium standard at a TWA PEL of 1 μg/m³ and at a TWA PEL of 5 μg/m³. OSHA expects that one small and one medium size dry process stabilizer plant and a small pigment production plant may experience a significant adverse economic impact as a result of this standard. Tables VIII–K and VIII–L present estimates of the cost per plant among cadmium-producing and -using industries and the cost per employee among cross-industry occupations to meet TWA PELs for cadmium of 1 μg/m³ and 5 μg/m³, respectively.

Tables VIII–M and VIII–N summarize the potential economic impact of the proposed cadmium standards on the industry sectors considered in this analysis for TWA PELs of 1 μg/m³ and 5 μg/m³, respectively. Compliance costs are presented as a percent of profits and as a percent of revenues for each affected industry by plant size. This represents the two extreme cases that may result: compliance costs absorbed completely from profits or compliance costs completely passed through to consumers. The actual outcome will generally be a combination of these two cases.

TABLE VIII-K.—INDUSTRY COSTS PER PLANT AND OCCUPATION COSTS PER EMPLOYEE WITH A 1 μg/m Standard

Cadmium using/producing plants	Per plant annual cost
Cadmium refining	
Small	$56,200
Large	57,700
Stabilizers: dry process	
Small	76,200
Medium	76,200
Large	80,700
Stabilizers: wet process	
Small	38,900
Large	43,100
Pigment production	
Small	60,800
Medium	62,300
Large	64,750
Nickel cadmium batteries	
Small	55,600
Medium	71,100
Large	78,200
Lead smelting	
Small	21,900
Large	24,000
Electroplating	
Small	200

Cross-industry occupation	Annual per employee cost
Chemical mixer	$1,015
Electroplater	1,009
Furnace operator	15
Kiln or kettle operator	15
Heat treater	1,334
Equipment cleaner	1,135
Metal machine operator	1,073
Painter	15
Maintenance painter	15
Repair and utility worker	373
Welder, brazer, solderer—hand	15
Welder, brazer, solderer—machine	15

Source: Office of Regulatory Analysis, 1988, based on JACA Corporation, 1988.

TABLE VIII-L.—INDUSTRY COST PER PLANT AND OCCUPATION COSTS PER EMPLOYEE WITH A 5 μG/M STANDARD

Cadmium using/producing plants	Per plant annual cost
Cadmium refining	
Small	$55,700
Large	56,000
Stabilizers: dry process	
Small	57,700
Medium	57,700
Large	58,000
Stabilizers: wet process	
Small	21,100
Large	21,400
Pigment production	
Small	48,100
Medium	48,500
Large	48,800
Nickel cadmium batteries	
Small	49,000
Medium	60,000
Large	65,000
Lead smelting	
Small	20,500
Large	22,600
Electroplating	
Small	200

Cross-industry occupation	Annual per employee cost
Chemical mixer	$1,015
Electroplater	78
Furnace operator	15
Kiln or kettle operator	15
Heat treater	1,314
Equipment cleaner	184
Metal machine operator	75
Painter	15
Maintenance painter	15
Repair and utility worker	161
Welder, brazer, solderer—hand	15
Welder, brazer, solderer—machine	15

Source: Office of Regulatory Analysis, 1988, based on JACA Corporation, 1988.

TABLE VIII-M.—ESTIMATED ECONOMIC IMPACTS OF A 1 μG/M³ CADMIUM STANDARD

Industry and firm size (# of firms)	Compliance costs as a percent of before tax profit (percent)	Increased prices required to fully offset compliance costs of average firm (percent)	Average total annual per plant compliance costs (1987 dollars)
Cadmium refining			
Small (2)	NM	0.18	56,200
Large (3)	NM	0.18	57,700
Stabilizers: dry			
Small (1)	583.45	52.51	76,200
Medium (1)	226.30	20.55	76,200
Large (2)	37.08	3.34	80,700
Stabilizers: wet			
Small (3)	61.94	5.57	38,900
Large (2)	27.47	2.47	43,100
Pigment Production			
Small (1)	202.51	10.13	60,800
Medium (1)	69.25	3.46	62,300
Large (3)	28.66	1.43	64,750
Batteries			
Small (1)	46.36	1.85	55,600
Medium (4)	5.93	0.24	71,100
Large (1)	2.54	0.10	78,200
Lead smelting			
Small (2)	NM	0.07	21,900
Large (1)	NM	0.03	24,000
Electroplating			
Large (1166)	7.59	0.33	200

NM: Not meaningful.
Source: Office of Regulatory Analysis, 1988, based on JACA Corporation, 1988.

TABLE VIII-N.—ESTIMATED ECONOMIC IMPACTS OF A 5 μG/M³ CADMIUM STANDARD

Industry and firm size (# of firms)	Compliance costs as a percent of before tax profit (percent)	Increased prices required to fully offset compliance costs of average firm (percent)	Average total annual per plant compliance costs (1987 dollars)
Cadmium refining			
Small (2)	NM	0.17	55,700
Large (3)	NM	0.18	56,000
Stabilizers: dry			
Small (1)	441.77	39.76	57,700
Medium (1)	172.86	15.56	57,700
Large (2)	26.64	2.40	58,000
Stabilizers: wet			
Small (3)	33.61	3.03	21,100
Large (2)	13.64	1.23	21,400
Pigment production			
Small (1)	160.33	8.02	48,100
Medium (1)	53.89	2.69	48,500
Large (3)	21.69	1.08	48,800
Batteries			
Small (1)	40.83	1.63	49,000
Medium (4)	5.00	0.20	60,000
Large (1)	2.11	0.08	65,000
Lead smelting			
Small (2)	NM	0.07	20,500
Large (1)	NM	0.03	22,600
Electroplating (1166)	7.59	0.33	200

NM: Not meaningful.
Source: Office of Regulatory Analysis, 1988, based on JACA Corporation, 1988.

At a TWA PEL of 1 μg/m³, if none of the compliance costs were passed through to consumers, a typical firm in the affected industries would have a decrease in before-tax profit of 3 to 70 percent. The one small and one medium-sized firm in the dry process stabilizer manufacturing industry and the one small plant in pigment production would lose all before tax net profits.

At a TWA PEL of 1 μg/m³, if all of the compliance costs were passed through to consumers, prices in most of the affected industries would increase between 0.1 percent and 5 percent. In the dry process stabilizer industry, however, prices would have to increase 53 percent for the one small plant in this industry, and about 21 percent for the one medium-size plant. The small pigment producing plant would need a price increase of 10 percent to fully offset estimated compliance costs.

At a TWA PEL of 5 μg/m³, compliance costs range from 2 percent to 54 percent of profits for most of the affected plants. Alternatively, price increases of between 0.1 percent and 3 percent would fully offset compliance costs. For the one small and one medium sized plant in the dry process stabilizer production industry and for the one small plant in the pigment production industry, price increases of 8 percent to 40 percent would be needed, which may cause an adverse economic impact for these firms.

OSHA believes that at TWA PELs of 5 μg/m³ and 1 μg/m³, these changes are affordable in most of the industry sectors based on the relatively small size of the costs in relation to both profits and sales. Since cadmium is a co-product of zinc and lead smelting, it is unlikely that cadmium refiners will not be able to absorb the necessary costs. Other regulated facilities, with the exception of electroplaters, are all operating units or subsidiaries of large, well-capitalized manufacturing companies. These plants should be able to finance capital and up-front compliance costs. Estimated costs in the electroplating industry are relatively minor due to already low exposures and should be absorbed through negligible price increases.

OSHA anticipates that the plants identified above, i.e. the small and medium sized dry process plastic stabilizer plants and the small pigment production plant, may not be able to recoup compliance costs. These three plants employ a total of about 50 employees. The effect on industry output is expected to be negligible due to the low capacity utilization rates currently present in these industries.

In the twelve cross-industry occupations, no significant adverse impact is expected, since per-employee costs are relatively low and spread among many industries.

G. Regulatory Flexibility Analysis

Pursuant to the Regulatory Flexibility Act of 1980 (Pub. L. 96-353, 94 Stat. 1164 [5 U.S.C. 601]), OSHA has given special consideration to the economic impacts of the proposed standard on small entities. During the process of developing a revised standard for occupational exposure to cadmium, OSHA carefully considered size factors such as number of employees, total assets, and gross revenues to assure that the proposed standard would not have a disproportional impact on small firms. OSHA anticipates the possibility of an adverse economic impact on the one small and one medium sized firm in the dry process plastic stabilizer industry and on the one small pigment production plant. Firms in the other industries should be able to absorb and/or pass through compliance costs through a combination of reduced profits or increased prices. In the cross-industry occupations, costs are generally on a per-employee basis and thus should not have a disproportional effect on smaller firms. OSHA concludes that, with the exception of the three plants identified above, the proposed cadmium standard with a TWA PEL of 5 μg/m³ or 1 μg/m³ will not have a significant adverse

impact on a substantial number of small businesses.

IX. Environmental Impact Assessment

The environmental impact of lowering the permissible exposure limit for cadmium to 5 $\mu g/m^3$ or 1 $\mu g/m^3$ is expected to be insignificant. The proposed TWA PELS will cause a net decrease in atmospheric cadmium emissions because of the effectiveness of the controls in reducing ambient air cadmium levels. The control device selected to remove cadmium emissions captured from the air by exhaust hoods is a baghouse; a baghouse typically achieves control efficiencies above 99 percent.

There will be a negligible amount of additional solid waste generated as a result of the proposed standard. Most of the substances collected by the emission controls are recycled and reprocessed.

X. Summary and Explanation of the Proposed Standard

OSHA believes that, based on currently available information, the proposed requirements set forth in this notice are necessary and appropriate to provide adequate protection to employees exposed to cadmium. Numerous reference works, journal articles, and other data obtained by OSHA have been taken into consideration in the development of this proposed standard.

The language of the standard and the order of the various provisions are consistent with drafting in other recent OSHA health standards, such as the formaldehyde and benzene standards. OSHA believes that a similar style should be followed from standard to standard to facilitate uniformity of interpretation of similar provisions. Section 6(b)(5) of the Act states that health standards shall also be based on "experience gained under this and other health and safety laws."

Scope and Application: Paragraph (a)

The proposed standard applies to all occupational exposures to all forms of cadmium. This proposal includes the construction, agriculture, maritime and general industries where workers are subject to cadmium exposures that can adversely affect their health and that therefore need to be lowered.

The standard covers all industries, where cadmium exposure is routine, such as nickel-cadmium battery manufacturing, lead and zinc smelting and refining, cadmium refining, electroplating, plastic stabilizers and multi-colored pigments production. It also covers occupations common to many industries that may involve substantial exposure to cadmium during the handling or heating of cadmium compounds. These occupations include: Chemical mixers; furnace, kiln, or kettle operators; molders; heat treaters; equipment cleaners; metal machine operators; painters; electroplaters (in captive operations); utility workers; and welders, brazers, and solderers.

Under the Construction Safety Act (40 U.S.C. 333), 29 CFR 1911.10 and 29 CFR 1912.3, OSHA was required to establish an Advisory Committee on Construction Safety and Health (ACCSH) and to consult with that committee in the formulation of regulatory proposals which would apply to employment in construction. The Agency has determined that approximately 66,000 construction workers have potential cadmium exposure levels addressed by the proposed standard. Based on the record developed to date, the Agency preliminarily determined that it is appropriate to propose the same regulatory language for the construction industry as for general industry. Therefore, OSHA presented the proposed cadmium standard, along with pertinent explanatory materials, to the ACCSH, and on June 14, 1989, OSHA formally consulted with the ACCSH. At that time the Advisory Committee recommended that OSHA include the construction industry within the scope of the proposed rule. The ACCSH also established a work group to develop comments on the cadmium proposal and to consider what, if any, other regulatory provisions were reasonably necessary to protect construction workers from cadmium exposure. At its meeting on September 13, 1989, the committee provided further advice. It recommended that OSHA develop a separate cadmium standard for the construction industry with certain provisions tailored to the particular conditions in that industry.

OSHA has discussed these matters with the Construction Advisory Committee. OSHA anticipates that the Advisory Committee will be submitting pre-hearing comments to this rulemaking concerning the special conditions in the construction industry and a draft of any modifications to the proposed rule that may be appropriate and necessary to respond to these conditions. OSHA expects to place the final cadmium standard applicable to the construction industry in 29 CFR part 1926.

OSHA recognizes that the Committee's comments and other record evidence may lead the Agency in this rulemaking to promulgate a standard for the construction industry that is different in some respects from the standard for the general industry (29 CFR 1910.1027). OSHA requests the public and interested parties to provide information and comments on how, if at all, the proposed cadmium standard should be modified in its application to the construction industry.

The proposal also covers the agriculture industry. Although information on exposures to cadmium in agriculture is limited, OSHA has reason to believe that some cadmium exposures may occur in the agriculture industry, although rarely. OSHA's proposal covers all occupational exposures to cadmium because there may be serious health consequences for any person who is exposed to cadmium.

Definitions: Paragraph (b)

"Action level" is defined in this standard as an airborne concentration of cadmium (level) at or above which medical surveillance, air monitoring, and the provision of a respirator to any employee who requests one are required. Other requirements of the standard are not triggered until exposures reach the TWA PEL. Where exposures are determined to be below the action level, no further compliance activities are required of the employer, except for training of employees.

The action level concept has been used previously to trigger various provisions in other published final OSHA health standards, e.g., Asbestos (51 FR 22612, June 20, 1986), Benzene (52 FR 34460, September 11, 1987); Formaldehyde (52 FR 4668, December 4, 1987); Acrylonitrile (43 FR 45809, October 3, 1978); and Ethylene Oxide preamble (48 FR 17284, April 21, 1983). Use of an action level has been found to stimulate employers to lower exposure levels to avoid increasing costs of compliance with provisions triggered by the action level. As exposures are lowered the risk of illness among workers decreases.

In other standards and in this proposal, action levels have traditionally been set at one-half the PEL. The focus of OSHA's concern is the provision of immediate medical surveillance and follow-up care to workers exposed above the action level who in the past have been exposed to much higher cadmium levels than would be allowed under this standard. Evidence in the record indicates that for some of these workers, irreversible and progressive adverse health effects may rapidly develop unless medical intervention and reduction or cessation of exposures occur immediately (HRG/ICWU petition for an Emergency Temporary Standard, 1986, Ex. 0–1; ACGIH, Ex. 8–664; Lauwerys for

Cadmium Council, Ex. 12–07; Mason, Ex. 8–669, and Friberg, Ex. 8–668). For example, workers with 5 years of exposure to cadmium at levels of 100 $\mu g/m^3$ or workers with 10+ years of exposure to cadmium at levels of 50 $\mu g/m^3$ may be at such risk. Up to 10,000 workers are currently exposed at or above 100 $\mu g/m^3$ of cadmium, at least on a part-time basis. If they have not yet suffered damage from that exposure, in particular to their kidneys, they may be close enough to the threshold that any additional exposure would lead to material impairment of health.

As indicated in the Medical Surveillance section below, the purpose of the initial and periodic medical examinations is to establish the current health status of the employee. Of particular interest are past exposures to cadmium that may have damaged the workers' health. The medical surveillance program outlined below includes screening methods for early detection of illness and is targeted to the organ systems that are most sensitive to cadmium toxicity, namely the lungs and kidneys. This will facilitate the identification or diagnosis and treatment of chronic effects of cadmium toxicity at an early stage. OSHA is seriously considering alternate ways to address the issue of identifying workers in need of immediate medical care, one of which is an action level of one-fifth the TWA PEL of 5 $\mu g/m^3$. The more workers covered by medical surveillance, the greater the likelihood of identifying all who need immediate medical care. OSHA estimates that 60,000 to 100,000 more workers would have access to medical surveillance if the action level were set at 1 $\mu g/m^3$ for a TWA PEL of $\mu g/m^3$ than if it were set at half that TWA PEL.

Another alternative OSHA is considering for identifying workers in need of immediate medical care is the provision of special medical surveillance for workers with past high exposures.

OSHA has preliminarily determined that the action levels for the alternative TWA PELs are technologically feasible in the industries and occupations. Air monitoring at the proposed alternative action levels is feasible and achievable.

According to OSHA's risk assessment, there is continuing significant risk at a TWA PEL of 5 $\mu g/m^3$. Under the recent Asbestos decision (*Building and Construction Trades Department, AFL–CIO* vs. *Brock*, 838 F.2d 1258), where there is continuing significant risk, OSHA should use its legal authority to impose additional requirements on employers to further reduce risk when those requirements will result in a greater than de minimis incremental benefit to workers' health. OSHA's preliminary conculsion is that the action level will result in a very real and necessary further reduction in risk over that provided by the TWA PEL alone for these workers.

OSHA requests comment on whether the action level can be used to increase the likelihood of identifiying workers in need of immediate medical care by increasing the number of workers covered by medical surveillance and on which action level is appropriate. OSHA also requests comments on the use of other methods for identifying workers in need of immediate medical care, such as targeting screening efforts to those workers with higher past cumulative cadmium exposures. This issue is addressed in OSHA's question under 30, above. OSHA further requests comments on which, if any, special medical surveillance provisions would be necessary for workers under the traditional action level of one-half the TWA PEL.

In the Significance of Risk section, OSHA has outlined the Agency's concerns about inherent uncertainty in any quantitative risk assessment and has requested comments on OSHA's risk assessment and the appropriate level for the final TWA PEL. If during the public hearings evidence indicates that significant risk remains at a TWA PEL of 5 $\mu g/m^3$ and workers with past high exposures are in need of immediate medical care, OSHA would consider setting a different action level at one-fifth the TWA PEL of 5 $\mu g/m^3$ or additional medical provisions for veteran workers.

"Emergency" is defined as any occurence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that results in an unexpected release of a significant amount of cadmium.

The concept of "Emergency exposure" is defined as that exposure to airborne cadmium which would occur if the employee were not using respiratory protective equipment. The definition is consistent with OSHA's previous use of the term in other standards.

The definitions of "Assistant Secretary", "authorized person", "Director", "high-efficiency particulate absolute [HEPA] air filter", and "regulated area" are consistent with OSHA's previous use of these terms found in other health standards. The employers' obligations with respect to HEPA filters and regulated areas are discussed later.

Permissible Exposure Limits: Paragraph (c)

OSHA proposes two alternative permissible exposure limits for all cadmium compounds, calculated as an 8-hour time-weighted average exposure (TWA PEL): give and one micrograms of cadmium per cubic meter of air. OSHA has proposed two PELs based upon its concern that respirator usage will be extensive at the lower proposed PEL and based upon its risk assessment described in Section VI of this preamble. Employers are required to assure that no employee is exposed to an airborne concentration of cadmium in excess of permissible exposure limits (PELs).

OSHA's risk assessment indicates significant risk of cancer and kidney dysfunction at the current PELs. A significant reduction in risks of cancer and kidney dysfunction will be achieved at either of the proposed TWA PELs. Reducing the proposed TWA PEL to 1 (5) $\mu g/m^3$ would substantially reduce the estimated total cancer risk to 2.1 (10.6) excess deaths per thousand workers. This reduced risk, nonetheless, remains significant.

Based upon the recent Asbestos decision, [*Building and Construction Trades Department, AFL–CIO* v. *Brock*, 838 F.2d 1258 (D.C. cir. 1988)], when there is significant risk remaining OSHA must take additional actions to the extent feasible to further reduce that risk. If OSHA were to rely exclusively on the TWA PEL to eliminate significant risk, then the TWA PEL would need to be set at a level less than 1 $\mu g/m^3$. This is because if 1 cancer death per 1,000 employees attributable to occupational exposure is taken to constitute a significant risk, then a significant risk would remain at both exposure levels. OSHA anticipates that the ancillary provisions in the proposed standard will further reduce risk.

OSHA is also setting an excursion limit (EL) of 5 (25) ug/m^3 averaged over a sampling period of fifteen minutes to further reduce cumulative exposures to employees. OSHA believes the EL is necessary particularly because the Agency's risk assessment indicates substantial risk at the proposed 8-hour TWA PELs.

Section 6(b)(5) of the OSH Act requires the Agency to adopt health standards that most adequately assure protection against significant risks of material health impairment, to the extent feasible. In proposing the adoption of an 8-hour TWA PEL for cadmium no lower than 1 (5) $\mu g/m^3$ based upon feasibility considerations, OSHA believes that significant cancer

risk would persist below those levels. The Agency believes that additional protection against such continuing significant risk would be provided by supplementing the TWA PEL with additional feasible control measures. OSHA believes, for example, that a limitation on short-term exposures of 5 (25) $\mu g/m^3$ over a 15-minute period will provide such protection and would be feasible in the affected industries and occupations. Compliance with the 15-minute excursion limit (EL) is expected to result in an incremental reduction in the total dose of cadmium that an employee would receive if protected by the 8-hour TWA PEL alone.

Control of short-term exposures in the workplace is generally recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) as good industrial hygiene practice. The ACGIH asserts that even where there is not enough toxicological data to warrant a short-term exposure limit (STEL) based on acute effects, excursions above the TWA PEL should be controlled (Ex. No. 8–687, "Threshold Limit Values for Chemical Substances in the Work Environment," ACGIH). The ACGIH recommends that " * * * in a well controlled process exposure excursions should be held within some reasonable limits" (Ex. No. 8–687). Specifically, based on consideration of exposure variability generally observed in actual industrial processes, the ACGIH recommends that excursions and "short-term exposures should * * under no circumstances * * * exceed five times the TLV [TWA]" (Ex. No. 8–687).

Support for the proposed adoption of an excursion limit for cadmium is also found in OSHA's recent experience with its rulemaking for ethylene oxide (53 FR 11414). The issues addressed during that rulemaking with respect to the necessity of adopting an excursion limit to reduce significant risk are relevant to the cadmium rulemaking. In response to questions on the short-term limit set forth in the proposed rule for EtO (48 FR 17284, April 21, 1983), numerous comments and data were received by OSHA. However, the final EtO rule published on June 22, 1984, which lowered the permissible 8-hour TWA from 50 ppm to 1 ppm (49 FR 25734), reserved decision on the question of whether the standard should contain a short-term limit. In the June 22, 1984 final rule, OSHA stated that upon its review of comments submitted by the Office of Management and Budget (OMB) pursuant to Executive Order 12291, OSHA determined that certain issues relating to the short term limit were important and merited further consideration.

OSHA's decision not to issue a short-term limit for EtO centered on three findings. First, the available health data did not demonstrate the risks from EtO exposure to be dose rate-dependent. In other words, the studies did not indicate that the risk from exposure to a given dose of EtO are greater when that dose is distributed at high concentrations over a short period of exposure than when that dose is distributed at a lower concentration over a longer period of time. Second, since the effects of EtO are assumed to be *dose* dependent rather than dose-rate-dependent, OSHA concluded that reduction of the total dose was the critical factor in dealing with the significant risks of EtO exposure. Therefore, the Agency believed that the 1 ppm TWA PEL was sufficient to minimize significant risk, within the bounds of feasibility. Third, in terms of industrial hygiene and methods of controlling EtO, it was felt that compliance with the TWA PEL would in itself necessitate some control of short-term exposures, particularly for employees whose exposure consists primarily of short-term bursts.

A petition for review of OSHA's decision not to adopt a short-term limit for EtO subsequently was filed by the Public Citizen Health Research Group, pursuant to section 6 (f) of the OSH Act (29 U.S.C. 655(f)).

On July 25, 1986, the U.S. Court of Appeals for the District of Columbia Circuit issued a decision on the ethylene oxide standard (*Public Citizen Health Research Group* v. *Tyson*, 796 F.2d 1479) in response to the petition from Public Citizen. In that decision, the Court upheld OSHA's permissible exposure limit for 1 ppm as an 8-hour time-weighted average, finding that OSHA had "complied with the relevant legal standards in promulgating the 1 ppm PEL" (796 F.2d at 1503). In addition, the Court upheld OSHA's determination that the evidence in the rulemaking record did not establish the existence of a dose-rate relationship for the health effects of EtO. However, the Court rejected OSHA's argument that the lack of such an established dose-rate effect rendered it unnecessary for the Agency to promulgate a short-term limit for EtO. The Court noted:

> The agency recognized that EtO exposures at 1 ppm still allowed a significant health risk * * * If in fact a STEL would further reduce a significant health risk and is feasible to implement, then the OSH Act *compels* the agency to adopt it (barring alternative avenues to the same result) (796 F.2d at 1505).

Therefore, the Court said, in order for OSHA to avoid issuing a short term limit for EtO, the Agency must find either that a short-term limit would not reduce the significant risk remaining at the TWA PEL of 1 ppm, or that a short-term limit would not be feasible. If the Agency cannot make either of these two findings, the court continued, then a short-term limit must be issued. The court remanded the EtO standard to the Agency for further proceedings, specifically directing OSHA to "either adopt a short-term limit or explain why empirical or expert evidence on exposure patterns makes a short-term limit irrelevant to controlling long-term exposures." (*Public Citizen* v. *Tyson*, 796 F.2d at 1507).

Pursuant to the court decision, OSHA proposed the adoption of a 5 ppm 15-minute excursion limit for EtO on the basis of record evidence that compliance with the excursion limit would reduce the total dose for certain employees and, therefore, would reduce the significant risk from exposure to EtO that would exist without the excursion limit. Thus, an excursion limit for EtO was adopted in accordance with the Tyson decision.

OSHA believes that adoption of an excursion limit would reduce the total exposure dose for certain cadmium-exposed workers as it did for certain EtO workers, thus reducing the significant risk they would otherwise face at the TWA PEL alone. The Agency further believes that adoption of a cadmium excursion limit is justified under the Tyson decision. Thus, OSHA proposes the adoption of an excursion limit for cadmium to supplement the proposed TWA PEL and thereby reducing to the extent feasible the total dose and significant risk that cadmium workers are expected to continue to experience. The proposed excursion limit of 5 (25) $\mu g/m^3$ is in accordance with the ACGIH recommendation that such limits should not exceed five times the TWA PEL.

Exposure Monitoring: Paragraph (d)

The proposed standard imposes monitoring requirements pursuant to Section 6(b)(7) of the OSH Act (29 U.S.C. 655) which mandates that any standard promulgated under section 6(b) shall, where appropriate, "provide for monitoring or measuring of employee exposure at such locations and intervals, and in such manner as may be necessary for the protection of employees."

The purposes served by requiring periodic air sampling for employee exposures to cadmium include:

determination of the extent of exposure at the worksite; prevention of employee overexposure; identification of the sources of exposure to cadmium; collection of exposure data so that the employer can select the proper control methods to be used; and evaluation of the effectiveness of the selected methods. Monitoring enables employers to meet the legal obligation of the standard to ensure that their employees not be exposed to cadmium in excess of the prescribed levels and to notify employees of their exposure levels, as required by section 8(c)(3) of the Act. In addition, collection of exposure monitoring data enables the examining physician to be informed of the existence and extent of potential sources of occupational diseases.

Exposure monitoring is important to determine the level of cadmium to which employees are exposed. Exposure levels also act as triggers for implementing certain provisions of this standard to protect employees. Medical surveillance and exposure monitoring provisions of the standard are triggered, for example, by exposure at or above the action level or above the EL. All the remaining provisions of the standard are triggered by exposure above the TWA PEL.

The exposure monitoring provisions require the employer to determine the exposure for each employee exposed to cadmium. Samples must be taken within the employee's breathing zone (personal samples) and must represent the employee's exposure to airborne concentrations of cadmium over an eight-hour period for the TWA PEL, without regard to the use of respirators. In addition, for employees exposed at or above the action level and for certain other employees, the employer must also monitor employees who are expected to have the highest exposure levels over a fifteen minute period to determine whether they are exposed above the EL.

Air sampling for all employees may be required for initial monitoring in certain occupations. In many cases, the employer may monitor selected employees to determine "representative employee exposures." Representative exposure sampling is permitted when there are a number of employees performing essentially the same job under the same conditions. Under such circumstances it may be sufficient to monitor a fraction of such employees in order to obtain data that are "representative" of all employees. Representative personal sampling for employees engaged in similar work with cadmium exposure of similar length, duration and level can be achieved by measuring that member of the exposed group reasonably expected to have the highest exposure. This result is then attributed to the remaining employees of the group. At the very least, full-shift sampling must be conducted for each job function in each job classification, in each work area, and for each shift. These samples must consist of at least one sample representative of the entire shift or consecutive representative samples taken over the length of the shift.

Initial monitoring of workplace exposures is required of all employers who have a place of employment covered by this standard. The initial monitoring must be conducted within 60 days of the effective date of the final standard. However, to eliminate unneeded monitoring, if an employer has comparable and adequate workplace monitoring data gathered within 180 days prior to the effective date of the standard, those data will satisfy the requirements of this standard for initial monitoring.

The results of initial and periodic monitoring determine subsequent monitoring frequency. If the monitoring results show employee exposures are below the action level, (confirmed by another monitoring taken at least seven days later), then no further monitoring is required. OSHA estimates that well over half the estimated 512,000 workers exposed to cadmium are currently below 1 $\mu g/m^3$.

However, if changes occur, such as changes in the production process, raw materials, control equipment, personnel, work practices, or finished products, and these changes may lead to higher exposure, then the employer must resume monitoring. If the initial or periodic monitoring results show employee exposures at or above the action level, but at or below the TWA PEL, then the employer must repeat monitoring for these individuals at least every six months. If initial or periodic monitoring indicates exposures to be above the TWA PEL, then the employer must monitor every three months. OSHA believes these monitoring schedules, which are similar to those required by other OSHA standards such as arsenic, lead, and ethylene oxide, are necessary and sufficient to provide useful information for evaluating employees' exposures. The recent benzene and formaldehyde standards require semi-annual exposure monitoring. This proposed standard would require more frequent monitoring to promptly identify exposures above the proposed TWA PEL.

Monitoring for the EL is generally to be carried out simultaneously with, and according to, the required monitoring schedules discussed above. However, if an employee is exposed in excess of the EL, that employee shall be monitored at least once every six months even if the employee's 8-hour TWA exposure is below the action level. If the initial or periodic monitoring reveals the employee to be above the TWA PEL or at or above the action level, but on two consecutive measurements taken at least seven days apart the employee's exposure is not above the EL, no further monitoring for the EL is required.

Periodic monitoring provides the employer with assurance that employees are not experiencing higher exposures that may require the use of additional controls. In addition, periodic monitoring reminds employees and employers of the continued need to protect against the hazards associated with exposure to cadmium.

OSHA recognizes that monitoring can be a time-consuming, expensive endeavor and therefore offers employers the incentive of discontinuing monitoring for employees whose sampling results indicate exposures are below the action level. It is hoped that this will encourage employers to control their employees' exposures to cadmium below the action level, thus maximizing the protection of employees' health.

Employees are further protected because additional monitoring is required when there is a change in process, production, control equipment, personnel, work practices or other conditions which may result in new or additional exposures to cadmium.

The employer is required to use monitoring and analytical methods that have an accuracy, at a confidence level of 95 percent, of not less than plus or minus 25 percent for airborne concentrations of cadmium. Many laboratories presently have methods to detect cadmium at these and lower levels with at least the required degree of accuracy. Methods of measurement for each of the proposed TWA PELs are described in Appendix E.

The proposed standard further requires that employers notify each of their employees individually of the results of personal monitoring samples. Notification is to be given in writing. In addition, employers must post monitoring results in an appropriate location accessible to all affected employees. A written notice ensures that each employee is notified. Posting the results ensures that other employees, their designated representatives, supervisors, and employers are also aware of the results. The employer is obligated to provide written notice and

post results within 15 working days after receipt of the results. Whenever the TWA PEL and/or the EL is exceeded, the written notification must contain a statement that the TWA PEL and/or the EL has been exceeded and a description of the corrective action(s) being taken by the employer to reduce workplace exposures to or below the TWA PEL and/or the EL. The requirement to inform employees is in accordance with section 8(c)(3) of the Act and is necessary to assure employees that the employer is making efforts to furnish them with a safe and healthful work environment.

The employer is also required to allow employees or their designated representatives an opportunity to observe the employee exposure monitoring. This provision is required by section 8(c)(3) of the Act [29 U.S.C. 657(c)(3)]. It is provided for in paragraph (o) of the proposal and is discussed in more detail below.

Regulated Areas: Paragraph (e)

The proposed standard contains requirements that regulated areas be established wherever airborne exposures are above the TWA PEL and/or EL. Access to these areas is to be regulated and limited to authorized persons. Regulated areas are to be demarcated in any manner that adequately alerts employees of the boundaries of these areas. To increase the performance-orientation of this standard, no detailed requirements are specified on how the regulated areas should be demarcated.

Regulated areas are to be established not only when the TWA PEL is exceeded by also when the EL is exceeded. For example, whenever the TWA PEL or EL is exceeded during a maintenance operation, a regulated area shall be established for the length of time required to perform that operation.

The purpose of a regulated area is to ensure that employers make employees aware of the presence of cadmium at levels above the permissible exposure limits in the workplace, thereby minimizing the number of employees exposed. This may be achieved by posting warning signs. Since the use of respiratory protective equipment is required in regulated areas, the demarcation of such an area should effectively warn employees not to enter these areas unless they are authorized to do so and only if they are using the proper personal protective equipment. In this way, employees who work in another area of the worksite will not be unnecessarily exposed to cadmium if they are required by their job to work in a regulated area part the workday. Due to the serious nature of the adverse health effects of cadmium, no one should be in a regulated area without proper personal protection. This provision will reduce an employees' overall cadmium exposure thereby reducing that employees' risk of illness. OSHA considers this to be necessary in view of the remaining significant risk of cancer at either proposed TWA PEL.

The establishment of regulated areas is an effective means of limiting excess cadmium exposure to as few employees as possible. This is consistent with good industrial hygiene practice whenever exposure to a toxic substance can cause serious health effects. This requirement has additional benefits to employers in that, by limiting access to these areas to authorized persons, the employer's obligation to implement provisions of this standard for exposure above the TWA PEL or EL is limited to as few employees as possible.

Access to the regulated area is restricted to "authorized persons". For the purposes of this standard, these are persons required by their job duties to be present in the area, as authorized by the employer.

Regulated areas are to be established in all work areas, including maintenance operations, where either the TWA PEL or EL is exceeded. In OSHA's view, the existence of a hazard is the basis for determining the need for such protective measures, and not the type of operation or work being performed. Areas where exposures are temporarily over either the TWA PEL or the EL while maintenance is being performed, for example, need to be demarcated to warn employees who are not essential to the performance of that maintenance to keep out of the areas. Demarcation is also necessary to warn employees required to be in the regulated area that respirators must be worn to avoid excessive exposures via inhalation and that good personal hygiene practices must be observed to avoid exposures to cadmium via ingestion. Good personal hygiene practices include refraining from smoking or eating in regulated areas and washing hands and face after leaving the area. Readily observable temporary sign(s) posted at the boundary of the area that are consistent with signs required by the Hazard Communication Standard will be sufficient to remind employees that respirators and good personal hygiene practices are needed and that unprotected people should not enter the area.

Methods of Compliance: Paragraph (f)

The proposed standard requires employers to institute engineering and work practice controls as the primary means to reduce and maintain employee exposures to cadmium at levels at or below the TWA PEL or the EL. Engineering controls involved the installation of equipment, such as forced air ventilation, or the modification of a process, such as enclosing it. Work practice controls involve the manner in which a task is performed, such as how the worker positions himself/herself relative to the source of exposure and/or the engineering controls. The proposal also requires employers to implement engineering and work practice controls even if they establish that feasible engineering and work practice controls are inadequate to lower exposures to or below the TWA PEL or the EL. Engineering and work practice controls, in such circumstances, must be used to reduce employee exposures to the extent possible, and supplemental protection is to be provided through the use of respirators selected in accordance with paragraph (g).

Primary reliance on engineering controls and work practices is consistent with good industrial hygiene practice and with the Agency's traditional adherence to a hierarchy of preferred controls. However, regarding this traditional hierarchy of controls, OSHA published an Advance Notice of Proposed Rulemaking (ANPR) on February 22, 1983 (48 FR 7473) to solicit comments on methods of compliance issues. Among these issues was OSHA's preference for the use of engineering controls over respirators for control of employees' exposures to air contaminants. Many employers have felt the need for increased flexibility in the use of respiratory protection. Based on the comments received in response to the ANPR, OSHA published a Federal Register notice on June 5, 1989, (54 FR 23991) proposing to incorporate additional flexibility in its methods of compliance requirements. OSHA proposed to do this by setting forth more explicitly those circumstances under which respiratory protection generally may be used due to some infeasibility of engineering control. The five sets of circumstances that have been identified by OSHA from data in the record where engineering controls may generally be infeasible include:

1. During the time necessary to install engineering controls;
2. Where feasible engineering controls result in only a negligible reduction in exposure;
3. During emergencies, life saving, recovery operations, repair, shutdowns, and field situations where

there is a lack of utilities for implementing engineering controls;
4. Operations requiring added protection where there is a failure of normal controls; and
5. Entries into unknown atmospheres.

In addition to requesting comment on the appropriateness of allowing the use of respirators during the activities discussed above, OSHA requested comment on other alternatives in that proposed rule as well. Among other alternatives, comment was requested on the appropriateness of permitting the use of respirators: (1) For work situations in which the hazardous exposure is of very brief duration, and, (2) where the costs of the respirator program would be less than those of engineering controls and yet equal protection would be provided. A provision-by-provision discussion of these revisions is included in the proposed methods of compliance rule and will not be included here.

OSHA's traditional hierarchy specifies that engineering controls and work practices are to be used in preference to respirators. Engineering controls are reliable, provide consistent levels of protection to a large number of workers, can be monitored continually and inexpensively, allow for predictable performance levels, and remove toxic substances from the workplace. Once removed, the toxic substance no longer poses a threat to the employee. The effectiveness of engineering controls does not depend to any marked degree on human behavior, and the operation of equipment is not as vulnerable to human error as is personal protective equipment. For these reasons, engineering controls are preferred by OSHA.

Respirators may be relied upon by employers only under certain circumstances: in emergencies; when engineering or work practice controls have not yet been implemented; when the implementation of all such feasible controls fails to reduce exposures to or below the TWA PEL or EL; and during certain brief or intermittent operations.

Engineering controls can be grouped into 3 main categories: (1) Substitution, (2) containment and isolation, and (3) ventilation, both general and localized. Quite often a combination of these controls can be applied to an industrial hygiene control problem to achieve satisfactory air quality. It may not be and usually is not necessary or appropriate to apply all these measures to any specific potential hazard.

Substitution can be the appropriate solution to an industrial hygiene problem. One of the best ways to prevent workers from being exposed to a toxic substance is to stop using it entirely. Although substitution is not always possible, one should always consider whether non-toxic or a less toxic material could be substituted for a more toxic one. Another kind of substitution which may provide effective control of an air contaminant is exchanging one type of process equipment for another, or in some cases, exchanging one process for another process itself.

For example, a process change from batch operation to continuous operation will usually reduce exposure. This is true primarily because the frequency and duration of workers' potential contact with process materials is reduced in continuous operations. Similarily, automation of a process can further reduce the potential hazard.

In addition to substitution, containment (enclosure) and isolation should also be considered. Containment consists of installation of an enclosure (physical barrier) to contain the source of a hazard, thereby separating it from most workers. Workers can be isolated without such containment by appropriately placing the employees in a clean room or cab, or by placing the employees at a greater distance from the source of cadmium exposure.

Frequently containment and isolation maximize the benefits of additional engineering concepts such as local exhaust ventilation. For example, the charging of mixers is the most significant operation in many processes that use formulated ingredients. When one of the ingredients in the formulation is of relatively high toxicity, it is worthwhile to contain the mixing operation. That is, it is worthwhile to install a mixing room, thereby confining the airborne contaminants potentially generated by the operation to a small area. By ensuring containment, the application of ventilation principles to control the contaminant at the source (i.e., the mixer) is more effective.

Ventilation, general or local, is by far the most important engineering control available to the industrial hygienist. Its principal application is to maintain airborne concentrations of contaminants at acceptable levels in the workplace.

A local exhaust system is used to carry off an air contaminant by capturing the contaminant at or near its source before it spreads throughout the workplace. General ventilation, on the other hand, allows the contaminant to spread throughout the workroom but dilutes it by circulating large quantities of air into and out from the workroom. A local exhaust system is generally preferred to ventilation-by-dilution (general ventilation) because it provides a cleaner and healthier work environment. Also, a local exhaust system, with a relatively small volume of air, uses a smaller fan and dust collector.

Work practices, as distinguished from engineering controls, involve the way a task is performed. The Agency has also found that modified work practices can aid in achieving compliance with the TWA PEL and the EL. Some fundamental and easily implemented work practices are: (1) Following the proper procedures to minimize exposures in operating production and control equipment; and (2) not eating, drinking, smoking or storing foods in regulated areas.

Good housekeeping plays a key role in the control of occupational health hazards. Dust on overhead ledges and on floors should be removed before it is made airborne by traffic, vibration, and random air currents. Allowing accumulations of hazardous substances in a work area increases the risk that the worker's exposure will rise above the TWA PEL and/or action level. For example, immediate cleanup of any spills of toxic material is a very important work practice control measure. In addition, a regular cleanup schedule using HEPA filtered vacuum cleaners is an effective method of removing cadmium dust from the work area.

Periodic inspection and maintenance of process equipment and control equipment such as ventilation systems is an important work practice control. In plants where total containment is used as an engineering control, the failure of process equipment or of a ventilation system can result in hazardous exposures. Frequently, equipment which is near failure or in disrepair will not perform normally. Regular inspections can detect abnormal conditions so that maintenance can then be performed. If equipment is routinely inspected, replaced, or repaired before failure is likely, there is less chance that hazardous exposures will occur.

In addition to the above work practice controls, workers must know the proper operating procedures for engineering controls. If a worker inappropriately performs an operation away from an exhaust hood, the control measure will be of no use. Such action may also contaminate the work area. Workers can be alerted to safe operating procedures through booklets, instructional signs, labels, discussions at safety meetings, and through other educational means.

Good supervision provides further support for ensuring that proper work practices are carried out by the workers. By persuading a worker to position the exhaust hood properly or to improve work practices, such as weighing toxic materials or handling contaminated scoops or shovels, a supervisor can do much to minimize unnecessary exposure to air contaminants.

Employees' exposures also can be controlled by scheduling operations with the highest exposures at a time when the fewest employees are present. For example, clean-up operations in which toxic substances are involved might be performed at night or at times when the usual production staff is not be present. Such methods of controlling worker exposures to contaminants are known as administrative controls. However, one form of administrative control, worker rotation, is prohibited by OSHA as a method of compliance. Worker rotation reduces the extent of exposure to individual employees but increases the number of employees exposed. Since cadmium appears to be a carcinogen and causes kidney dysfunction at low exposure levels, OSHA is compelled to prohibit these practices, which would place more employees at risk.

OSHA has traditionally relied less on respirators in the hierarchy of controls because there are so many problems associated with their use. Often work is strenuous, and the increased breathing resistance of the respirator reduces its acceptability to employees. Severe safety problems are presented by respirators which may limit an employee's vision and ability to communicate. In some difficult and dangerous jobs, effective vision or communication is vital to a safe, efficient operation. Voice transmission through a respirator can be difficult, annoying, and fatiguing. In any event, movement of the jaw in speaking can cause leakage, thereby reducing the efficiency of the respirator and decreasing the employee's protection. Also skin irritation can result from wearing a respirator in hot, humid conditions. Such irritation can cause considerable distress to workers and may disrupt work schedules. To be used effectively, respirators must be individually selected; fitted and periodically refitted; conscientiously and properly worn; regularly maintained; and replaced as necessary. In many workplaces, these preconditions for effective respirator use are difficult, if not impossible, to achieve. For this reason and others, OSHA has concluded that reliance upon respirators should be minimized.

Workers exposed above the TWA PEL or EL are required to wear respirators during the performance of their normal job functions in order to lower their exposures to or below the TWA PEL or EL. Medical examinations evaluating an employee's physical fitness to wear a respirator are required to be provided within 30 days after assignment to an area where respirators are required for any employee who has not already had such an examination within the preceeding 12 months.

Industry claims in comments to the proposed respirator standard that respirators provide reliable employee protection when used in a good respirator program (Docket H-049, Respiratory Protection Revision). However, because respirator efficiency ultimately relies on the individual employee's good work practices, respirator programs place the burden of protection on the employee. Engineering controls may have certain disadvantages, such as their cost and availability, but these disadvantages are insufficient to justify the use of respirators alone. OSHA requests any information or data indicating that respirators offer equal or better protection than engineering controls. The role of other factors in providing this protection, such as the presence of hygiene facilities, should be evaluated with respirator usage as well.

Experience in industry shows that most healthy workers do not have physiological problems wearing properly chosen and fitted respirators. Common health problems such as claustrophobia (an intolerance of feeling enclosed and the subjective feeling of breathing difficulty), chronic rhinitis, nasal allergies, (where it is necessary to remove the respirator frequently to deal with nasal discharge) and chronic sinusitis may cause difficulty in breathing while wearing a respirator for employees affected by these health conditions.

Other difficulties associated with respirator use involve employees with respiratory system and cardiac diseases. Respiratory diseases include chronic obstructive pulmonary disease, emphysema, asthma, and moderate to severe pneumoconiosis, many of which can result from cadmium exposures. Cardiac or cardiorespiratory diseases that may affect respirator wear include coronary thrombosis, any type of congestive heart disease, other ischemic heart diseases, and hypertension.

The wearing of a negative pressure respirator increases the resistance to inspiration. The problem is reduced with powered air-purifying respirators and with positive pressure atmosphere-supplying respirators. Exhalation resistance with modern negative pressure respirators does not significantly increase expiratory effort.

The amount of difficulty associated with respirator use will clearly depend both on the degree of cardiorespiratory inadequacy and on the amount of physical effort required by the work. Some people who may have difficulty wearing a negative pressure respirator should be able to manage well with a positive pressure type respirator. The decision about the fitness of the individual to wear a respirator is a judgment that can only be made by a qualified physician who must take into account the state of the individual's health as well as the physical requirements of the job. OSHA requires medical examinations that target these health problems for workers required to wear respirators in accordance with paragraph (g).

In some circumstances (*e.g.*, certain maintenance and repair operations, emergencies, or during periods when equipment is being installed), OSHA recognizes that respirators may be essential to guarantee worker health and safety, and provision is made in paragraph (g) for their use as primary controls in these instances where engineering and work practice controls cannot be used to achieve either the TWA PEL or the EL. In other circumstances where work practices and engineering controls alone cannot reduce exposure levels to the TWA PEL and the EL, respirators also may be used for supplemental protection. In these situations, the burden of proof of infeasibility is appropriately placed on the employer.

In addition, paragraph (f)(2) requires an employer who has employees exposed over either the TWA PEL or the EL to establish and implement a written compliance program, which describes the methodology to be used to reduce employee exposure within his workplace to or below the TWA PEL and/or the EL. The plan must provide for this to be accomplished through engineering and work practice controls to the extent feasible and required by the standard. These written plans must include a schedule for implementation; must be furnished upon request for examination and copying to representatives of the Assistant Secretary, representatives of the Director of NIOSH, and affected employees or their representatives; and must be updated at least once a year

until employee exposures have been reduced to or below the TWA PEL and/or EL. Once employee exposures have been reduced to or below the TWA PEL or EL by engineering and/or work practice controls, the compliance plan need not be updated, unless, of course, exposures again rise above the TWA PEL or EL. In such cases, a new compliance plan would have to be drafted.

OSHA believes that the provision that requires the employer to give preference to engineering controls and work practices over the use of respirators will lead to a protective and cost-effective approach. This matter is being raised in the Agency's proceeding on methods of compliance (see Proposed rule, Methods of Compliance, June 5, 1989, 54 FR 23991). If evidence relevant to cadmium is submitted in the methods of compliance rulemaking, and the evidence is persuasive that some modification in required methods of compliance is indicated, OSHA will consider making appropriate changes to the cadmium standard.

Respiratory Protection: Paragraph (g)

Respirators are necessary as supplementary protection to reduce employee exposure when engineering and work practice controls cannot achieve the necessary reduction to or below he TWA PEL and the EL. Respirators may also be necessary at other times: while such controls are being implemented, during emergency situations, and for brief or intermittent exposures that cannot be controlled through engineering and work practice controls, (e.g. certain maintenance operations). Finally, a respirator must be provided by the employer for all authorized employees in regulated areas.

Due to the remaining significant risk at the action level, OSHA is also proposing to require employers to provide respirators to employees exposed above the action level who request one. This is in keeping with the precedent set forth in the Occupational Noise Exposure standard (29 CFR 1910.95) regarding the use of personal protective equipment. In that standard, under the hearing conversation program, paragraph (i), employers have to provide personal protective equipment to all employees exposed at or above the action level at no cost to employees.

The proposed standard requires that whenever respirators are required to reduce employee exposures, the employer must provide respirators appropriate to the exposure level and at no cost to the employee. Employers must also ensure that respirators are used properly when required. Because of the risk of serious adverse health effects from cadmium exposures, respirator usage is allowed in the above mentioned circumstances in order to reduce an employee's cumulative dose of cadmium.

The proposal contains specific requirements for the use, selection, maintenance, and fitting of respirators. Table 1 lists the type of respirator to be used at each airborne concentration of cadmium in the workplace. The respirator selection table is consistent with OSHA's proposed revisions to the respirator standard (29 CFR 1910.134). While the employer must select the appropriate respirator from the table on the basis of the airborne concentration of cadmium, the employer may always select a respirator providing greater protection, (i.e., one prescribed for higher concentrations of cadmium than present in his workplace).

The standard requires that employers permit employees to leave regulated areas to readjust the respirator facepiece for proper fit, to change the filters, or to replace the respirator. It also required employers to permit employees to have the regulated area to wash their faces to avoid potential skin irritation associated with respirator use.

OSHA is requiring quantitative fit testing of all tight-fitting air-purifying respirators (either positive or negative-pressure) when used at exposures exceeding 10 times the TWA PEL, (10 $\mu g/m^3$ for a TWA PEL of 1 $\mu g/m^3$, or 50 $\mu g/m^3$ for a TWA PEL 5 $\mu g/m^3$), because proper fit is essential to the performance of these respirators. Whenever quantitative fit testing is used to assess the fit of a negative pressure respirator, a fit factor of 10 times the protection factor for that class of respirators shall be achieved. When quantitative fit testing is used to assess the fit of a positive pressure respirator, the employer shall test a negative pressure respirator made by the same manufacturer, which is the same model and size, to determine whether the facepiece to face seal is adequate. The seal is adequate if the fit factor is 10 times the protection factor for the relevant class of negative pressure respirators. If the fit is not correct, cadmium contaminated workplace air may enter the facepiece through gaps and leaks in the facepiece seal, instead of passing through the filter material.

Obtaining a proper respirator fit may require the fit testing of a variety of different mask sizes from several manufacturers to select the facepiece with the best fit (i.e., least leakage around the faceseal) for each employee. A property fitted facepiece helps to reduce inhalation leakage to a minimum.

To tailor the testing to the circumstances of the employer's establishment, OSHA permits the employer to choose either quantitative or qualitative fit testing if cadmium exposures are less than 10 times the TWA PEL. Mandatory protocols for the type of testing the employer chooses are set forth in Appendix C.

Quantitative fit testing is a procedure whereby the level of penetration of a test agent of known concentration is measured inside the facepiece of the respirator. Quantitative respirator fit testing is generally recognized as the better method for determining how well a respirator fits a particular individual. It provides a quantitative assessment of the extent of the fit (i.e. the fit factor). It allows the employer to continue testing until the optimum or best fitting respirator is identified and selected for the employee. However, quantitative fit testing requires the use of moderately sophisticated testing equipment and is more expensive to perform than qualitative fit testing. This may reduce its availability in some worksites. Also, testing services may not be available in all parts of the country to provide quantitative fit testing services for small employers.

Qualitative fit testing does not provide a numeric measure of the tightness of the fit but simply determines whether a respirator fits or not. Qualitative fit testing is a technique whereby a person wearing a respirator is tested to see whether a test agent with a detectable odor or taste threshold can be detected inside the respirator. If the odor or taste cannot be detected, the respirator is said to fit. Qualitative fit testing is more subjective than quantitative testing because it depends on the individual's ability to detect the test agent.

OSHA believes that while quantitative fit testing may have some advantages, qualitative testing conducted in accordance with the protocols described in Appendix C can adequately accomplish the intent of the standard at lower exposure levels, to ensure that each employee is assigned and wears the respirator that provides a proper fit with the least possible leakage. Comments are requested on all aspects of fit testing.

It is important that all employees who wear respirators be medically screened as part of a regular medical examination to determine employee fitness for respirator usage. Respirator usage may present a burden to the employee's cardiopulmonary system. This burden may result in symptoms such as

shortness of breath, chest pain, dizziness or fatigue. These symptoms may be exacerbated by pre-existing lung disease such as chronic bronchitis, emphysema, asthma or pneumoconiosis. Paragraph (l)(7), therefore, requires that medical examinations be made available to workers with a job that requires the use of a respirator. The medical examination is required within 30 days of assignment to a job requiring a respirator unless the employee has received a complete medical examination within the preceeding 12 months. This is to ensure that individuals are not required to use a respirator without a timely medical examination evaluating their ability to wear one. The medical examination is made available to determine whether any health conditions exist which would affect the employee's ability to wear a respirator. If an examining physician determines, based on the employee's most recent exam, that an employee will be unable to function normally while wearing a respirator, then the employee shall be afforded the opportunity to transfer as set forth in paragraph (l)(12).

OSHA has not exempted occasional users of respirators from the medical evaluation requirement. OSHA believes that users need to be evaluated for their fitness to wear respirators as well. In addition, applying such an exemption might create administrative problems (Docket Number H–049, Respiratory Protection Revision).

The standard allows workers with cadmium exposures above the action level to request a respirator and requires employers to provide the respirator at no cost to the employee. Due to the serious nature of the adverse health effects of cadmium exposure, workers who are required to be trained under the provisions of the Hazard Communication Standard and are made aware of such health problems may choose to use respirators to further reduce their risks of disease. Medical examinations of the employee's fitness to wear a respirator will not be required prior to issuance of a respirator for workers who elect to wear respirators. However, examinations for respirator usage are required as part of a routine medical surveillance, at least once a year, for workers exposed to cadmium at or above the action level who voluntarily wear a respirator.

Since OSHA's risk assessment indicates a significant remaining cancer risk at a TWA PEL of 1 $\mu g/m^3$, or higher, OSHA has required all air purifying respirators to be equipped with a HEPA filter, regardless of the exposure level. OSHA believes that HEPA filters provide an extra margin of safety at all levels of exposure. OSHA requests comments on whether this provision is appropriate for exposures at lower levels.

The employee must be properly trained to wear the respirator, to know why the respirator is needed, and to understand the limitations of the respirator. An understanding of the hazard involved is necessary to enable employees to take steps for their own protection. The respiratory protection program implemented by the employer must conform to that set forth in 29 CFR 1910.134 which contains the basic requirements for proper selection, use, cleaning and maintenance of respirators.

Emergency Situations: Paragraph (h)

The proposed standard would require employers to prepare a written plan of action to be followed in the event of occurrences that would result in massive releases of airborne cadmium. Examples of such emergencies are ruptures of containers and control or operating equipment failures. Emergency plans are necessary to direct employees to act in ways that maximize their personal protection and minimize the hazards in the event of an emergency. Employees not engaged in correcting the emergency situations must be prohibited from the area and normal operations halted until the emergency is abated.

Protective Work Clothing and Equipment: Paragraph (i)

The standard requires that the employer provide protective clothing to employees who are exposed to cadmium at levels above the TWA PEL and to employees exposed at any level when skin or eye irritation occurs. For workers exposed above the EL, respirators are required, which must be maintained according to equipment handling provisions of this paragraph. Examples of such personal protective clothing are, but are not limited to, coveralls, shoe covers, head coverings, and goggles. Clean protective clothing and equipment shall be provided at least weekly to each affected employee.

The standard further requires that the employer be responsible for cleaning, laundering and disposing of the required protective clothing and equipment, to eliminate any potential exposure that might result were the clothing and equipment to be laundered or cleaned by the employee at home. Furthermore, the standard provides that the employer shall assure that workers change out of all protective clothing and equipment at the end of each work shift and that the clothing and equipment that is to be laundered, cleaned, or disposed of be placed in a closed container. The standard also requires that protective clothing be maintained and replaced as needed in order to ensure effectiveness.

Protective clothing and foot coverings are required to prevent contamination of the employee's street clothing and shoes. This will prevent cadmium exposure beyond the workplace. Wearing contaminated clothing outside the work area would lengthen the duration of exposure. In addition, cadmium could accumulate in employee's cars and homes exposing other individuals to the hazard.

The proposal provides that the employer shall ensure that all protective clothing is removed at the end of each work shift only in change rooms. Removal of cadmium from protective clothing by blowing, shaking, or any other means which disperses cadmium in the air is prohibited. Furthermore, the standard emphasizes the need to assure that contaminated clothing be stored in closed containers prior to laundering or disposal so that contamination of the change room is minimized and that employees who later handle the clothing are protected. The latter group are further protected by the requirement that they be informed of the potentially harmful effects of cadmium exposure and that warning labels be placed on the containers. Since these containers are to be located in the change room, it is appropriate to limit workers' removal of contaminated clothing to that area.

The proposed standard obligates the employer to provide personal protective clothing at no cost to the employee. Since the employer is responsible for reducing exposures below the permissible exposure limit, the obligation to provide personal protective equipment properly rests on the employer. The employer also is in the best position to provide the correct type of clothing and keep it in repair.

Hygiene Facilities and Practices: Paragraph (j)

The proposed standard requires employers to provide hygiene facilities and to assure employee compliance with basic hygiene practices that minimize additional sources of exposure to cadmium which may accumulate on a worker's clothes or body. The employer must provide adequate shower and washing facilities, clean rooms for changing clothes, and positive-pressure filtered-air lunchrooms for employees who are exposed above the TWA PEL. In addition, employers must assure that employees use the facilities as required by the standard as well as observe prohibitions on the use of cosmetics,

tobacco and chewing products, and food and beverages in regulated areas. OSHA expects that strict compliance with these provisions will virtually eliminate several sources of cadmium exposure that substantially contribute to overall exposure levels.

Several of these facilities and practices are presently required under current OSHA standards for General Environmental Controls in subpart J of 29 CFR part 1910. For example, § 1910.141(e) states that if a standard requires the employees to wear protective clothing, then the employer must provide change rooms with separate storage facilities for street and work clothing, and section 1910.141(g) requires the employer to prohibit the consumption of food and beverages in areas where there is exposure to toxic substances. The hygiene provisions of this paragraph are to augment the requirement of 29 CFR 1910.141 with additional requirements that are specifically applicable to cadmium exposure and to consolidate all related provisions under one standard.

OSHA believes it is essential for employees to have separate locker and storage facilities for street and work clothing to prevent cross-examination of their street clothes. This provision will minimize employee exposure to cadmium after the work shift ends, because it reduces the period in which they may be exposed to cadmium-contaminated work clothes.

Showering also reduces the worker's period of exposure to cadmium by removing cadmium which may accumulate on the skin and hair. Requiring employees to change out of work clothes and to shower before leaving the plant and to leave work clothing at the workplace significantly reduces the movement of cadmium from the workplace. These steps ensure that the duration of cadmium exposure does not extend beyond the workshift and provide added protection to employees and their families.

The proposed standard also requires employers to provide employees working in regulated areas with readily accessible positive-pressure filtered-air lunchrooms. Employers must also assure that employees wash their hands and face prior to eating or smoking and that employees not enter the lunchroom wearing protective clothing unless it is cleaned beforehand. Employers are given discretion to choose any method for removing surface cadmium that does not disperse the dust into the air.

To minimize the possibility of food contamination and to reduce the likelihood of additional exposure to loose cadmium dust through inhalation or ingestion, OSHA feels it is imperative that employees have a clean place to eat, free from cadmium exposure. Positive-pressure filtered-air lunchrooms will reduce employee exposure by limiting contamination from cadmium.

Housekeeping: Paragraph (k)

The proposed standard imposes the general housekeeping requirement to maintain all surfaces as free as is practicable of accumulations of cadmium. The standard bans the use of compressed air for cleaning and allows dry cleaning, that is shoveling, dry or wet sweeping, and brushing only if the employer shows that vacuuming or other methods that are usually as efficient as vacuuming are not effective under the current circumstances. It also requires that vacuuming be done with cleaners equipped with HEPA filters to prevent the dispersal of cadmium into the workplace. In addition, items contaminated with cadmium and consigned for disposal are to be collected and disposed of in sealed impermeable bags or other closed impermeable containers. These are exceptionally important provisions because they minimize additional sources of exposure that engineering controls generally are not designed to control.

Medical Surveillance: Paragraph (l)

Paragraph (l)(1)(i), the proposal requires each employer to institute a medical surveillance program for all employees who are or will be exposed at or above the action level or above the EL. Providing medical surveillance for employees exposed at or above the action level is consistent with other health standards that incorporate an action level and is considered by OSHA to be necessary and appropriate for monitoring the adequacy of the exposure limit to protect individual employees.

The proposal requires that the medical surveillance program provide each covered employee with an opportunity for a medical examination. Paragraph (l)(1)(ii) provides that all examinations and procedures be performed by or under the supervision of a qualified physician and be provided without cost to the employee. Clearly, a qualified physician is the appropriate person to be supervising and evaluating a medical examination. However, certain parts of the required examination do not necessarily require the physician's expertise and may be conducted by another person under the supervision of the physician.

This standard provides that all examinations and procedures shall be performed at a reasonable time and place. It is necessary that exams be convenient and be provided during the workday without loss of pay to the employee to assure that they are taken. The employer is required to establish and maintain an accurate record for each employee subject to medical surveillance.

The purpose of the initial medical examination is to: (1) Establish the current health status of the employee and to determine whether employment in areas with cadmium exposure is appropriate; (2) establish essential baseline data against which to measure any change which might be attributable to cadmium exposure; and (3) determine whether the individual can safely wear a respirator. OSHA believes that the preplacement examination assessing each worker's state of health prior to the beginning of exposure to cadmium is essential to determine whether an employee's health changes over the period of employment and to determine pre-existing conditions that could influence initial job placement.

The preplacement examination is to include a medical and work history oriented toward cadmium exposure, a complete physical examination of all systems, with emphasis on the respiratory system, cardiovascular system, hematopoietic system, musculoskeletal system, and genitourinary system; a chest X-ray (posterior-anterior 14 x 17 inches or reasonably standard size); pulmonary function tests including forced vital capacity (FVC) and forced expiratory volume at 1 second (FEV_1), conducted according to the American Thoracic Society Criteria (Ex. 8–663); blood analysis, including cadmium levels, blood urea nitrogen, complete blood count, and serum creatinine; urinalysis, including cadmium and creatinine levels, specific gravity, albumin, glucose and total and low molecular weight proteins; and any additional tests deemed appropriate by the examining physician.

This information, in conjunction with a complete physical examination of all systems, will assist the physician in the determination of the employee's health status, possible past exposures to cadmium or other substances that may have damaged organs or systems susceptible to cadmium toxicity, and suitability for employment in an area where exposure to cadmium will occur. Special emphasis is placed on the portions of the history and physical examination which evaluate organ systems known to be particularly susceptible to cadmium toxicity. Emphasis is placed on the respiratory

system because of the increased risk of lung cancer and fibrotic changes with cadmium exposure and because of the necessity to evaluate an employee's fitness for respirator usage. The cardiovascular system is emphasized because of the increased level of hypertension which has been related to cadmium exposure. An evaluation of the hematopoietic system will disclose anemia associated with cadmium exposure. Emphasis on the musculoskeletal system is included because osteomalacia, a condition caused by loss of calcium from the bone(s) through damaged kidneys, has been related to cadmium toxicity.

Tests used to provide further information on the respiratory system include a 14 x 17 inch or reasonably standard sized posterior-anterior chest x-ray and pulmonary function tests (including forced vital capacity (FVC) and forced expiratory volume at 1 second (FEV_1), conducted according to the American Thoracic Society criteria). The complete blood count is important in evaluating the hematopoietic system. Evaluation of the status of the genitourinary system is accomplished using results of the blood urea nitrogen, serum creatinine, urinalysis, and prostate palpation. Urinary cadmium is sometimes an indicator of levels of cadmium exposure, whereas low molecular weight protein levels, such as Beta-2 (β_2) microglobulin, are determined to assess the extent of cadmium accumulation and damage in the kidney. Urinary creatinine is determined to assist in the standardization of the urine cadmium level. The other urinalysis components (specific gravity, albumin, glucose, total protein, and microscopic examination of centrifuged sediment) are indicators of the status of renal function. The serum cadmium level is determined as an indication of cadmium exposure. Liver enzymes may be useful in the evaluation of function of the liver, an organ where cadmium can concentrate. OSHA requests comments on all aspects of this medical surveillance protocol. Specifically, should liver function tests be performed? Is cadmium in urine a meaningful indicator of increased risk of adverse health effects among workers occupationally exposed to cadmium? What standardized urine collection procedures are needed to assure results that are meaningful? Should end-of-shift, spot, or 24-hour samples be collected? Should the pH of urine be determined for β_2 microglobulin tests? Should all cadmium-in-urine results be standardized to micrograms of cadmium (μg Cd) per gram creatinine?

Also included in the initial or preplacement examination are any additional tests deemed appropriate by the examining physician. This provision authorizes the physician to include further tests which could assist the physician in determining the employee's suitability for work in an area in which cadmium exposure will occur or in determining whether a worker can safely wear a respirator.

OSHA proposes periodic medical examinations to be administered yearly. The purposes of the annual examination are: (1) The detection of excessive exposure to cadmium before the occurrence of significant biological effects; (2) the early detection of biological effects of cadmium; (3) the detection of non-occupationally-related diseases that might require reduction of cadmium exposure; (4) the prevention, if possible, of an employee exceeding a critical level of cadmium in the kidney, which could result in permanent kidney damage, or at least the minimization of further kidney damage; (5) fitness for respirator usage; and (6) monitor general health status and recent illnesses. Since the effects of cadmium are long term and cumulative, periodic examinations are required at one year intervals. More frequent reviews of specific biological tests may be necessary or may be required by OSHA if evidence indicates such tests are needed, particularly for those individuals whose past exposure was high for those with longer-term exposure. OSHA seeks comment on whether this provision should be tailored to differences in an employee's overall exposure, relating to factors like intermittency, frequency, duration, and level.

The employer shall undertake a reassessment of an employee's occupational exposure and work practices if examinations or biological monitoring results reveal the occurrence of any of the physical conditions set forth in paragraph (l)(4), of this standard. The employer then shall promptly take appropriate steps to correct the problem and to reduce the employee's exposures. In an effort to detect early an irreversible disease associated with cadmium exposure, the employer shall undertake such reassessment as soon as individual concentrations of cadmium in urine (CdU) and/or cadmium in blood (CdB) exceed 5 μg Cd/g creatinine or 5 μg Cd/liter of whole blood.

This requirement is in accordance with the recommendation made by a WHO study group in 1980 (Ex. 8-674), which is stricter than the ACGIH recommendation. The ACGIH (Ex. 8-667) recommends biological exposure indices (BEIs) of 10 μg/g creatinine in urine and 10 μg/liter blood. The ACGIH CdU BEI equates to an estimated critical concentration of cadmium in the renal cortex of 180–220 μg/g kidney wet weight. At that concentration, ACGIH projects that 10 percent of the population will develop renal dysfunction. Although the ACGIH correctly states that this would protect the majority of workers, OSHA believes that such a high level of risk is unacceptable, particularly in view of the fact that cadmium-induced renal dysfunction is irreversible.

Thus, prevention is imperative. Prevention can be more effectively accomplished by requiring employers to reassess occupational exposure and work practices of affected employees when Cd-U and/or Cd-B exceed 5 μg Cd/g urinary creatinine or 5 μg Cd/liter of whole blood and to take timely corrective actions. Such actions include reevaluation of hygiene facilities, respirator programs, maintenance of engineering control equipment, work practices, personal hygiene, and, if necessary, medical removal. After appropriate steps are taken to improve the work environment, hygiene, and work practices of the individual, the biological monitoring should then be repeated no more than three months after the initial monitoring to determine whether those steps had the desired effect of of reducing the employee's cadmium exposure. If not, further steps should be taken. OSHA seeks comment on all aspects of this provision.

A reassessment of an employee's occupational cadmium exposure is also required if there are repeated diagnoses of respiratory illness or infection. OSHA requires that such reassessment also take place if the FVC or FEV_1 is less than 80 percent of the expected value or the ratio of FEV_1/FVC times 100 is less than 75 percent of the expected value (Ex. No. 8–663). Further, OSHA requires such reassessment where there is persistent proteinuria or other abnormal laboratory results or clinical findings consistent with cadmium toxicity. OSHA requests comments on all aspects of this requirement. OSHA is particularly interested in whether or not pulmonary function tests should be evaluated in terms of changes from baseline test results.

OSHA also proposes periodic medical re-evaluation of workers required to wear respirators. The re-evaluation is necessary because an illness or a new medication may affect the employee's cardiovascular system. The impact on an employee's continuing ability to wear

a respirator then must be assessed. The re-evaluation will enable the physician to determine whether the individual can safely continue to wear the same type of respirator, should be re-fitted with another type, or should be removed from any area where respirator use is required.

Additional medical examinations are required for workers who have high levels of total and low weight proteins in the urine or who have signs of respiratory system abnormalities identified through the medical examination and for whom another medical reason for such findings has not been found. In addition, examinations are required for those who experience difficulty breathing during use of or fit testing for respirators. These additional tests are required to ensure that the appropriate evaluations are performed to diagnose and assist in the treatment of any present disease and prevent further disease.

Because of the potentially serious nature of the diseases identified by these tests and because it is known that a portion of workers will be unable to wear respirators, provisions are included in paragraph (l)(4) of this standard for additional tests to further evaluate an employee's health, to confirm the test results and to determine if medical removal is necessary. Some employers currently remove workers from cadmium exposure based on results of biological monitoring (Ex. 14–6). Because of employee reluctance to voluntarily participate in a program of medical surveillance if there is a possibility of loss of pay or other benefits, provisions are included in this standard to reduce the likelihood of such loss by providing medical removal protection.

Biological tests for both CdB and CdU levels may provide useful information about an employee's health. However, there are no generally agreed upon CdB and CdU levels that would apply to both new employees and veteran employees to indicate the presence or absence of disease. Workers who have high levels of cadmium in the blood (CdB) or urine (CdU) have probably had past exposures to cadmium that were high and/or long-term. These employees be at an increased risk of experiencing toxic effects of cadmium on the body. For new workers, cadmium concentrations in blood may be a useful indicator of exposure during recent months. The level of cadmium in urine is most likely correlated with cadmium body burden in workers without renal damage. In workers with long term, low-level exposure, an elevated urinary cadmium excretion may indicate that the cadmium concentration in the renal cortex is near the critical concentration above which permanent kidney damage occurs.

OSHA requests comments on the usefulness of measurements of cadmium in biological fluids as a screening method for the presence of disease in new and veteran employees.

The employer is also required to make any additional tests available if recommended by the examining physician. The employer is further required to make a medical examination available at the termination of employment to any employee who has been eligible for a medical examination in the past and to provide a medical examination as soon as possible to all employees who have been exposed to cadmium in an emergency, as stipulated in paragraphs (l)(5) and (l)(6), respectively, of this standard.

OSHA has not included a multiple physician review mechanism in this proposal. However, OSHA believes that such a provision might be necessary and appropriate. Multiple physician review is made available in the lead standard [29 CFR 1910.1025(j)(3)(iii)]. OSHA requests comments on whether such a mechanism is necessary and appropriate in this standard.

A medical examination at the termination of employment is required for all workers who have, in the past, been eligible for an annual medical examination under this proposed standard. This requirement is in keeping with other standards (Asbestos, Coke Oven Emissions, Arsenic, Acrylonitrile, and Ethylene Oxide). The need for this requirement in this standard is due, in part, to the way cadmium is transported, distributed, and stored in the body. After absorption, cadmium is transported via the blood stream to other body parts, where it is bound to proteins and stored. Low excretion rates lead to a very efficient retention of cadmium in the body. The bioloical half-life of cadmium is 20–37 years or more.

There is growing evidence that even after cessation of exposure to cadmium in the workplace, cadmium stored in one body compartment can be transported to the kidney. In this way, cadmium proteinuria may develop years after exposure in the workplace has ceased, provided that the exposure was substantial. There is, therefore, no tendency for proteinuria to decrease after removal from external cadmium exposure. Instead there can be an increase, which is substantial for some workers, and kidney damage can progress to a more severe stage of disease (Ex. 8–668). Consequently, it is important that the employee's health status regarding cadmium accumulation in the body be assessed at the employee's termination of employment.

Failure to find evidence of impairment at termination should not be viewed as a "clean bill of health." Physicians should use the opportunity of that examination to advise the employee of his/her cadmium body burden and prognosis, and to make recommendations for medical management and follow-up. For the worker, this information allows him/her to determine the courses of action necessary to sustain health. OSHA seeks comment on the appropriateness of requiring a chest x-ray in termination of employment exams.

Complete medical records at termination of employment are useful to physicians to determine the status of an employee's health and to assist in identifying health effects. Good medical records, including an examination at termination of employment, also would be useful in enumerating illnesses and deaths attributable to cadmium, for evaluating compliance programs, and for assessing the accuracy of the Agency's risk estimates. Such records are useful to assess the adequacy of the standard in preventing diseases. Provisions for collection of such information, including medical examinations at the end of employment, have been including in other standards mentioned previously.

OSHA further requests comment on the usefulness of requiring the reporting of abnormal biological monitoring test results on OSHA's Form 200, for reporting occupational illnesses to the Bureau of Labor Statistics. For example, should OSHA require that: CdB levels of 10 μg/l whole blood, or greater; CdU levels of 10 μg/gr creatinine, or greater; excess urinary proteins; cases of metal fume fever; and, abnormal pulmonary function test results be reported on that form?

The employer is required, in paragraph (l)(9), to provide the physician with the following information: A copy of this standard and its appendices; a description of the affected employee's former and current duties as they relate to the employee's cadmium exposure level; the employee's former and current exposure level or anticipated exposure level; a description of any personal protective and respiratory equipment used or to be used; and information or medical records from the employee's previous medical examinations that were provided or made available by the employer to the affected employee.

Making this information available to the physician will aid in the evaluation of the employee's health in relation to assigned duties and fitness to wear personal protective equipment, when required.

The employer is required to obtain a written opinion from the examining physician containing the results of the medical examination as they relate to occupational exposures; the physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material health impairment from exposure to cadmium; any recommended restrictions upon the employee's exposure to cadmium or upon the use of protective clothing or equipment such as respirators; and a statement that the employee has been informed by the physician of the results of the medical examination and of any medical conditions which require further evaluation or treatment. This written opinion must not reveal specific findings or diagnoses unrelated to occupational exposures. The employer must provide a copy of the opinion to the affected employee.

The purpose in requiring the examining physician to supply the employer with a written opinion is to provide the employer with a medical basis to aid in the determination of initial placement of employees and to assess the employee's ability to use protective clothing and equipment. The requirement that a physician's opinion be in written form will ensure that employers have had the benefit of this information. The employer shall provide a copy of the physician's written opinion to the affected employee within 30 days of its receipt. The requirement that an employee be provided with a copy of the physician's written opinion will ensure that the employee is informed of the results of the medical examination. The requirement that the physician sign the opinion is to ensure that the information that is given to the employer has been seen and read by the physician.

The purpose in requiring that specific findings or diagnoses unrelated to occupational exposures not be included in the written opinion is to encourage employees to take the medical examination by removing any concern that the employer will obtain adverse information about their physical condition that has no relation to occupational exposures. This provision has been included in prior standards.

Communication of Hazards to Employees: Paragraph (m)

In this proposed cadmium standard, OSHA includes a paragraph entitled: "Communication of Cadmium Hazards to Employees". This paragraph incorporates some requirements from OSHA's Hazard Communication Standard (HCS) and addresses the issue of transmitting information to employees about the hazards of cadmium through the use of: (1) signs, (2) labels, (3) material safety data sheets, and (4) information and training. Previous OSHA health standards generally included separate paragraphs on employee information and training and on signs and labels. This standard incorporates both of those areas, along with provisions on material safety data sheets, into paragraph (m), to be consistent with the (HCS).

OSHA's HCS [(29 C 1910.1200) for general industry and (29 CFR 1926.59) for the construction industry] requires all chemical manufacturers and importers to assess the hazards of the chemicals they produce or import and requires all employers to provide information concerning the hazards of such chemicals to their employees. The transmittal of hazard information to employees is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, material safety data sheets and employee training.

Since the HCS "is intended to address comprehensively the issue of evaluating the potential hazard of chemicals and communicating information concerning hazards and appropriate protective measures to employees" (52 FR 31877), OSHA proposes paragraph (m) entitled "Communication of Cadmium Hazards to Employees" to avoid repetition of those requirements now comprehensively laid out in §§ 1910.1200 and 1926.59. In paragraph (m), OSHA also proposes additional particular requirements that are needed to protect employees specifically exposed to cadmium. Paragraph (m) of this proposed cadmium standard has been designed to be substantively as consistent as possible with the HCS requirements for employers. While avoiding a duplicative administrative burden on employers attempting to comply with the requirements of several different applicable OSHA health standards, the proposed requirements nevertheless provide the necessary protection for employees through provisions for signs and labels, material safety data sheets, and employee information and training.

The proposed standard requires that regulated areas be posted with signs stating: "Danger, Cadmium, Cancer Hazard, Can Cause Lung and Kidney Damage, Authorized Personnel Only, Respirators and Protective Clothing Required in this Area". The proposed standard intends that the posting of these signs will serve as a warning to employees who may otherwise not know they are entering a regulated area. Such warning signs are required to be posted at all regulated areas, that is, whenever the permissible exposure limit is exceeded. For some work sites, regulated areas are permanent, because exposures there cannot be reduced below the TWA PEL or EL by the use of engineering controls. In those situations, the signs are needed to warn employees not to enter the area unless they are authorized, wearing respirators, and there is a need for entering the area.

Regulated areas may also exist on a temporary basis such as during maintenance and/or emergency situations. The use of warning signs in these types of situations is also important since a maintenance or emergency situation is by nature a new or unexpected exposure to employees who are regularly scheduled to work at these sites.

These signs are intended to supplement the training which employees are to receive under the other provisions of this paragraph, since even trained employees need to be reminded of the locations of regulated areas and of the precautions necessary to be taken before entering these dangerous areas.

The proposed standard requires that the signs must comply with paragraph (f) of the HCS and specifies the wording of the warning signs for regulated areas in order to ensure that the proper warning is given to employees. OSHA believes that the use of the word "Danger" is appropriate, based on the evidence of the toxicity and carcinogenicity of cadmium. "Danger" is used to attract the attention of workers in order to alert them to the fact they are in an area where either of the permissible exposure limits is exceeded and to emphasize the importance of the message that follows. The use of the word "Danger" is also consistent with other recent OSHA health standards dealing with carcinogens. The proposed standard also requires that the legend, "Respirators and Protective Clothing Required in this Area", be included on the warning sign. While OSHA recognizes that some employees entering the regulated areas may not be exposed above either the TWA PEL or the EL as averaged over a 15-minute period, it is still possible that many employees are assigned to work in these areas may remain in these locations for long enough periods of time so that they would be needlessly overexposed to

cadmium without the use of respirators and protective clothing. To ensure that these employees are adequately protected, it is necessary that the sign alert them to the need to wear respirators and protective clothing.

The proposal also requires that warning labels be affixed to all shipping and storage containers containing cadmium or cadmium compounds or such cadmium-contaminated items as clothing and equipment. The labels must be in compliance with paragraph (f) of the HCS and must state: "Danger, Contains Cadmium, Cancer Hazard, Avoid Creating Dust, Can Cause Lung and Kidney Damage". It is proposed that required labels would remain affixed to containers leaving the workplace. The purpose of this requirement is to ensure that all affected employees, not only those of a particular employer, are apprised to the hazardous nature of cadmium exposure where exposure could exceed the action level.

In addition to being consistent with the requirements of the HCS, these requirements carry out the mandate of section 6(b)(7) of the Act which requires OSHA health standards to prescribe the use of labels or other appropriate forms of warning to apprise employees of the hazards to which they are exposed.

In this proposed cadmium standard, OSHA also would require that the employer to obtain or develop and to distribute and provide access to a material safety data sheet (MSDS) for cadmium in accordance with the requirements of 29 CFR 1910.1200(g) and 29 CFR 1926.59. OSHA feels that a properly completed MSDS, if readily available to employees, can serve as an excellent, concise source of information regarding the hazards associated with cadmium. OSHA's primary intent in this section of the proposed standard, as stated in its recently promulgated HCS, is to ensure that employees will receive as much information as they need concerning the hazards posed by chemicals in their workplaces. The MSDS ensures that this information will be available to them in a usable, readily accessible and concise form. The MSDS also serves as the central source of information to employees and to downstream employers who must be provided with an MSDS if cadmium or a product containing cadmium is produced and shipped to them. Lastly, the MSDS serves as the basic source of information on the hazards of cadmium essential to the training provisions of this proposed standard.

Producers and importers of toxic substances have primary responsibility, under the HCS to develop or prepare the MSDS. The manufacturer or importer is most likely to have the best access to information about the product and is therefore responsible for disseminating this information to downstream users of the material. For employers whose employees' exposure to cadmium is from products received from outside sources, the information necessary for a complete MSDS or the MSDS itself is to be obtained from the manufacturer and made available to affected employees. The requirements for the information that is to be contained on the MSDS are explained in detail at 29 CFR 1910.1200(g) and 29 CFR 1926.59.

Paragraph (m)(4) of this proposed cadmium standard requires employers to provide all employees who are exposed to cadmium with information and training on cadmium at the time of initial assignment and at least annually thereafter. A record shall be maintained of the contents of such programs. The training program is to be in accordance with the requirements of the HCS paragraphs (h) (1) and (2), and to include the specific information required to be provided by that section and those items stipulated in paragraph (m)(4)(iii) of this standard. Employees are to be provided with an explanation of the contents of Appendices A (Substance Safety Data Sheet, Cadmium) and B (Substance Technical Guidelines, Cadmium) of the final cadmium standard. Employees also are to be informed where a copy of the final cadmium standard is accessible to them and to receive an explanation of the purpose and a description of the medical surveillance program required under paragraph (l) of this proposed standard.

OSHA has determined during other rulemakings that an information and training program, as incorporated in this proposed standard in an overall "Communication of Cadmium Hazards to Employees" paragraph, is essential to inform employees of the hazards to which they are exposed and to provide employees with the necessary understanding of the degree to which they themselves can minimize the health hazard potential. As part of an overall communication program for employees, training serves to explain and reinforce the information presented to employees on labels and material safety data sheets. These written forms of information and warning will be successful and relevant only when employees understand the information presented and are aware of the actions to be taken to avoid or minimize exposures thereby reducing the possibility of experiencing adverse health effects. Training is essential to an effective overall hazard communication program. Active employee participation in training sessions can result in the effective communication of hazard information to employees which can further result in workers taking conscientious protective actions at their job duties, thereby decreasing the possibility of occupationally-related illnesses and injuries.

OSHA proposes the training provisions of this standard to be in performance-oriented rather than specified and detailed language. The proposed standard, in requiring training to be in accordance with the requirements of 29 CFR 1910.1200 and 29 CFR 1926.59, lists the categories of information to be transmitted to employees and not the specific ways that this is to be accomplished. The use of such performance-oriented requirements will encourage employers to tailor their training needs to their specific workplaces, thereby resulting in the most effective training program suitable for each specific workplace.

OSHA believes that the employer is in the best position to determine how the training he or she is providing is being received and absorbed by the employees. OSHA has therefore laid out the objectives to be met and the intent of its training to ensure that employees are made aware of the hazards in their workplace and how they can help to protect themselves. The specifics of how this is to be accomplished are left up to the employer.

Recordkeeping: Paragraph (n)

The proposed cadmium standard requires employers to maintain exposure monitoring records and medical surveillance records. These requirements are proposed in accordance with section 8(c) of the Act which requires employers to keep and make available such records as the Secretary may prescribe as necessary or appropriate for the enforcement of the Act or for developing information regarding occupational injuries and illnesses, and with the regulation governing access to employee exposure and medical records (29 CFR 1910.20).

The proposal requires that records be kept of environmental monitoring results that identify the monitored employee and to accurately reflect the employee's exposure. Specifically, records must include the following information: (a) The date of monitoring, duration, and results of each of the samples taken; (b) a description of the job classification of the employee being monitored; (c) a description of the sampling and analytical methods used and evidence of their accuracy; (d) the type of respiratory protective devices, if any,

worn by the employee; (e) the names, social security numbers, and job classification of the employees monitored and of all other employees whose exposure the monitoring is intended to represent; and (f) a notation of any other conditions that might have been affected by the monitoring results.

The proposal requires that exposure measurement records be maintained for each measurement taken. The record may represent the exposure of more than one employee if representative sampling, as described in paragraph (d), is conducted.

A provision for the use of objective data in place of initial monitoring is included in this standard. Objective data are information demonstrating that a particular product or material containing cadmium cannot release dust or fumes in concentrations at or above the action level or above the EL even under the worst-case release conditions. Employers can use data from an industry-wide survey, when such a survey includes similar workplace conditions, operations, and job classifications as those of the employer, in order to estimate maximum cadmium exposure levels that could occur. Additionally, employers can use laboratory product test results to demonstrate that airborne concentrations must be below the action level.

In addition to records on employee exposure measurements, the employer is required to establish and maintain an accurate medical surveillance record for each employee subject to medical surveillance as required by paragraph (l) of this proposed standard. OSHA believes that medical records, like exposure monitoring records, are necessary and appropriate both to the enforcement of the standard and to the development of information regarding the causes and prevention of occupational illnesses. Furthermore, medical records are necessary for the proper evaluation of the employee's health.

The proposed standard requires that exposure records be kept for at least 30 years and that medical records be kept for duration of employment plus thirty years. It is necessary to keep these records for extended periods because of the long latency period commonly associated with carcinogenesis. Cancer often cannot be detected until 20 or more years after first exposure. The extended record retention period is therefore needed because diagnosis of disease in employees is assisted by, and in some cases can only be made by, having present and past exposure data as well as the results of present and past medical examinations. The employer shall maintain records of employee training for one year beyond the last date of employment of any trained employee. OSHA seeks comment on whether or not individual training records should be maintained for each employee.

The proposal specifies that access to exposure and medical records by employees, designated representatives, and OSHA shall be in accordance with 29 CFR 1910.20, OSHA's "Access to Employee Exposure and Medical Records" standard. That standard applies to records required by specific standards, such as this proposed cadmium standard, as well as records which are voluntarily created by an employer. Employees and their designated representatives are, in general, allowed unrestricted access to all relevant exposure monitoring records. Access to one's own medical records is also provided for employees (i.e., an employee may have access only to his or her own medical records) and, if the employee has given specific written consent, for the employee's designated representatives. OSHA retains access to both kinds of records, but its access to personally identifiable records is subject to agency rules of practice and procedure which have been published at 29 CFR 1913.10 (see 45 FR 35384).

The transfer of employee exposure monitoring and medical records is to be in accordance with the provisions of paragraph (h) of 29 CFR 1910.20. If an employer ceases to do business and there is no successor employer, the employer is to notify NIOSH and transmit the records to the Director of NIOSH for retention, if requested.

OSHA seeks comment on these specific recordkeeping provisions. Requirements for recordkeeping under the Paperwork Reduction Act are discussed under section XI—Clearance of Information Collection Requirements.

Observation of Monitoring: Paragraph (o)

This proposed cadmium standard contains provisions for the observation of exposure monitoring. This provision is in accordance with section 8(c) of the OSH Act which requires that employers provide employees and their representatives with the opportunity to observe monitoring of employee exposures to toxic substances or harmful physical agents. Observation procedures are set forth which require the observer, whether it be an employee or a designated representative, to be provided with the personal protective clothing and equipment that is required to be worn by the employees who are working in the area. The employer is required to ensure the use of such clothing and equipment or respirators, and is responsible for requiring that the observer complies with all other applicable safety and health procedures.

Dates: Paragraph (p)

It is proposed that the standard become effective 60 days after the date of publication in the **Federal Register**. OSHA proposes that the requirements for exposure monitoring and employee information and training be completed 90 days after the effective date of the final rule (150 days after publication in the **Federal Register**). The requirements for respiratory protection and medical surveillance are proposed to be completed 90 days after the effective date except for use of powered air-purifying respirators provided under section XIV paragraph (g)(2)(ii) which are to be provided within one (1) year from publication in the **Federal Register**. In addition, establishment of regulated areas is proposed to be completed not later than 90 days after the effective date. Written compliance programs required by paragraph (f)(2) of this standard as a result of monitoring shall be completed and available for inspection and copying no later than one (1) year after the effective date of the standard. Implementation dates for the completion of the engineering and work practice requirements are proposed to be no later than 2 years after the effective date of the final rule. This is to allow affected employers sufficient time to design (where necessary), obtain, and install the necessary control equipment. Planning and construction of hygiene and lunchroom facilities is proposed to be completed as set forth in section XIV paragraph (p)(2)(vi). OSHA solicits comments on the adequacy of these proposed start-up dates.

Appendices: Paragraph (q)

The proposed standard contains 5 appendices which are designed to assist employers and employees in implementing the provisions of this standard. Appendix C is incorporated as part of this standard and imposes additional mandatory obligations on employers covered by this standard. Appendices A, B, D, and E are nonmandatory and are included primarily to provide information and guidance. In addition, these appendices are not intended to detract from any obligation that the proposed standard imposes.

The Appendices that are included in the standard are:

Appendix A—Substance Safety Data Sheet, Cadmium
Appendix B—Substance Technical Guidelines, Cadmium
Appendix C—Qualitative and Quantitative Fit Testing Procedures
Appendix D—Medical and Occupational History with Reference to Cadmium Exposure (suggested format)
Appendix E—Sampling and Analysis

XI. Clearance of Information Collection Requirements

On March 31, 1983, the Office of Management and Budget (OMB) published a new 5 CFR part 1320 implementing the information collection provisions of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.* (48 FR 13666). Part 1320, which became effective on April 30, 1983, sets forth procedures for agencies to follow in obtaining OMB clearance for collection of information requirements contained in proposed rules to OMB not later than the date of publication of the proposal in the **Federal Register**. It also requires agencies to include a statement in the notice of proposed rulemaking indicating that such information requirements have been submitted for review to OMB under section 3504(h) of the Paperwork Reduction Act.

In addition to the above requirements, applicable federal regulations also provide, 5 CFR 1320.4(a) 1320.5(a) and 1320.5(d) respectively as follows:

> An agency shall not engage in a collection of information without obtaining Office of Management and Budget (OMB) approval of the collection of information and displaying a currently valid control number and, unless OMB determines it to be inappropriate, an expiration date.
>
> * * * * *
>
> Notwithstanding any other provision of law, no person shall be subject to any penalty for failure to comply with any information collection request if the request does not display a currently valid OMB control number, or, in the case of an information collection request which is submitted to nine or fewer persons, the request fails to state that for this reason it is not subject to OMB review under the Act.
>
> * * * * *
>
> Whenever a member of the public is protected from imposition of a penalty under this section for failure to comply with a collection of information, such penalty may not be imposed by an agency directly, by an agency through judicial process or by any other person through judicial or administrative process.

The sections of the proposed cadmium standard which may create recordkeeping requirements are paragraphs (d) exposure monitoring, (f)(2) compliance program, (l) medical surveillance, (m) communication of cadmium hazards, and (n) recordkeeping, among others.

In accordance with the provisions of the Paperwork Reduction Act and the regulations issued pursuant thereto, OSHA certifies that it will submit the information collection requirements contained in its proposed rule on occupational exposure to cadmium to OMB for review under section 3504(h) of that Act.

Public reporting burden for this collection of information is estimated to vary from 5 minutes (recordkeeping) to 8 hours (compliance program) per response, with an average of 0.38 hours per response for a TWA PEL of 1 $\mu g/m^3$ or an average of 0.32 hours per response for a TWA PEL of 5 $\mu g/m^3$, 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 the Office of Information Management, Department of Labor, Room N–1301, 200 Constitution Avenue, NW., Washington, DC, 20210; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC, 20503.

XII. Public Participation—Notice of Hearing

Pursuant to section 6(b)(3) of the Act, an opportunity to submit oral testimony concerning the issues raised by the proposed standard will be provided at an informal public hearing scheduled to begin at 9:30 a.m. at places and on dates as follows:

Washington, DC: June 5, 1990.
The Auditorium, Frances Perkins Department of Labor Building, 200 Constitution Ave., NW, Washington, DC, 20210.
Denver, Colorado: July 17, 1990.
Cripple Creek/Silver Heels Room, Holiday Inn, 1450 Glen Arm Place, Denver, Colorado, 80202.

Notice of Intention to Appear

All persons desiring to participate at the hearings must file in quadruplicate a Notice of Intention to Appear, postmarked on or before April 4, 1990, addressed to Mr. Tom Hall, OSHA Division of Consumer Affairs, Docket No. H–057a, Room N–3647, U.S. Department of Labor, Third Street and Constitution Ave., NW., Washington, DC 20210; telephone 202–523–8024. The Notice of Intention to Appear also may be transmitted by facsimile to (202) 523–5046 or (for FTS) to 8–523–5046, provided the original and 4 copies of the notice are sent to the above address thereafter.

Notices of intention to appear, which will be available for inspection and copying at the OSHA Docket Office (Room N–2625), telephone 202–523–7894, must contain the following information:

(1) The name, address, and telephone number of each person to appear;

(2) The capacity in which the person will appear;

(3) The approximate amount of time requested for the presentation;

(4) The specific issues that will be addressed;

(5) A statement of the position that will be taken with respect to each issue addressed;

(6) Whether the party intends to submit documentary evidence, and if so, a brief summary of that evidence; and

(7) At which hearing or hearings the party wishes to testify.

Filing of Testimony and Evidence Before Hearings

Any party requesting more than 10 minutes for a presentation at the hearing or submitting documentary evidence must provide in quadruplicate the complete text of the testimony including any documentary evidence to be presented at the hearing to the OSHA Division of Consumer Affairs. This material must be postmarked by April 27, 1990, and will be available for inspection and copying at the OSHA Docket Office. Each such submission will be reviewed in light of the amount of time requested in the Notice of Intention to Appear. In those instances where the information contained in the submission does not justify the amount of time requested, a more appropriate amount of time will be allocated and the participant will be notified of that fact.

Any party who has not substantially complied with this requirement may be limited to a 10 minute presentation. Any party who has not filed a notice of intention to appear may be allowed to testify, as time permits, at the discretion of the Administrative Law Judge.

OSHA emphasizes that the hearing is open to the public, and that interested persons are welcome to attend. However, only persons who have filed proper Notices of Intention to Appear at the hearing will be entitled to ask questions and otherwise participate fully in the proceeding.

Conduct and Nature of Hearings

The hearings will commence at 9:30

a.m. on June 5, 1990. At that time, any procedural matters relating to the proceeding will be resolved.

The informal nature of the rulemaking hearings to be held is established in the legislative history of section 6 of the Act and is reflected by the OSHA hearing regulations (see 29 CFR 1911.15 (a)). Although the presiding officer is an Administrative Law Judge and questioning by interested persons is allowed on crucial issues, it is clear that the proceeding shall remain informal and legislative in type. The intent, in essence, is to provide an opportunity for effective oral presentation by interested persons which can be carried out expeditiously and in the absence of rigid procedures which might unduly impede or protract the rulemaking process.

The hearing will be conducted in accordance with 29 CFR part 1911. The hearings will be presided over by an Administrative Law Judge who will have all the powers necessary or appropriate to conduct a full and fair informal hearing as provided in 29 CFR part 1911, including the powers:

1. To regulate the course of the proceedings;
2. To dispose of procedural requests, objections, and comparable matters;
3. To confine the presentations to matters pertinent to issues raised;
4. To regulate the conduct of those present at the hearing by appropriate means;
5. In the Judge's discretion, to question and permit the questioning of any witness and to limit the time for questioning;
6. In the Judge's discretion, to keep the record open for a reasonable, stated time to receive written information and additional data, views and arguments from any person who has participated in the oral proceedings.

Written Comments

Interested persons are invited to submit written comments on the issues raised in this hearing notice. Written comments must be postmarked by April 27, 1990, and submitted in quadruplicate to the Docket Office, Docket number H-057a, Room N-2625, U.S. Department of Labor, 200 Constitution Ave. NW., Washington, DC 20210. The telephone number of the Docket Office is (202) 523-7894, and its hours of operation are 8:15 a.m. to 4:45 p.m. Monday through Friday except Federal holidays. Comments limited to 10 pages or less in length may also be transmitted by facsimile to (202) 523-5046 or (for FTS) to 8-523-5046 provided the original and 4 copies of the comment are sent to the Docket Officer thereafter. Written submissions must clearly identify the issues raised in this notice which are addressed and the position taken on each issue.

All materials submitted will be available for inspection and copying at this address. All timely submissions will be part of the record of the proceeding.

Certification of Record and Final Determination After Hearing

Following the close of the hearings or of any posthearing comment period, the presiding Administrative Law Judge will certify the record to the Assistant Secretary of Labor for Occupational Safety and Health. The Administrative Law Judge does not make or recommend any decisions as to the content of a final standard. The proposed standard will be reviewed in light of all oral and written submissions received as part of the record, and a standard will be issued based on the entire record of the proceeding, including the written comments and data received from the public.

State Plan Applicability

The 25 States with their own OSHA-approved occupational safety and health plans must adopt a comparable standard within six months of the publication date of a final standard. These States include: Alaska, Arizona, California, Connecticut (for State and local government employees only), Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, New York (for State and local government employees only), North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virginia, Virgin Islands, Washington, Wyoming. Until such time as a State standard is promulgated, Federal OSHA will provide interim enforcement assistance as appropriate.

List of Subjects in 29 CFR Part 1910

Cadmium, Occupational safety and health, Chemicals, Cancer, Health, Risk-assessment.

XIII. Authority and Signature

This document was prepared under the direction of Gerard F. Scannell, Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, 200 Constitution Ave. NW., Washington, DC 20210.

It is issued under section 6(b) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 655), Secretary of Labor's Order No. 9-83 (48 FR 35736) and 29 CFR part 1911.

Signed at Washington, DC, this 25th day of January 1990.

Gerard F. Scannell,

Assistant Secretary of Labor.

XIV. The Proposed Standard

General Industry

PART 1910—[AMENDED]

Part 1910 of title 29 of the Code of Federal Regulations is hereby proposed to be amended as follows:

Subpart B—[Amended]

1. The authority citation for subpart B of 29 CFR part 1910 continues to read as follows:

Authority: Secs. 4, 6 and 8 of the Occupational Safety and Health Act, 29 U.S.C. 653, 655, 657; Walsh-Healey Act, 41 U.S.C. 35 et seq; Service Contract Act of 1965, 41 U.S.C. 351 et seq; sec. 107, Contract Work Hours and Safety Standards Acts (Construction Safety Act), 40 U.S.C. 333; sec. 41, Longshoremen's and Harbor Workers' Compensation Act, 33 U.S.C. 941; National Foundation of Arts and Humanities Act, 20 U.S.C. 951 et seq.; Secretary of Labor's Order No. 12-71 (36 FR 8754); 8-76 (41 FR 25059), or 9-83 (48 FR 35736), as applicable; and 29 CFR part 1911.

Sections 1910.16 and 1910.19 also issued under 29 CFR part 1911.

2. A new paragraph (k) is proposed to be added to § 1910.19 to read as follows:

§ 1910.19 Special provisions for air contaminants.

* * * * *

(k) *Cadmium.* Section 1910.1027 shall apply to the exposure of every employee to cadmium in every employment and place of employment covered by §§ 1910.12, 1910.13, 1910.14, 1910.15, 1910.16, 1926, and 1928 in lieu of any different standard on exposures to cadmium which would otherwise be applicable by virtue of those sections.

Subpart Z—[Amended]

3. The authority citation for subpart 2 of part 1910 continues to read as follows:

Authority: Secs. 6, 8 Occupational Safety and Health Act, 29 U.S.C. 655, 657; Secretary of Labor's Orders 12-71 (36 FR 8754), 8-76 (41 FR 25059), or 9-83 (48 FR 35736) as applicable; and 29 CFR part 1911.

Section 1910.1000 Tables 2-1, 2-2, 2-3 also issued under 5 U.S.C. 553.

Section 1910.1000 not issued under 29 CFR Part 1911, except for "Arsenic" and "Cotton Dust" listings in Table I-I.

Section 1910.1001 also issued under Sec. 107 of Contract Work Hours and Safety Standards Act, 40 U.S.C. 333.

Section 1910.1002 not issued under 29 U.S.C. 655 or 29 CFR part 1911; also issued under 5 U.S.C. 553.

Sections 1910.1003 through 1910.1018 also issued under 29 U.S.C. 653.

Section 1910.1025 also issued under 29 U.S.C. 653 and 5 U.S.C. 553.

Section 1910.1028 also issued under 29 U.S.C. 653.

Section 1910.1043 also issued under 5 U.S.C. 551 et seq.

Sections 1910.1045 and 1910.1047 also issued under 29 U.S.C. 653.

Section 1910.1048 also issued under 29 U.S.C. 653.

Sections 1910.1200, 1910.1499 and 1910.1500 also issued under 5 U.S.C. 553.

§ 1910.1000 [Amended]

4. The entries "Cadmium fume (Z37.5–1970) * * * 0.1mg/m³ * * * O.3 mg/m³" and "Cadmium dust (Z37.5–1970) * * * 0.2 mg/m³ * * * 0.6 mg/m³" are proposed to be deleted from Table 2–2 of § 1910.1000.

5. A new § 1910.1027 and Appendices A,B,C,D, and E to the section are proposed to be added to subpart Z to read as follows:

§ 1910.1027 Cadmium.

(a) *Scope and application.* This standard applies to all occupational exposures to cadmium in all industries covered by the Occupational Safety and Health Act, including construction, agriculture and maritime.

(b) Definitions

Action level is defined as an airborne concentration of cadmium of 2.5 micrograms per cubic meter of air (2.5 $\mu g/m^3$), calculated as an 8-hour time-weighted average permissible exposure limit (TWA PEL), if the TWA PEL is set at 5 $\mu g/m^3$, or alternatively of 0.5 $\mu g/m^3$.

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

Authorized person means any person authorized by the employer and required by work duties to be present in regulated areas.

Director means the Director of the National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, or designee.

Emergency means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that results in an unexpected and significant release of cadmium.

Employee exposure means the exposure to airborne cadmium that would occur if the employee were not using respiratory protective equipment.

High-efficiency particulate absolute [HEPA] air filter means a filter capable of trapping and retaining at least 99.97 percent of 0.3 micrometer-diameter, mono-disperse particles.

Regulated area means an area demarcated by the employer where airborne concentrations of cadmium exceed, or can reasonably be expected to exceed a permissible exposure limit expressed either as an 8-hour time-weighted average (TWA PEL) or as an excursion limit (EL).

(c) *Permissible exposure limits.—(1) Eight-Hour, Time-Weighted Average Permissible Exposure Limit (TWA PEL).* The employer shall assure that no employee is exposed to an airborne concentration of cadmium in excess of [five micrograms per cubic meter of air (5 $\mu g/m^3$), calculated as an eight-hour time-weighted average exposure (TWA PEL) or one microgram per cubic meter (1 $\mu g/m^3$, TWA PEL)].

(2) *Excursion Limit (EL).* The employer shall assure that no employee is exposed to an airborne concentration of cadmium in excess of [twenty-five micrograms per cubic meter of air (25 $\mu g/m^3$), as averaged over a sampling period of fifteen (15) minutes for a TWA PEL of 5 $\mu g/m^3$ or five $\mu g/m^3$ (5 $\mu g/m^3$), as averaged over a 15 minute sampling period for a TWA PEL of 1 $\mu g/m^3$].

(d) *Exposure monitoring.*—(1) *General.* (i) Each employer who has a workplace or work operation covered by this standard shall perform monitoring in accordance with paragraph (d)(2) of this section to determine accurately the airborne concentration of cadmium to which employees may be exposed.

(ii) Determinations of employee exposure shall be made from breathing zone air samples that are representative of the 8-hour TWA exposure of each employee and/or of a 15 minute period exposure of each employee at operations where there is reason to believe exposures are above the EL.

(iii) Representative 8-hour TWA exposures shall be determined for each employee on the basis of one or more personal breathing zone air samples representing full shift exposure from each shift for each job classification in each work area. Where several employees perform the same job function in the same job category on the same shift in the same work area in which the length, duration, and level of cadmium exposures are similar, an employer may sample a fraction of the employees instead of all employees in order to meet this requirement. In representative sampling, the employees sampled shall be those expected to have the highest cadmium exposures.

(2) *Initial monitoring.* (i) Except as provided for in paragraphs (d)(2)(ii) and (d)(2)(iii) of this section, each employer who has a workplace or work operation covered by this standard shall perform initial monitoring of employees who, without regard for respirator usage, are, or may reasonably be expected to be, exposed to airborne concentrations at or above the action level or above the EL.

(ii) Where the employer has monitored after [insert date 180 days prior to publication in the Federal Register], under conditions closely resembling those currently prevailing and where that monitoring satisfies all other requirements of this standard, the employer may rely on such earlier monitoring results to satisfy the requirements of paragraph (d)(2)(i) of this section.

(iii) Where the employer has objective data, as defined in paragraph (n)(2) of this section, demonstrating that cadmium exposures will not exceed airborne concentrations at or above the action level or above the EL under the expected conditions of processing, use, or handling, the employer may rely upon such data instead of implementing initial monitoring.

(3) *Monitoring frequency (periodic monitoring).* (i) If the initial or periodic monitoring reveals employee exposures to be above the TWA PEL, the employer shall monitor at least every three months for each employee exposed above the TWA PEL. The employer shall continue these quarterly measurements until at least two consecutive measurements, taken at least seven days apart, are at or below the permissible exposure limit.

(ii) If the initial or periodic monitoring reveals employee exposures to be at or above the action level but at or below the TWA PEL, the employer shall repeat such monitoring for employees so exposed at least every six months. The employer shall continue these semi-annual measurements until at least two consecutive measurements, taken at least seven days apart, are below the action level.

(iii) If either the initial or the periodic monitoring indicates that employee exposures are below the action level and that result is confirmed by the results of another monitoring taken at least seven days later, the employer may discontinue the monitoring for those employees whose exposures are represented by such monitoring.

(iv) Except as stated below in this paragraph, exposure monitoring to determine whether the EL has been exceeded shall be carried out at the same time as, and according to the schedules for monitoring under paragraphs (d)(3)(i)–(d)(3)(iii) of this section. Thus, if the initial or periodic monitoring carried out under these paragraphs reveals employee exposures to be below the action level, then, with

the exception stated below, no further monitoring for the EL is required. If such initial or periodic monitoring reveals employee exposures to be at or above the action level, the employer shall monitor those employees who are expected to have the highest exposure levels to determine whether they are exposed above the EL. Specifically, if the initial or periodic monitoring carried out under paragraphs (d)(3)(i)–(d)(3)(iii) of this section reveals employee exposures to be at or above the action level but at or below the TWA PEL, the employer shall monitor the appropriate employees at least every six months to determine whether any are exposed in excess of the EL. Or, if such initial or periodic monitoring reveals employee exposures to be above the TWA PEL, the employer shall monitor the appropriate employees at least every three months to determine whether they are exposed in excess of the EL. If the initial or periodic monitoring reveals employee exposure to be above the TWA PEL or at or above the action level, but two consecutive measurements taken at least seven days apart reveal the employee exposure is at or below the EL, no further monitoring for the EL is required. However, even if the initial or periodic monitoring carried out under paragraphs (d)(3)(i)–(d)(3)(iii) of this section reveals employee exposures to be below the action level, if it is determined that an employee is or may reasonably be expected to be exposed above the EL, that employee shall be monitored at least every six months for his/her excursion exposure until two consecutive measurements, taken at least seven days apart, are at or below the EL.

(4) *Additional monitoring.* The employer also shall institute the exposure monitoring required under paragraphs (d)(2)(i) and (d)(3) of this section whenever there has been a change in production, process, raw material, control equipment, personnel or work practices that may result in new or additional exposures at or above the action level or above the EL, or whenever the employer has any other reason to suspect that a change may result in new or additional exposures at or above the action level or above the EL.

(5) *Employee notification of monitoring results.* (i) Within 15 working days after the receipt of the results of any monitoring performed under this standard, the employer shall notify each affected employee individually in writing of the results. In addition, within the same period the employer shall post the results of the exposure monitoring in an appropriate location that is accessible to all affected employees.

(ii) Wherever monitoring results indicate that employee exposure exceeds the TWA PEL or the EL, the employer shall include in the written notice a statement that the TWA PEL and/or EL has been exceeded and a description of the corrective action being taken by the employer to reduce employee exposure to or below the TWA PEL and/or EL.

(6) *Accuracy of measurement.* The employer shall use a method of monitoring and analysis that has an accuracy (to a confidence level of 95%) of not less than plus or minus 25 percent (± 25%) for airborne concentrations of cadmium at or above the level being investigated.

(e) *Regulated Areas*—(1) *Establishment.* The employer shall establish regulated areas wherever airborne concentrations of cadmium are, or can reasonably be expected to be, in excess of the permissible exposure limits (TWA PEL or EL) prescribed in paragraph (c) of this section.

(2) *Demarcation.* Regulated areas shall be demarcated from the rest of the workplace in any manner that adequately establishes and alerts employees of the boundaries of the regulated area.

(3) *Access.* Access to regulated areas shall be limited to authorized persons or to persons authorized by the OSH Act or regulations issued pursuant thereto.

(4) *Provision of respirators.* Each person entering a regulated area shall be supplied with and required to use a respirator, selected in accordance with paragraph (g)(2) of this section.

(5) *Prohibited activities.* The employer shall assure that employees do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics in regulated areas.

(f) *Methods of Compliance*—(1) *Engineering and work practice controls.* (i) When any employee is exposed to cadmium above either the TWA PEL or EL prescribed in paragraph (c) of this section, the employer shall implement engineering and work practice controls to the extent feasible to reduce and maintain employee exposure at or below the TWA PEL and/or EL.

(ii) Wherever engineering and work practice controls are not sufficient to reduce employee exposure to or below the TWA PEL and/or EL prescribed in paragraph (c) of this section, the employer nonetheless shall implement such controls to reduce exposures to the lowest levels achievable and shall supplement such controls with respiratory protection that complies with the requirements of paragraph (g) of this section.

(iii) The employer shall not use employee rotation as a means of compliance with the TWA PEL and/or EL.

(2) *Compliance program.* (i) Where the TWA PEL and/or EL is exceeded, the employer shall establish and implement a written compliance program to reduce employee exposure to or below the TWA PEL and/or EL by means of engineering and work practice controls, as required by paragraph (f)(1) of this section. To the extent that engineering and work practice controls cannot reduce exposures to or below the TWA PEL and/or EL, the employer shall include in the written compliance program the use of appropriate respiratory protection to achieve compliance with the TWA PEL and/or EL. The compliance program shall include a written plan for emergency situations, as specified in paragraph (h) of this section.

(ii) The written compliance programs shall be reviewed and updated at least annually, or more often if necessary, to reflect significant changes in the employer's compliance status.

(iii) Written compliance programs shall be submitted upon request for examination and copying to the Assistant Secretary, the Director, affected employees, and authorized employee representatives.

(g) *Respiratory Protection*—(1) *General.* Where respirators are required by this standard, the employer shall provide them at no cost to the employee and, except for situations covered by paragraph (g)(1)(vi) of this section, shall assure that they are used in compliance with this standard. Respirators shall be used in the following circumstances:

(i) When exposures exceed the TWA PEL and/or the EL, during the time period necessary to install or implement feasible engineering and work practice controls;

(ii) When exposures exceed the TWA PEL and/or the EL and when engineering and work practice controls are not feasible, in maintenance and repair activities and during brief or intermittent operations;

(iii) In regulated areas as prescribed in paragraph (e) of this section;

(iv) In work situations where the employer has implemented all feasible engineering and work practice controls and such controls are not sufficient to reduce exposures to or below the permissible exposure limits;

(v) In emergencies; and

(vi) Whenever an employee who is exposed above the action level requests a respirator.

(2) *Respirator selection.* (i) Where respirators are required under this standard, the employer shall select and provide the appropriate respirator as specified in Table 1. The employer shall select respirators from among those jointly approved as acceptable protection against cadmium dust, fume, and mist by the Mine Safety and Health Administration (MSHA) and by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR part 11.

(ii) The employer shall provide a powered, air-purifying respirator (PAPR) in lieu of any negative pressure respirator specified in Table 1 whenever:

(A) An employee chooses to use this type of respirator; and

(B) This respirator will provide adequate protection to the employee.

TABLE 1.—RESPIRATORY PROTECTION FOR CADMIUM

Airborne concentration or condition of use [a]	Respirator Type [b]
10 × or less	A half mask, air-purifying respirator equipped with a HEPA [c] filter [d].
25 × or less	A powered air-purifying respirator with a loose-fitting hood or helmet equipped with a HEPA filter, or A supplied-air respirator with a loose-fitting hood or helmet facepiece operated in the continuous flow mode.
50 × or less	A full facepiece air-purifying respirator equipped with a HEPA filter, or A powered air-purifying respirator with a tight-fitting half mask equipped with a HEPA filter, or A supplied-air respirator with a tight-fitting half mask operated in the continuous flow mode.
250 × or less	A powered air-purifying respirator with a tight-fitting full facepiece equipped with a HEPA filter, or A supplied-air respirator with a tight-fitting full facepiece operated in the continuous flow mode. A supplied-air respirator with half mask or full facepiece operated in the pressure demand or other positive pressure mode.
1000 × or less	A self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode, or A supplied-air respirator with a full facepiece operated in the pressure demand or other positive pressure mode and equipped with an auxiliary escape type self contained breathing apparatus operated in the pressure demand mode.
Greater than 1000 × or unknown concentrations	A self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.
Fire fighting	

[a] Concentrations expressed as multiple of the 8-hour TWA PEL.

[b] Respirators assigned for higher environmental concentrations may be used at lower exposure levels. Quantitative fit testing is required for all tight-fitting air purifying respirators where airborne concentration of cadmium exceeds 10 times the TWA PEL (10 $\mu g/m^3$ or 50 $\mu g/m^3$). Full facepiece is required when eye irritation is experienced.

[c] HEPA means High Efficiency Particulate Absolute.

[d] Qualitative or quantitative fit testing is required.

Source: *Respiratory Decision Logic,* NIOSH, 1987.

(3) *Respirator program.* (i) Where respiratory protection is required, the employer shall institute a respirator protection program in accordance with 29 CFR 1910.134.

(ii) The employer shall permit each employee who is required to use an air purifying respirator to leave the regulated area to change the filter elements or replace the respirator whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.

(iii) Employees who are required to wear respirators shall be permitted to leave the regulated area to wash their faces and respirator facepieces whenever necessary to prevent skin irritation associated with respirator use.

(iv) If an employee exhibits difficulty in breathing while wearing a respirator during a fit test or during use, the employer shall make available to the employee a medical examination in accordance with paragraph (l) of this section to determine if the employee can wear a respirator while performing the required duties.

(v) No employee shall be assigned tasks requiring the use of respirators if, based upon his or her most recent examination, an examining physician determines that the employee will be unable to function normally while wearing a respirator. As prescribed in paragraphs (l)(11) and (l)(12) of this section, such employee shall be given the opportunity to transfer to a position where no respirator use is required. That position shall be with the same employer, in the same geographical area, and with the same seniority status and rate of pay the employee had just prior to such transfer, if such a position is available.

(4) *Respirator fit testing.* (i) The employer shall assure that the respirator issued to the employee exhibits the least possible facepiece leakage and that the respirator is fitted properly.

(ii) For each employee wearing a tight-fitting, air purifying respirator (either negative or positive pressure) who is exposed to airborne concentrations of cadmium that do not exceed 10 times the TWA PEL (10 $\mu g/m^3$ or 50 $\mu g/m^3$), the employer shall perform either quantitative or qualitative fit testing at the time of initial fitting and at least annually thereafter. If quantitative fit testing is used for a negative pressure respirator, a fit factor that is at least 10 times the protection factor for that class of respirators (Table 1) shall be achieved at testing.

(iii) For each employee wearing a tight-fitting air purifying respirator (either negative or positive pressure) who is exposed to airborne concentrations of cadmium that exceed 10 times the TWA PEL (10 $\mu g/m^3$ or 50 $\mu g/m^3$), the employer shall perform quantitative fit testing at the time of initial fitting and at least annually thereafter. For negative-pressure respirators, a fit factor that is at least 10 times the protection factor for that class of respirators (Table 1) shall be achieved during quantitative fit testing.

(iv) Fit testing shall be conducted in accordance with Appendix C of this section.

(h) *Emergency situations.* The employer shall develop a written plan for dealing with emergency situations involving substantial releases of airborne cadmium. The plan shall include provisions for the use of appropriate respirators and personal protective equipment. In addition, employees not essential to correcting the emergency situation shall be restricted from the area and normal operations halted in that area until the emergency is abated.

(i) *Protective work clothing and equipment—(1) Provision and use.* If an employee is exposed to cadmium above the TWA PEL, measured without regard to respirator usage, or if the possibility of skin or eye irritation exists from cadmium exposures at any exposure levels, the employer shall provide at no cost to the employee, and assure that the employee uses, appropriate protective work clothing and equipment such as, but not limited to:

(i) Coveralls or similar full-body work clothing;

(ii) Gloves, head coverings, and foot coverings; and

(iii) Face shields, vented goggles, or other appropriate protective equipment which complies with 29 CFR 1910.133.

(2) *Provision for EL.* If an employee is exposed above the EL, the employer shall provide at no cost to the employee, and assure that the employee uses, appropriate respiratory equipment.

(3) *Removal and storage.* (i) The employer shall assure that employees remove all protective clothing and equipment contaminated with cadmium at the completion of the work shift and do so only in change rooms provided in accordance with paragraph (j)(1) of this section.

(ii) The employer shall assure that no employee takes cadmium contaminated protective clothing or equipment out of the workplace except for those employees authorized to do so, for the purposes of laundering, cleaning, maintenance, or disposal at an appropriate location or facility.

(iii) The employer shall assure that contaminated protective clothing and contaminated equipment when removed for laundering, cleaning, maintenance, or disposal, is placed and stored in closed containers. These storage facilities shall be designed to prevent dispersion of cadmium dust.

(iv) The employer shall assure that containers of contaminated protective clothing and equipment that are to be taken out of the change rooms or the workplace for laundering, cleaning, maintenance or disposal, shall bear labels in accordance with paragraph (m)(2) of this section.

(4) *Cleaning, replacement, and disposal.* (i) The employer shall provide clean protective clothing and equipment at least weekly to each affected employee. The employer shall clean, launder, repair, and replace protective clothing and equipment required by this paragraph to maintain their effectiveness and shall be responsible for the disposal of such clothing and equipment.

(ii) The employer shall prohibit the removal of cadmium from protective clothing and equipment by blowing, shaking, or any other means that disperses cadmium into the air.

(iii) The employer shall assure that any laundering of contaminated clothing or cleaning of contaminated equipment in the workplace is done in a manner so as to prevent the release of airborne cadmium in excess of the permissible exposure limits prescribed in paragraph (c) of this section.

(iv) The employer shall inform any person who launders or cleans protective clothing or equipment contaminated with cadmium of the potentially harmful effects of exposure to cadmium.

(v) Any employer who gives contaminated clothing to another person for laundering or contaminated equipment to another person for cleaning shall inform such person that the clothing and equipment should be laundered or cleaned in a manner to effectively prevent the release of airborne cadmium in excess of the permissible exposure limits.

(vi) Contaminated clothing and equipment shall be transported in sealed impermeable bags, or other closed, impermeable containers, and labeled in accordance with paragraph (m)(2) of this section.

(j) *Hygiene facilities and practices.*—(1) *Change rooms.* (i) The employer shall provide clean change rooms for employees who work in areas where their airborne exposure to cadmium, without regard to the use of respirators, is above the TWA PEL.

(ii) The employer shall assure that change rooms are equipped with separate storage facilities for street clothes and for protective clothing and equipment that are designed to prevent dispersion of cadmium and prevent contamination of the employee's street clothes.

(2) *Showers and handwashing facilities.* (i) The employer shall assure that employees who work in areas where their airborne exposure, without regard to the use of respirators, is above the TWA PEL have the opportunity to shower during the end of the work shift.

(ii) The employer shall provide handwashing and shower facilities that comply with § 1910.141 (d)(1), (d)(2) and (d)(3) for workers exposed without regard to the use of respirators, above the TWA PEL.

(iii) The employer shall provide handwashing facilities for workers exposed without regard to the use of respirator above the EL.

(iv) The employer shall assure that employees who work in regulated areas where their airborne cadmium exposure is above the TWA PEL and/or EL, without regard to the use of respirators, wash their hands and faces prior to eating, drinking, smoking, chewing tobacco or gum, or applying cosmetics.

(3) *Lunchrooms.* (i) The employer shall provide lunchroom facilities for employees who work in areas where their airborne exposure, without regard to the use of respirators, is above the TWA PEL.

(ii) The employer shall assure that lunchroom facilities have a positive-pressure, tempered, filtered air supply, and are readily accessible to employees.

(iii) The employer shall assure that employees do not enter lunchroom facilities with protective work clothing or equipment unless surface cadmium has been removed from the clothing or equipment by vacuuming or some other method that removes dust without causing cadmium to become airborne.

(k) *Housekeeping.*—(1) All surfaces shall be maintained as free as practicable of accumulations of cadmium.

(2) All spills and sudden releases of material containing cadmium shall be cleaned up as soon as possible.

(3) Surfaces contaminated with cadmium may not be cleaned by the use of compressed air.

(4) HEPA-filtered vacuuming equipment shall be used for vacuuming. The equipment shall be used and emptied in a manner that minimizes the reentry of cadmium into the workplace.

(5) Shoveling, dry or wet sweeping, and brushing may be used only where vacuuming or other methods that minimize the likelihood of cadmium becoming airborne have been tried and found not to be effective.

(6) Waste, scrap, debris, bags, containers, equipment, and clothing contaminated with cadmium and consigned for disposal shall be collected and disposed of in sealed impermeable bags or other closed, impermeable containers. These bags and containers shall be labeled in accordance with paragraph (m)(2)(i) of this section.

(l) *Medical surveillance.*—(1) *General.* (i) The employer shall institute a medical surveillance program for all employees who are or will be exposed to airborne concentrations of cadmium at or above the action level or above the EL.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a qualified physician and are provided without cost to the employee and at a reasonable time and place.

(2) *Initial examinations.* (i) The employer shall provide an initial or

preplacement examination to all employees who are or will be exposed to airborne concentrations of cadmium at or above the action level or above the EL. The examination shall be provided to the employees within 30 days after initial assignment to an area with exposures at or above the action level or no later than 90 days after the standard goes into effect, whichever date comes last.

(ii) The initial or preplacement medical examination shall include at a minimum:

(A) A detailed medical and work history, with emphasis on: past exposure to cadmium, smoking history, and any history of renal, cardiovascular, respiratory, hematopoietic, musculoskeletal and/or neurological system dysfunction;

(B) A complete physical examination of all systems with emphasis on: the respiratory, cardiovascular, hematopoietic, musculoskeletal and genitourinary systems;

(C) A 14" x 17" or reasonably standard sized posterior-anterior chest X-ray;

(D) Pulmonary function tests to include forced vital capacity (FVC) and forced expiratory volume at 1 second (FEV_1);

(E) Blood analysis including cadmium levels, blood urea nitrogen, complete blood count, serum creatinine, and liver enzymes;

(F) Urinalysis including cadmium and creatinine levels, specific gravity, albumin, glucose, a microscopic examination of centrifuged sediment, and a determination of total protein and low molecular weight proteins;

(G) Prostate palpation in males over 40 years of age; and

(H) Any additional tests deemed appropriate by the examining physician.

(3) *Periodic examinations.* (i) The employer shall provide periodic medical examinations at least annually to each employee exposed to airborne concentrations of cadmium at or above the action level or above the EL.

(ii) The content of the periodic medical examinations shall conform to the requirements in paragraph (l)(2)(ii) of this section except that the frequency of chest X-rays shall be determined by the examining physician.

(4) *Additional examinations and referrals.* (i) The employer shall reassess an employee's occupational exposures and work practices and shall promptly take appropriate steps to reduce an employee's exposures whenever a physician determines in a written opinion that:

(A) the concentration of cadmium in the employee's urine (CdU) exceeds 5 μg per gram creatinine;

(B) the concentration of cadmium in the employee's blood (CdB) exceeds 5 μg per liter whole blood;

(C) relative to the initial or preplacement exam and after adjusting for the age and smoking habits of the person examined, FVC or FEV_1 is <80% of predicted values, or the ratio FEV_1/FVC times 100 is <75% of predicted values;

(D) there are repeated diagnoses of respiratory tract disease;

(E) there are repeated diagnoses of upper or lower respiratory infections; or

(F) persistent proteinuria or other abnormal laboratory or clinical findings consistent with cadmium toxicity develop. (See Appendix A of this section).

The appropriate steps to reduce an employee's exposures include review of hygiene facilities, reevaluation of respiratory programs, reevaluation of the maintenance of engineering control equipment, reassessment of an employee's work practices and personal hygiene, and, if necessary, medical removal in accordance with paragraph (l)(11) of this section.

(ii) Whenever, in accordance with paragraph (l)(4)(i) of this section, the employer has reassessed an employee's occupational exposure and work practices due to the employee's CdU level having exceeded 5 μg/g creatinine or the employee's CdB level having exceeded 5 μg/liter of whole blood, and the employer has taken appropriate corrective measures to reduce the employee's exposure to cadmium, the employer shall provide to the employee the relevant blood, urine or other tests within three months after the corrective action has been taken. If the results of any of these tests continue to be outside the limits specified in paragraph (l)(4)(i) of this section, the employer shall provide the relevant test on a quarterly basis until the results are within the stated limits.

(iii) Where the results of tests for total or low molecular weight proteins in urine are abnormal, the examining physician shall evaluate in more detail the toxic effects of cadmium on the renal system.

(iv) Where the results of the examination of the respiratory system indicate that the FVC or the FEV_1 is less than 80% of predicted values, or the ratio of FEV_1/FVC times 100 is less than 75% of the predicted values, or the employee experiences difficulty breathing during the use of or fit testing for respirators, restriction from respirator use shall be considered and the physician will further evaluate the employee's ability to wear a respirator.

(5) *Examination at termination of employment.* (i) At the time of termination of employment, the employer shall provide a medical examination to any employee who, at any time previously, has been eligible for an annual medical examination under paragraph (l)(3) of this section. However, if the last examination was less than six months prior to the date of termination, no further examination is required unless otherwise specified.

(ii) The medical examination at termination of employment shall be in accordance with the requirements of the periodic examinations stipulated in paragraph (l)(3) of this section.

(6) *Examinations for employees exposed in an emergency.* (i) In addition to the medical surveillance required in paragraphs (l)(1)–(l)(5) of this section, the employer shall provide medical examinations as soon as possible to all employees who may have been acutely exposed to cadmium because of an emergency.

(ii) The examination shall include a work history, medical history, and a physical examination with emphasis on the respiratory system and other organ systems considered appropriate by the examining physician. (See Appendix A at II(B)(1) for symptoms of acute overexposure.)

(7) *Examination for respirator usage.* To determine an employee's fitness for respirator use, the employer shall provide the medical examination specified in paragraph (l)(2) and (l)(3) of this section to any employee assigned to a job that requires the use of a respirator. The medical examination shall be provided within 30 days of assignment to such job or no later than 90 days after the standard goes into effect, whichever is later, to any employee without a previous periodic medical evaluation within the preceeding 12 months. The previous medical evaluation must satisfy the requirements of paragraph (l)(3) of this section.

(8) *Recent examinations.* A medical examination is not required to be provided in accordance with paragraphs (l)(2) and (l)(3) of this section if adequate records show that the employee has been examined in accordance with the requirements of these paragraphs within the past one year period. However, in that case such records shall be maintained as part of the employee's medical record and the next specified medical examination shall be made available to the employee

within one year of the previous examination.

(9) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this standard and appendices.

(ii) A description of the affected employee's former, current and anticipated future duties as they relate to the employee's cadmium exposure.

(iii) The employee's former and current occupational exposure levels or, for employees not yet occupationally exposed to cadmium, the employee's anticipated exposure levels.

(iv) A description of any personal protective and respiratory equipment used or to be used.

(v) Information from previous medical examinations that were provided or made available by the employer to the affected employee.

(10) *Physician's written opinion.* (i) The employer shall obtain a written, signed opinion from each examining physician in reference to each medical examination performed for each employee. This written opinion shall contain the results of the medical examination as they relate to occupational exposures to cadmium and shall include:

(A) The physician's opinion as to whether the employee has any detected medical condition(s) that would place the employee at increased risk of material impairment to health from further exposure to cadmium, including any indications of potential cadmium toxicity as identified in paragraph (l)(4)(i)(A)–(l)(4)(i)(F) of this section;

(B) The results of any testing or related evaluation concerning cadmium exposure carried out as part of the examination;

(C) Any recommended removal from, or limitation on the activities or duties of the employee or upon the employee's use of personal protective equipment such as clothing or respirators; and

(D) A statement that the employee has been informed by the physician of the results of the medical examination and of any medical conditions resulting from cadmium exposure that require further evaluation or treatment.

(ii) The employer shall instruct the physician not to reveal orally or in the written opinion given to the employer specific findings or diagnoses unrelated to occupational exposures.

(iii) The employer shall provide a copy of the physician's written opinion to the affected employee within 30 days of its receipt.

(11) *Medical removal plan.* (i) The employer shall remove an employee from work where exposure to cadmium is at or above the action level on each occasion that a physician determines in a written opinion that the employee should be removed from such exposure due to abnormal levels of urinary proteins or illnesses, abnormal test results, or other signs or symptoms of cadmium-related dysfunction.

(ii) For any employee removed under paragraph (l)(11)(i) of this section, the employer shall provide follow-up medical examinations every three months until a decision is made by the examining physician that the employee may be returned to his/her normal job, or a decision is made that the employee must be permanently removed from cadmium exposures above the action level.

(iii) The employer shall remove an employee from work having an exposure to cadmium above the TWA PEL or EL whenever a physician determines in a written opinion that the employee cannot wear a respirator.

(iv) For any employee removed under paragraph (l)(11)(iii) of this section the employer shall provide a follow-up medical examination within three months to determine if the removal must be permanent.

(12) *Medical removal protection benefits.* (i) Whenever an employee is removed under paragraphs (l)(11)(i) or (l)(11)(iii) of the section, the employer shall transfer the employee to a comparable job that meets the exposure limits imposed in those paragraphs on the employee's exposure to cadmium as soon as one becomes available.

(ii) The employer shall provide full medical removal protection benefits for a maximum of 6 months each time an employee is removed under paragraphs (l)(11)(i) or (l)(11)(iii) of this section.

(iii) The requirement in paragraph (l)(12)(ii) of this section that the employer provide full medical removal protection benefits means that the employer shall maintain the total normal earnings, seniority and other employment rights and benefits of an employee as though the employee had not been removed from the employee's normal exposure to cadmium.

(13) *Recordkeeping.* The employer shall establish and maintain medical records as specified in paragraph (n)(3) of this section.

(m) *Communication of cadmium hazards to employees*—(1) *Warning signs.* (i) Warning signs shall be provided and displayed in regulated areas. In addition, warning signs shall be posted at all approaches to regulated areas so that an employee may read the signs and take necessary protective steps before entering the area.

(ii) The warning signs required by paragraph (m)(1)(i) of this section shall comply with requirements of the Hazard Communication Standard 29 CFR 1910.1200(f) (general industry) and 29 CFR 1926.59(f) and bear the following information:

DANGER
CADMIUM
CANCER HAZARD
CAN CAUSE LUNG AND KIDNEY DAMAGE
AUTHORIZED PERSONNEL ONLY
RESPIRATORS REQUIRED IN THIS AREA

(2) *Warning labels.* (i) Shipping and storage containers containing cadmium, cadmium compounds, or cadmium contaminated clothing, equipment, waste, scrap, or debris shall bear appropriate warning labels, as specified in paragraph (m)(2)(ii) of this section.

(ii) The labels shall comply with the requirements of the Hazard Communication Standard 29 CFR 1910.1200(f) (general industry) and 29 CFR 1926.59 (construction industry), and shall include the following information:

DANGER
CONTAINS CADMIUM
CANCER HAZARD
AVOID CREATING DUST
CAN CAUSE LUNG AND KIDNEY DAMAGE

(3) *Material safety data sheets.* Employers who are manufacturers or importers of cadmium or cadmium compounds shall comply with the requirements regarding development and distribution of material safety data sheets as specified in 29 CFR 1910.1200(g) of OSHA's Hazard Communication Standard. All employers with employees potentially exposed to cadmium compounds shall maintain material safety data sheets and provide their employees with access to them, in accordance with the requirements of 29 CFR 1910.1200(g) and 29 CFR 1926.59(g).

(4) *Employee information and training.* Employers shall provide employees with information and training in accordance with the requirements of the Hazard Communication Standard, 29 CFR 1910.1200(h) (general industry), and 29 CFR 1926.59(h) (construction industry). In addition:

(i) The employer shall institute a training program for all employees who are potentially exposed to cadmium, assure employee participation in the program, and maintain a record of the contents of such program.

(ii) Training shall be provided prior to or at the time of initial assignment to a job involving potential exposure to cadmium and at least annually thereafter.

(iii) The employer shall make the training program understandable to the

employee. The employer shall assure that each employee is informed of the following:

(A) The health hazards associated with cadmium exposure with special attention to the information in Appendix A of this section;

(B) The quantity, location, manner of use, release, and storage of cadmium and the specific nature of operations that could result in exposure to cadmium, especially exposures above the TWA PEL or EL;

(C) The engineering controls and work practices associated with the employee's job assignment;

(D) The measures employees can take to protect themselves from exposure to cadmium, including modification of their habits such as smoking and personal hygiene, and specific procedures the employer has implemented to protect employees from exposure to cadmium such as appropriate work practices, emergency procedures, and personal protective equipment;

(E) The details of the hazard communication program developed by the employer, including an explanation of the signs, labeling system and material safety data sheets, and how employees can obtain and use the appropriate hazard information;

(F) The purpose, proper selection, fitting, proper use, and limitations of respirators and protective clothing;

(G) The purpose and a description of the medical surveillance program required by paragraph (l) of this section;

(H) The contents of this standard and its appendices, and

(I) The right of any employee exposed to cadmium at or above the action level or above the EL to obtain:

(*1*) Medical examinations as required by paragraph (l) of this section at no cost to the employee;

(*2*) The employee's medical records required to be maintained by paragraph (n)(3) of this section; and

(*3*) All air monitoring results representing the employee's exposure to cadmium and required to be kept by paragraph (n)(1) of this section.

(iv) Access to information and training materials.

(A) The employer shall make a copy of this standard and its appendices readily available without cost to all affected employees and shall provide a copy if requested.

(B) The employer shall provide to the Assistant Secretary or the Director, upon request, all materials relating to the employee information and the training program.

(n) *Recordkeeping*— (1) *Exposure monitoring.* (i) The employer shall establish and keep an accurate record of all air monitoring prescribed in paragraph (d) of this section.

(ii) This record shall include at least the following information:

(A) The monitoring date, duration, and results of each sample taken;

(B) The name, social security number, and job classification of the employee monitored and of all other employees whose exposures the monitoring is intended to represent;

(C) A description of the sampling and analytical methods used and evidence of their accuracy;

(D) The type of respiratory protective devices worn by the monitored employee, if any;

(E) Any other conditions that might have affected the employee monitoring results.

(iii) The employer shall maintain this record for at least thirty (30) years in accordance with § 1910.20.

(2) *Objective data for exempted operations.* (i) For purposes of this standard, objective data are information demonstrating that a particular product or material containing cadmium or a specific process, operation, or activity involving cadmium cannot release dust or fumes in concentrations at or above the action level or above the EL even under the worst-case release conditions. Objective data can be obtained from an industry-wide study or from laboratory product test results from manufacturers of cadmium-containing products or materials. The data the employer uses from an industry-wide survey must be obtained under workplace conditions closely resembling the processes, types of material, control methods, work practices and environmental conditions in the employer's current operations.

(ii) The employer shall maintain a record for at least 30 years of the objective data relied upon.

(3) *Medical surveillance.* (i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance by paragraph (l)(1)(i) of this section.

(ii) The record shall include at least the following information:

(A) The name, social security number, and description of the duties of the employee;

(B) A copy of the physician's written opinions;

(C) A copy of the medical history, and the results of any physical examination and all test results which are required to be provided by this standard (x-rays, pulmonary function tests, etc.) or which have been obtained to further evaluate any condition occurring as a result of cadmium exposure;

(D) Any employee's medical complaints that might be related to exposure to cadmium; and

(E) A copy of the information provided to the physician as required by paragraph (l)(9) of this section.

(iii) The employer shall assure that this record is maintained for the duration of employment plus thirty (30) years, in accordance with 29 CFR 1910.20.

(4) *Training.* The employer shall maintain the records of an employee's training for one (1) year beyond the last date of employment of that trained employee.

(5) *Availability.* (i) The employer, upon written request, shall make all records required to be maintained by this standard available to the Assistant Secretary and the Director for examination and copying.

(ii) The employer, upon request, shall make all records required to be maintained by paragraphs (n)(1) and (n)(2) of this section available for examination and copying to affected employees, former employees, designated representatives, the Director, and the Assistant Secretary, in accordance with 29 CFR 1910.20(a)-(e) and (g)-(i).

(iii) The employer, upon request, shall make employee medical records required to be kept by paragraph (n)(3) of this section available for examination and copying to the subject employee and to anyone having the specific written consent of the subject employee, and to the Director and the Assistant Secretary in accordance with 29 CFR 1910.20.

(6) *Transfer of records.* (i) Whenever an employer ceases to do business and there is no successor employer to receive and retain records for the prescribed period or the employer intends to dispose of any records required to be preserved for at least 30 years, the employer shall comply with the requirements concerning transfer of records set forth in 29 CFR 1910.20(h).

(o) *Observation of monitoring.*— (1) *Employee observation.* The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to cadmium conducted in accordance with paragraph (d) of this section.

(2) *Observation procedures.* When observation of the monitoring requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the observer with, and the observer shall be required to use such clothing and equipment and shall comply with all

other applicable safety and health procedures.

(p) *Dates.*— (1) *Effective date.* This standard shall become effective (insert date 60 days from publication of the final rule in the **Federal Register**).

(2) *Start-up dates.* All obligations of this standard commence on the effective date except as follows:

(i) *Exposure monitoring.* Initial monitoring required by paragraph (d)(2) of this section shall be completed as soon as possible and in any event not later than 60 days after the effective date of this standard.

(ii) *Regulated areas.* Regulated areas required to be established by paragraph (e) of this section shall be set up as soon as possible after the results of exposure monitoring are known and in any event not later than 90 days after the effective date of this standard.

(iii) *Respiratory protection.* Respiratory protection required by paragraph (g) of this section shall be provided as soon as possible and in any event not later than 90 days after the effective date of this standard.

(iv) *Compliance program.* Written compliance programs required by paragraph (f)(2) of this section shall be completed and available for inspection and copying as soon as possible but no later than 1 year after the effective date of this standard.

(v) *Methods of compliance.* The engineering controls required by paragraph (f)(1) of this section shall be implemented as soon as possible but no later than 2 years after the effective date of this standard. Work practices shall be implemented as soon as possible. Work practice controls that are directly related to the engineering controls to be implemented in accordance with the compliance plan shall be implemented as soon as possible after such engineering controls are implemented.

(vi) *Hygiene and lunchroom facilities.* Construction plans for change rooms, showers, handwash facilities, and lunchroom facilities shall be completed no later than 120 days after the effective date of this standard and these facilities shall be constructed and in use no later than 1 year after the effective date of this standard. However, if as part of the compliance plan required by paragraph (f)(2) of this section it is predicted by an independent engineering firm that engineering controls and work practices will reduce exposures to or below the permissible exposure limit by 2 years after the effective date of this standard, then hygiene and lunchroom facilities need not be constructed. However, if after the engineering controls are completed engineering and work practice controls have not in fact succeeded in reducing exposure to or below the TWA PEL, then hygiene and lunchroom facilities shall be constructed and in use no later than two years and 8 months after the effective date of this standard.

(vii) *Employee information and training.* Employee information and training required by paragraph (m)(4) of this section shall be provided as soon as possible and in any event not later than 90 days after the effective date of this standard.

(viii) *Medical surveillance.* Medical examinations required by paragraph (l) of this section shall be provided as soon as possible and in any event not later than 90 days after the effective date of this standard.

(q) *Appendices.* (1) Appendix C of this section is part of this standard and the contents of this Appendix is mandatory.

(2) Appendices A, B, D, and E to this standard are purely informational and are not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations.

Appendix A to § 1910.1027—Substance Safety Data Sheet; Cadmium

I. Substance Identification

A. Substance: Cadmium.

B. 8-Hour, Time-weighted-average, Permissible Exposure Limit (TWA PEL):

1. TWA PEL: One (five) micrograms of cadmium per cubic meter of air [1 (5) $\mu g/m^3$], time-weighted average (TWA) for an 8-hour workday.

2. Excursion Limit (EL): Five (twenty-five) micrograms per cubic meter of air [1 (25) $\mu g/m^3$] as a 15 minute Excursion Limit (EL) for a TWA PEL of 1(5) $\mu g/m^3$, respectively.

C. Appearance: Cadmium metal—soft, blue-white, malleable, lustrous metal or grayish-white powder.

II. Health Hazard Data

A. Routes of Exposure.

Cadmium can cause local skin or eye irritation. Cadmium can affect your health if you inhale it or if you swallow it.

B. Effects of overexposure.

1. Short-term (acute) exposure: Cadmium is much more dangerous by inhalation than by ingestion. The concentration of Cadmium that is immediately dangerous to life or health (IDLH) is 40 milligrams per cubic meter of air (40,000 micrograms per cubic meter of air). Severe exposure may occur before symptoms. Early symptoms may include mild irritation of the upper respiratory tract, a sensation of constriction of the throat, a metallic taste and/or a cough. A period of 1–10 hours may precede the onset of rapidly progressing shortness of breath, chest pain, and flu-like symptoms with weakness, fever, headache, chills, sweating and muscular pain. Acute pulmonary edema usually develops within 24 hours and reaches a maximum by 3 days. If death from asphyxia does not occur, symptoms may resolve within a week.

2. Long-term (chronic) exposure. Repeated or long-term exposure to cadmium, even at relatively low concentrations, may result in kidney damage and an increased risk of cancer of the lung and of the prostate.

III. Protective Clothing and Equipment

A. Respirators: You may be required to wear a respirator for non-routine activities, in emergencies, while your employer is in the process of reducing cadmium exposures through engineering controls, and where engineering controls are not feasible. If respirators are worn in the future, they must have a joint Mine Safety and Health Administration (MSHA) and National Institute for Occupational Safety and Health (NIOSH) label of approval.

Cadmium does not have a detectable odor except at levels well above the permissible exposure limits. If you can smell cadmium while wearing a respirator, proceed immediately to fresh air. If you experience difficulty breathing while wearing a respirator, tell your employer.

B. Protective clothing: You may be required to wear impermeable clothing, gloves, a face shield, or other appropriate protective clothing to prevent skin contact with cadmium. Where protective clothing is required, your employer must provide clean garments to you as necessary to assure that the clothing protects you adequately. Replace or repair protective clothing that has become torn or otherwise damaged.

C. Eye protection: You may be required to wear splash-proof or dust resistant goggles to prevent eye contact with cadmium.

IV. Emergency First Aid Procedures

A. Eye exposure: Direct contact may cause redness or pain. Wash eyes immediately with large amounts of water, lifting the upper and lower eyelids. Get medical attention immediately.

B. Skin exposure: Direct contact may result in irritation. Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water. Get medical attention immediately.

C. Ingestion: Ingestion may result in vomiting, abdominal pain, nausea, diarrhea, headache and sore throat. Treatment for symptoms must be administered by medical personnel. Under no circumstances should the employer allow any person whom he retains, employs, supervises or controls to engage in therapeutic chelation. Such treatment is likely to translocate cadmium from pulmonary tissue to renal tissue. Get medical attention immediately.

D. Inhalation: If large amounts of cadmium are inhaled, the exposed person must be moved to fresh air at once. If breathing has stopped, perform cardiopulmonary resuscitation. Administer oxygen if available. Keep the affected person warm and at rest. Get medical attention immediately.

E. Rescue: Move the affected person from the hazardous exposure. If the exposed person has been overcome, attempt rescue only after notifying at least one other person of the emergency and putting into effect established emergency procedures. Do not become a casualty yourself. Understand your

emergency rescue procedures and know the location of the emergency equipment before the need arises.

V. Medical Requirements

If you are exposed to cadmium at or above the action level, your employer is required to provide a medical examination, laboratory tests and a medical history within 150 days of publication of the standard in the Federal Register and annually thereafter. These tests shall be provided without cost to you. In addition, if you are accidentally exposed to cadmium under conditions known or suspected to constitute toxic exposure to cadmium, your employer is required to make special tests available to you.

VI. Observation of Monitoring

Your employer is required to perform measurements that are representative of your exposure to cadmium and you or your designated representative are entitled to observe the monitoring procedure. You are entitled to observe the steps taken in the measurement procedure, and to record the result obtained. When the monitoring procedure is taking place in an area where respirators or personal protective clothing and equipment are required to be worn, you or your representative must also be provided with, and must wear the protective clothing and equipment.

VII. Access to Records

You or your representative are entitled to see the records of measurements of your exposure to cadmium. Your medical examination records can be furnished to your physician or designated representative upon request by you to your employer.

Appendix B to § 1910.1027—Substance Technical Guidelines for Cadmium

I. Cadmium Metal

A. Physical and Chemical Data

1. Substance Identification
Chemical name: Cadmium
Formula: Cd
Molecular Weight: 112.4
Chemical Abstracts Service (CAS) Registry No.: 7740-43-9
Other Identifiers: RETCS EU9800000; EPA D006; DOT 2570 53
Synonyms: Colloidal Cadmium: Kadmium (German); CI 77180
2. Physical data
Boiling point: (760 mm Hg): 765 degrees C
Melting point: 321 degrees C
Specific Gravity: (H_2O=@ 20 °C): 8.64
Solubility: Insoluble in water; soluble in dilute nitricacid and in sulfuric acid.
Appearance: Soft, blue-white, malleable, lustrous metal or grayish-white powder.

B. Fire, Explosion and Reactivity Data

1. Fire
Fire and Explosion Hazards: The finely divided metal is pyrophoric, that is the dust is a severe fire hazard and moderate explosion hazard when exposed to heat or flame. Burning material reacts violently with extinguishing agents such as water, foam, carbon dioxide, and halons.
Flash point: Flammable (dust)
Extinguishing media: Dry sand, dry dolomite, dry graphite, or sodimum chloride.
2. Reactivity
Conditions contributing to instability: Stable when kept in sealed containers under normal temperatures and pressure, but dust may ignite upon contact and with air. Metal tarnishes in moist air.
Incompatibilities: Ammonium nitrate, fused: reacts violently or explosively with cadmium dust below 20 °C. Hydrozoic acid: violent explosion occurs after 30 minutes. Acids: reacts violently, forms hydrogen gas. Oxidizing agents or metals: strong reaction with cadmium dust. Nitryl fluoride at slightly elevated temperature: glowing or white incandescence occurs. Selenium: react exothermically. Ammonia: corrosive reaction. Sulfur dioxide: corrosive reaction. Fire extinguishing agents (water, foam, carbon dioxide, and halons): reacts violently. Tellurium: incandescent reaction in hydrogen atmosphere.
Hazardous decomposition products: The heated metal rapidly forms highly toxic, brownish fumes of oxides of cadmium.

C. Spill, Leak and Disposal Procedures

1. *Steps to be taken if the material is released or spilled.* Do not touch spilled material. Stop leak if you can do it without risk. Do not get water inside container. For large spills, dike spill for later disposal. Keep unnecessary people away. Isolate hazard area and deny entry. The Superfund Amendments and Reauthorization Act of 1986 Section 304 requires that a release equal to or greater than the reportable quantity for this substance (1 pound) must be immediately reported to the local emergency planning committee, the state emergency response commission, and the National Response Center (800) 424-8802; in Washington, DC metropolitan area (202) 426-2675.

II. Cadmium Oxide

A. Physical and Chemical Data

1. Substance identification
Chemical name: Cadmium Oxide
Formula: CdO
Molecular Weight: 128.4
CAS No.: 1306-19-0
Other Identifiers: RTECS EV1929500
Synonyms: Kadmu tlenek (Polish)
2. Physical data
Boiling point (760 mm Hg): 950 degrees C decomposes
Melting point: 1500°C
Specific Gravity: (H^3O=1 @ 20° C): 7.0
Solubility: Insoluble in water; soluble in acids and alkalines
Appearance: Red or brown crystals

B. Fire, Explosion and Reactivity Data

1. Fire
Fire and Explosion Hazards: Negligible fire hazard when exposed to heat or flame.
Flash point: Nonflammable
Extinguishing media: Dry chemical, carbon dioxide, water spray or foam.
2. Reactivity
Conditions contributing to instability: Stable under normal termperatures and pressures.
Incompatibilities: Magnesium may reduce CdO_2 explosively on heating.
Hazardous decomposition products: Toxic fumes of cadmium.

C. Spill, Leak and Disposal Procedures

1. *Steps to be taken if the material is released or spilled.* Do not touch spilled material. Stop leak if you can do it without risk. For small spills, take up with sand or other absorbent material and place into containers for later disposal. For small dry spills, use a clean shovel to place material into clean, dry container and then cover. Move containers from spill area. For larger spills, dike far ahead of spill for later disposal. Keep unnecessary people away. Isolate hazard area and deny entry. The Superfund Amendments and Reauthorization Act of 1986 Section 304 requires that a release equal to or greater than the reportable quantity for this substance (1 pound) must be immediately reported to the local emergency planning committee, the state emergency response commission, and the National Response Center (800) 424-8802; in Washington, DC metropolitan area (202) 426-2675.

III. Cadmium Sulfide

A. Physical and Chemical Data

1. Substance Identification
Chemical name: Cadmium sulfide
Formula: CdS
Molecular weight: 144.5
CAS No. 1306-23-6
Other Identifiers: RTECS EV3150000
Synonyms: Aurora yellow; Cadmium Golden 366; Cadmium Lemon Yellow 527; Cadmium Orange; Cadmium Primrose 819; Cadmium Sulphide; Cadmium Yellow; Cadmium Yellow 000; Cadmium Yellow Conc. Deep; Cadmium Yellow Conc. Golden; Cadmium Yellow Conc. Lemon; Cadmium Yellow Conc. Primrose; Cadmium Yellow Oz. Dark; Cadmium Yellow Primrose 47-1400; Cadmium Yellow 10G Con.; Cadmium Yellow 892; Cadmopur Golden Yellow N; Cadmopur Yellow: Capsebon; C.I. 77199; C.I. Pigment Orange 20; CI Pigment Yellow 37; Ferro Lemon Yellow; Ferro Orange Yellow; Ferro Yellow; Greenockite; NCI-C02711.
2. Physical date
Boiling point (760 mm. Hg): subline in N_2 at 980°C
Melting point: 1750 degrees C (100 atm)
Specific Gravity (H_20=1@ 20°c): 4.82
Solubility: Slightly soluble in water; soluble in acid.
Appearance: Light yellow or yellow-orange crystals.

B. Fire, Explosion and Reactivity Data

1. Fire
Fire and Explosion Hazards: Neglible fire hazard when exposed to heat or flame.
Flash point: Nonflamable.
Extinguishing media: Dry chemical, carbon dioxide, water spray or foam.
2. Reactivity
Conditions contributing to instability: Generally non-reactive under normal conditions. Reacts with acids to form toxic hydrogen sulfide gas.
Incompatibilities: Reacts vigorously with iodine monochloride.
Hazardous decomposition products: Toxic fumes of cadmium and sulfur oxides.

C. Spill Leak and Disposal Procedures

1. Steps to be taken if the material is released or spilled. Do not touch spilled material. Stop leak if you can do it without risk. For small, dry spills, with a clean shovel place material into clean, dry container and cover. Move containers from spill area. For larger spills, dike far ahead of spill for later disposal. Keep unnecessary people away. Isolate hazard and deny entry.

IV. Cadmium Chloride

A. Physical and Chemical Data

1. Substance Identification

Chemical name: Cadmium chloride

Formula: $CdC1_2$

Molecular weight: 183.3

CAS No. 10108–64–2

Other Indentifiers: RTECS EY0175000

Synonyms: Caddy; Cadmium dichloride; NA 2570 (DOT); UI–CAD; dichlorocadmium

2. Physical data

Boiling point (760 mm Hg): 960 degrees C

Melting point: 568 degrees C

Specific Gravity (H_20=1@ 20°c): 4.05

Solubility: Soluble in water (140 g/100 cc); soluble in acetone.

Appearance: small, white crystals.

B. Fire, Explosion and Reactivity Data

1. Fire

Fire and Explosion Hazards: Negligible fire and negligible explosion hazard in dust form when exposed to heat or flame.

Flash point: Nonflamable.

Estinguishing media: Dry chemical, carbon dioxide, water spray or foam.

2. Reactivity

Conditions contributing to instability: Generally stable under normal temperatures and pressures.

Incompatibilities: Bromine triflouride rapidly attacks cadmium chloride. A mixture of potassium and cadmium chloride may produce a strong explosion on impact.

Hazardous decomposition products: Termal decomposition may release toxic fumes of hydrogen chloride, chloride, chlorine or oxides of cadmium.

C. Spill Leak and Disposal Procedures

1. Steps to be taken if the materials is released or spilled. Do not touch spilled material. Stop leak if you can do it without risk. For small, dry spills, with a clean shovel place material into clean, dry container and cover. Move containers from spill area. For larger spills, dike far ahead of spill for later disposal. Keep unnecessary people away. Isolate hazard and deny entry. The Superfund Amendments and Reauthorization Act of 1986 Section 304 requires that a release equal to or greater than the reportable quantity for this substance (100 pounds) must be immediately reported to the local emergency planning committee, the state emergency response commission, and the National Response Center (800) 424–8802; in Washington, DC Metropolitan area (202) 426–2675.

Appendix C to § 1910.1027—Qualitative and Quantitative Fit Testing Procedures

I. Fit Test Protocols

A. General:

The employer shall include the following provisions in the fit test procedures. These provisions apply to both qualitative fit testing (QLFT) and quantitative fit testing (QNFT). All testing is to be conducted annually.

1. The test subject shall be allowed to pick the most comfortable respirator from a selection including respirators of various sizes from different manufacturers. The selection shall include at least three sizes of elastomeric facepieces of the type of respirator that is to be tested, i.e., three sizes of half mask; or three sizes of full facepiece. Respirators of each size must be provided from at least two manufacturers.

2. Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine a comfortable fit. A mirror shall be available to assist the subject in evaluating the fit and positioning the respirator. This instruction may not constitute the subject's formal training on respirator use; it is only a review.

3. The test subject shall be informed that he/she is being asked to select the respirator which provides the most comfortable fit. Each respirator represents a different size and shape, and if fitted, maintained and used properly, will provide substantial protection.

4. The test subject shall be instructed to hold each facepiece up to the face and eliminate those which obviously do not give a comfortable fit.

5. The more comfortable facepieces are noted; the most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort can be given by discussing the points in item 6 below. If the test subject is not familiar with using a particular respirator, the test subject shall be directed to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.

6. Assessment of comfort shall include reviewing the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:

(a) Position of the mask on the nose;

(b) Room for eye protection;

(c) Room to talk; and

(d) Position of mask on face and cheeks.

7. The following criteria shall be used to help determine the adequacy of the respirator fit:

(a) Chin properly placed;

(b) Adequate strap tension, not overly tightened;

(c) Fit across nose bridge;

(d) Respirator of proper size to span distance from nose to chin;

(e) Tendency of respirator to slip; and

(f) Self-observation in mirror to evaluate fit and respirator position.

8. The test subject shall conduct the negative and positive pressure fit checks as described below or in ANSI Z88.2–1980. Before conducting the negative or positive pressure test, the subject shall be told to seat the mask on the face by moving the head from side-to-side and up and down slowly while taking in a few slow deep breaths. Another facepiece shall be selected and retested if the test subject fails the fit check tests.

(a) *Positive pressure test.* Close off the exhalation valve and exhale gently onto the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

(b) *Negative pressure test.* Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s). Inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

9. The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, or long sideburns which cross the respirator sealing surface. Any type of appeal which interferes with a satisfactory fit shall be altered or removed.

10. If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician trained in respiratory disease or pulmonary medicine to determine, in accordance with paragraph (l)(2) and (3) of this standard, whether the test subject can wear a respirator while performing her or his duties.

11. The test subject shall be given the opportunity to wear the successfully fitted respirator for a period of two weeks. If at any time during this period the respirator becomes uncomfortable, the test subject shall be given the opportunity to select a different facepiece and to be retested.

12. The employer shall maintain a record of the fit test administered to an employee. The record shall contain at least the following information:

(a) Name of employee;

(b) Type of respirator;

(c) Brand, size of respirator;

(d) Date of test; and

(e) Where QNFT is used, the fit factor and strip chart recording or other recording of the results of the test. The record shall be maintained until the next fit test is administered.

13. Exercise regimen. Prior to the commencement of the fit test, the test subject shall be given a description of the fit test and the test subject's responsibilities during the test procedure. The description of the process shall include a description of the test exercises that the subject will be performing. The respirator to be tested shall be worn for at least 5 minutes before the start of the fit test.

14. Test Exercises. The test subject shall perform exercises, in the test environment, in the manner described below:

(a) Normal breathing. In a normal standing position, without talking, the subject shall breathe normally.

(b) Deep breathing. In a normal standing position, without talking, the subject shall breathe slowly and deeply, taking care so as to not hyperventilate.

(c) Turning head side to side. Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.

(d) Moving head up and down. Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).

(e) Talking. The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.

(f) Grimace. The test subject shall grimace by smiling or frowning.

(g) Bending over. The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place shall be substituted for this exercise in those test environments such as shroud type QNFT units which prohibit bending at the waist.

(h) Normal breathing. Same as exercise 1.

Each test exercise shall be performed for one minute except for the grimace exercise which shall be performed for 15 seconds. The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become uncomfortable, another model of respirator shall be tried.

B. Qualitative Fit Test (QLFT) Protocols

1. General

(a) The employer shall assign specific individuals who shall assume full responsibility for implementing the respirator qualitative fit test program.

(b) The employer shall assure that persons administering QLFTs are able to prepare test solutions, calibrate equipment and perform tests properly, recognize invalid tests, and assure that test equipment is in proper working order.

(c) The employer shall assure that QLFT equipment is kept clean and well maintained so as to operate within the parameters for which it was designed.

2. Isoamyl Acetate Protocol

(a) Odor threshold screening. The odor threshold screening test, performed without wearing a respirator, is intended to determine if the individual tested can detect the odor of isoamyl acetate.

(1) Three 1-liter glass jars with metal lids are required.

(2) Odor free water (e.g., distilled or spring water) at approximately 25 degrees C shall be used for the solutions.

(3) The isoamyl acetate (IAA) (also known as isopentyl acetate) stock solution is prepared by adding 1 cc of pure IAA to 800 cc of odor free water in a 1 liter jar and shaking for 30 seconds. A new solution shall be prepared at least weekly.

(4) The screening test shall be conducted in a room separate from the room used for actual fit testing. The two rooms shall be well ventilated and shall not be connected to the same recirculating ventilation system.

(5) The odor test solution is prepared in a second jar by placing 0.4 cc of the stock solution into 500 cc of odor free water using a clean dropper or pipette. The solution shall be shaken for 30 seconds and allowed to stand for two to three minutes so that the IAA concentration above the liquid may reach equilibrium. This solution shall be used for only one day.

(6) A test blank shall be prepared in a third jar by adding 500 cc of odor free water.

(7) The odor test and test blank jars shall be labeled 1 and 2 for jar identification. Labels shall be placed on the lids so they can be periodically peeled, dried off and switched to maintain the integrity of the test.

(8) The following instruction shall be typed on a card and placed on the table in front of the two test jars (i.e., 1 and 2): "The purpose of this test is to determine if you can smell banana oil at a low concentration. The two bottles in front of you contain water. One of these bottles also contains a small amount of banana oil. Be sure the covers are on tight, then shake each bottle for two seconds. Unscrew the lid of each bottle, one at a time, and sniff at the mouth of the bottle. Indicate to the test conductor which bottle contains banana oil."

(9) The mixtures used in the IAA odor detection test shall be prepared in an area separate from where the test is performed, in order to prevent olfactory fatigue in the subject.

(10) If the test subject is unable to correctly identify the jar containing the odor test solution, the IAA qualitative fit test shall not be performed.

(11) If the test subject correctly identifies the jar containing the odor test solution, the test subject may proceed to respirator selection and fit testing.

(b) Isoamyl acetate fit test.

(1) The fit test chamber shall be similar to a clear 55-gallon drum liner suspended inverted over a 2-foot diameter frame so that the top of the chamber is about 6 inches above the test subject's head. The inside top center of the chamber shall have a small hook attached.

(2) Each respirator used for the fitting and fit testing shall be equipped with organic vapor cartridges or offer protection against organic vapors. The cartridges or masks shall be changed at least weekly.

(3) After selecting, donning, and properly adjusting a respirator, the test subject shall wear it to the fit testing room. This room shall be separate from the room used for odor threshold screening and respirator selection, and shall be well ventilated, as by an exhaust fan or lab hood, to prevent general room contamination.

(4) A copy of the test exercises and any prepared text from which the subject is to read shall be taped to the inside of the test chamber.

(5) Upon entering the test chamber, the test subject shall be given a 6-inch by 5-inch piece of paper towel, or other porous, absorbent, single-ply material, folded in half and wetted with 0.75 cc of pure IAA. The test subject shall hang the wet towel on the hook at the top of the chamber.

(6) Allow two minutes for the IAA test concentration to stabilize before starting the fit test exercises. This would be an appropriate time to talk with the test subject: to explain the fit test, the importance of his/her cooperation, and the purpose for the head exercises; and to demonstrate some of the exercises.

(7) If at any time during the test, the subject detects the banana like odor of IAA, the respirator fit is inadequate. The subject shall quickly exit from the test chamber and leave the test area to avoid olfactory fatigue.

(8) If the respirator fit was inadequate, the subject shall return to the selection room and remove the respirator, repeat the odor sensitivity test, select and put on another respirator, return to the test chamber and again begin the procedure described in paragraph (I)(B)(2)(b) (1) through (7) of this appendix. The process continues until a respirator that fits well has been found. Should the odor sensitivity test be failed, the subject shall wait about 5 minutes before retesting. Odor sensitivity will usually have returned by this time.

(9) When a respirator is found that passes the test, its efficiency shall be demonstrated for the subject by having the subject break the face seal and take a breath before exiting the chamber.

(10) When the test subject leaves the chamber, the subject shall remove the saturated towel and return it to the person conducting the test. To keep the test area from becoming contaminated, the used towels shall be kept in a self sealing bag so there is no significant IAA concentration build-up in the test chamber during subsequent tests.

3. Saccharin Solution Aerosol Protocol

The saccharin solution aerosol QLFT protocol is the only currently available, validated test protocol for use with particulate disposable dust respirators not equipped with high-efficiency filters. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) Taste threshold screening. The saccharin taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of saccharin.

(1) Threshold screening as well as fit testing subjects shall wear an enclosure about the head and shoulders that is Approximately 12 inches in diameter by 14 inches tall with at least the front portion clear and that allows free movements of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts # FT 14 and # FT 15 combined, is adequate.

(2) The test enclosure shall have a ¾-inch hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

(3) The test subject shall don the test enclosure. Throughout the threshold

screening test, the test subject shall breathe through his/her wide open mouth with tongue extended.

(4) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer the test conductor shall spray the threshold check solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.

(5) The threshold check solution consists of 0.83 grams of sodium saccharin USP in 1 cc of warm water. It can be prepared by putting 1 cc of the fit test solution (see (b)(5) below) in 100 cc of distilled water.

(6) To produce the aerosol, the nebulizer bulb is firmly squeezed so that it collapses completely, then released and allowed to fully expand.

(7) Ten squeezes are repeated rapidly and then the test subject is asked whether the saccharin can be tasted.

(8) If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted.

(9) If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted.

(10) The test conductor will take note of the number of squeezes required to solicit a taste response.

(11) If the saccharin is not tasted after 30 squeezes (step 10), the test subject may not perform the saccharin fit test.

(12) If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

(13) Correct use of the nebulizer means that approximately 1 cc of liquid is used at a time in the nebulizer body.

(14) The nebulizer shall be thoroughly rinsed in water, shaken dry, and refilled at least each morning and afternoon or at least every four hours.

(b) Saccharin solution aerosol fit test procedure

(1) The test subject may not eat, drink (except plain water), or chew gum for 15 minutes before the test.

(2) The fit test uses the same enclosure described in (a) above.

(3) The test subject shall don the enclosure while wearing the respirator selected in section (a) above. The respirator shall be properly adjusted and equipped with a particulate filter(s).

(4) A second DeVilbiss Model 40 Inhalation Medication Nebulizer is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.

(5) The fit test solution is prepared by adding 83 grams of sodium saccharin to 100 cc of warm water.

(6) As before, the test subject shall breathe through the open mouth with tongue extended.

(7) The nebulizer is inserted into the hole in the front of the enclosure and the fit test solution is sprayed into the enclosure using the same number of squeezes required to elicit a taste response in the screening test.

(8) After generating the aerosol the test subject shall be instructed to perform the exercises in section I.A. 14 above.

(9) Every 30 seconds the aerosol concentration shall be replenished using one half the number of squeezes as initially.

(10) The test subject shall indicate to the test conductor if at any time during the fit test the taste of saccharin is detected.

(11) If the taste of saccharin is detected, the fit is deemed unsatisfactory and a different respirator shall be tried.

4. Irritant Fume Protocol

(a) The respirator to be tested shall be equipped with high-efficiency particulate air (HEPA) filters.

(b) The test subject shall be allowed to smell a weak concentration of the irritant smoke before the respirator is donned to become familiar with its characteristic odor.

(c) Break both ends of a ventilation smoke tube containing stannic oxychloride, such as the MSA part No. 5645, or equivalent. Attach one end of the smoke tube to a low flow air pump set to deliver 200 milliliters per minute.

(d) Advise the test subject that the smoke can be irritating to the eyes and instruct the subject to keep his/her eyes closed while the test is performed.

(e) The test conductor shall direct the stream of irritant smoke from the smoke tube towards the face seal area of the test subject. He/She shall begin at least 12 inches from the facepiece and gradually move to within one inch, moving around the whole perimeter of the mask.

(f) The exercises identified in section I. A. 14 above shall be performed by the test subject while the respirator seal is being challenged by the smoke.

(g) Each test subject passing the smoke test without evidence of a response shall be given a sensitivity check of the smoke from the same tube once the respirator has been removed to determine whether he/she reacts to the smoke. Failure to evoke a response shall void the fit test.

(h) The fit test shall be performed in a location with exhaust ventilation sufficient to prevent general contamination of the testing area by the test agent.

C. Quantitative Fit Test (QNFT) Protocol

1. *General.* (a) The employer shall assign specific individuals who shall assume full responsibility for implementing the respirator quantitative fit test program.

(b) The employer shall ensure that persons administering QNFT are able to calibrate equipment and perform tests properly, recognize invalid tests, calculate fit factors properly and assure that test equipment is in proper working order.

(c) The employer shall assure that QNFT equipment is kept clean and well maintained so as to operate at the parameters for which it was designed.

2. *Definitions.* (a) Quantitative fit test. The test is performed in a test chamber. The normal air-purifying element of the respirator is replaced by a high-efficiency particulate air (HEPA) filter in the case of particulate QNFT aerosols or a sorbent offering contaminant penetration protection equivalent to high-efficiency filters where the QNFT test agent is a gas or vapor.

(b) Challenge agent means the aerosol, gas or vapor introduced into a test chamber so that its concentration inside and outside the respirator may be measured.

(c) Test subject means the person wearing the respirator for quantitative fit testing.

(d) Normal standing position means standing erect and straight with arms down along the sides and looking straight ahead.

(e) Maximum peak penetration method means the method of determining test agent penetration in the respirator as determined by strip chart recordings of the test. The highest peak penetration for a given exercise is taken to be representative of average penetration into the respirator for that exercise.

(f) Average peak penetration method means the method of determining test agent penetration into the respirator utilizing a strip chart recorder, integrator, or computer. The agent penetration is determined by an average of the peak heights on the graph or by computer integration, for each exercise except the grimace exercise. Integrators or computers which calculate the actual test agent penetration into the respirator for each exercise will also be considered to meet the requirements of the average peak penetration method.

(g) "Fit Factor" means the ration of challenge agent concentration outside with respect to the inside of a respirator inlet covering (facepiece or enclosure).

3. *Apparatus.* (a) Instrumentation. Aerosol genetration, dilution, and measurement systems using corn oil or sodium chloride as test aerosols shall be used for quantitative fit testing.

(b) Test chamber. The test chamber shall be large enough to permit all test subjects to perform freely all required exercises without disturbing the challenge agent concentration or the measurement apparatus. The test chamber shall be equipped and constructed so that the challenge agent is effectively isolated from the ambient air, yet uniform in concentration throughout the chamber.

(c) When testing air-purifying respirators, the normal filter or cartridge element shall be replaced with a high-efficiency particulate filter supplied by the same manufacturer.

(d) The sampling instrument shall be selected so that a strip chart record may be made of the test showing the rise and fall of the challenge agent concentration with each inspiration and expiration at fit factors of at least 2,000. Integrators or computers which integrate the amount of test agent penetration leakage into the respirator for each exercise may be used provided a record of the readings is made.

(e) The combination of substitute air-purifying elements, challenge agent and challenge agent concentration in the test chamber shall be such that the test subject is not exposed in excess of an established exposure limit for the challenge agent at any time during the testing process.

(f) The sampling port on the test specimen respirator shall be placed and constructed so that no leakage occurs around the port (e.g. where the respirator is probed), a free air flow is allowed into the sampling line at all times and so that there is no interference with the fit or performance of the respirator.

(g) The test chamber and test set up shall permit the person administering the test to

observe the test subject inside the chamber during the test.

(h) The equipment generating the challenge atmosphere shall maintain the concentration of challenge agent inside the test chamber constant to within a 10 percent variation for the duration of the test.

(i) The time lag (interval between an event and the recording of the event on the strip chart or computer or integrator) shall be kept to a minimum. There shall be a clear association between the occurrence of an event inside the test chamber and its being recorded.

(j) The sampling line tubing for the test chamber atmosphere and for the respirator sampling port shall be of equal diameter and of the same material. The length of the two lines shall be equal.

(k) The exhaust flow from the test chamber shall pass through a high-efficiency filter before release.

(l) When sodium chloride aerosol is used, the relative humidity inside the test chamber shall not exceed 50 percent.

(m) The limitations of instrument detection shall be taken into account when determining the fit factor.

(n) Test respirators shall be maintained in proper working order and inspected for deficiencies such as cracks, missing valves and gaskets, etc.

4. *Procedural Requirements.* (a) When performing the initial positive or negative pressure test the sampling line shall be crimped closed in order to avoid air pressure leakage during either of these tests.

(b) An abbreviated screening isoamyl acetate test or irritant fume test may be utilized in order to quickly identify poor fitting respirators which passed the positive and/or negative pressure test and thus reduce the amount of QNFT time. When performing a screening isoamyl acetate test, combination high-efficiency organic vapor cartridges/canisters shall be used.

(c) A reasonably stable challenge agent concentration shall be measured in the test chamber prior to testing. For canopy or shower curtain type of test units the determination of the challenge agent stability may be established after the test subject has entered the test environment.

(d) Immediately after the subject enters the test chamber, the challenge agent concentration inside the respirator shall be measured to ensure that the peak penetration does not exceed 5 percent for a half mask or 1 percent for a full facepiece respirator.

(e) A stable challenge concentration shall be obtained prior to the actual start of testing.

(f) Respirator restraining straps shall not be overtightened for testing. The straps shall be adjusted by the wearer without assistance from other persons to give a reasonable comfortable fit typical of normal use.

(g) The test shall be terminated whenever any single peak penetration exceeds 5 percent for half masks and 1 percent for full facepiece respirators. The test subject shall be refitted and retested. If two of the three required tests are terminated, the fit shall be deemed inadequate.

(h) In order to successfully complete a QNFT, three successful fit tests are required. The results of each of the three independent fit tests must exceed the minimum fit factor needed for the class of respirator (e.g. half mask respirator, full facepiece respirator).

(i) Calculation of fit factors.

(1) The fit factor shall be determined for the quantitative fit test by taking the ratio of the average chamber concentration to the concentration inside the respirator.

(2) The average test chamber concentration is the arithmetic average of the test chamber concentration at the beginning and of the end of the test.

(3) The concentration of the challenge agent inside the respirator shall be determined by one of the following methods:

(i) Average peak concentration

(ii) Maximum peak concentration

(iii) Integration by calculation of the area under the individual peak for each exercise. This includes computerized integration.

(j) Interpretation of test results. The fit factor established by the quantitative fit testing shall be the lowest of the three fit factor values calculated from the three required fit tests.

(k) The test subject shall not be permitted to wear a half mask, or full facepiece respirator unless a minimum fit factor equivalent to at least 10 times the hazardous exposure level is obtained.

(l) Filters used for quantitative fit testing shall be replaced at least weekly, or whenever increased breathing resistance is encountered, or when the test agent has altered the integrity of the filter media. Organic vapor cartridges/canisters shall be replaced daily (when used) or sooner if there is any indication of breakthrough by a test agent.

Appendix D to § 1910.1027—Occupational Health History Interview With Reference to Cadmium Exposure

Directions

(To be read by employee and signed prior to the interview)

Please answer the questions you will be asked as completely and carefully as you can. These questions are asked of everyone who works with cadmium. You will also be asked to give blood and urine samples, and have a chest x-ray and lung tests. The doctor will give your employer a written opinion on whether you are physically capable of doing your job. The results of the tests will go to both the doctor and your employer. Legally, the doctor cannot share personal information you may tell him/her with your employer.

If you are just being hired the results of this interview and examination will be used to:

(1) establish your health status and see if working with cadmium might be expected to cause unusual problems,

(2) determine your health status today and see if there are changes over time,

(3) see if you can wear a respirator safely.

If you are not a new hire:

OSHA says that everyone who works with cadmium can have an examination supervised by a doctor every year. The reasons for this are:

(a) if there are changes in your health, either because of cadmium or some other reason, to find them early,

(b) to prevent kidney damage.

Please sign below.

I have read these directions and understand them:

Employee signature and date

Thank you for answering these questions.

(Suggested Format)

BILLING CODE 4510-26-M

Name _____ Age _____ Social Security II _____

Company _____ Job _____ Type of exam: [ ] Preplacement [ ] Periodic [ ] Termination [ ] Other

Blood Pressure _____
Pulse Rate _____

1. How long have you worked at the job listed above?
   [ ] not yet hired
   [ ] number of months
   [ ] number of years

2. Please complete the following information, beginning with your most recent job:

Previous jobs	Employer and Type of business	Number years employed	Exposures

3. Have you ever been told by a doctor that you had bronchitis? [ ] yes [ ] no

   How long ago? [ ][ ] number of months
   [ ][ ] number of years

4. Have you ever been told by a doctor that you had emphysema? [ ] yes [ ] no

   How long ago? [ ][ ] number of months
   [ ][ ] number of years

5. Have you ever been told by a doctor that you had other lung problems? [ ] yes [ ] no

   If yes, please describe type of lung problems and when you had these problems _____

6. In the past year, have you had a cough? [ ] yes [ ] no

   If yes, did you cough up sputum? [ ] yes [ ] no

If yes, How long did the cough with sputum production last?
- [ ] less than 3 months
- [ ] 3 months or longer

For how many years have you had episodes of cough with sputum production lasting this long?
- [ ] less than one
- [ ] 1
- [ ] 2
- [ ] longer than 2

7. Have you ever smoked cigarettes?
- [ ] yes
- [ ] no

8. Do you now smoke cigarettes?
- [ ] yes
- [ ] no

9. If you smoke or have smoked cigarettes, for how many years have you smoked, or did you smoke?
- [ ] less than 1 year
- [ ][ ] number of years

What is or was the greatest number of packs per day that you have smoked?
- [ ][ ] number of packs

If you quit smoking cigarettes, how many years ago did you quit?
- [ ] less than 1 year
- [ ][ ] number of years

How many packs a day do you now smoke?
- [ ][ ] number of packs per day

10. Have you ever been told by a doctor that you had a kidney or urinary tract disease or disorder
- [ ] yes
- [ ] no

11. Have you ever had any of these disorders?

Kidney stones
- [ ] yes
- [ ] no

Protein in urine
- [ ] yes
- [ ] no

Blood in urine
- [ ] yes
- [ ] no

Difficulty urinating
- [ ] yes
- [ ] no

Other kidney / Urinary disorders
- [ ] yes
- [ ] no

Please describe problems, age, treatment, and followup for any kidney or urinary problems you have had: _____

_____

_____

_____

12. Have you ever been told by a doctor or other health care provider who took your blood pressure that your blood pressure was high?
- [ ] yes
- [ ] no

13. Have you ever been advised to take any blood pressure medication?
- [ ] yes
- [ ] no

14. Are you presently taking any blood pressure medication?
- [ ] yes
- [ ] no

15. Are you presently taking any other medication?
- [ ] yes
- [ ] no

16. Please list any blood pressure or other medications and describe how long you have been taking each one:

Medicine	How long taken
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

17. Have you ever been told by a doctor that you have diabetes? (sugar in your bloodor urine)
- [ ] yes
- [ ] no

If yes,

Do you presently see a doctor about your diabetes?
- [ ] yes
- [ ] no

How do you control your blood sugar?
- [ ] diet alone
- [ ] diet plus oral medicine
- [ ] diet plus insulin (injection)

18. Have you ever had any broken bone(s)?
- [ ] yes
- [ ] no

If yes,

Have you ever been told by a doctor that the bone(s) took a long time to heal?
- [ ] yes
- [ ] no

Please describe bone(s) broken, your age, and how break(s) happened:

Bone	Age	How happened

19. Have you ever been told by a doctor that you had:
    a) anemia [ ] yes [ ] no
    b) a low blood count? [ ] yes [ ] no

20. Do you presently feel that you tire or run out of energy sooner than normal or sooner than most other people your age? [ ] yes [ ] no

    If yes, for how long have you felt that you tire easily?
    [ ] less than 1 year
    [ ][ ] number of years

21. Have you given blood within the last year? [ ] yes [ ] no

    If yes,

    How many times? [ ][ ] number of times

    How long ago was the last time you gave blood? [ ] less than 1 month
    [ ][ ] number of months

22. Have you recently had any injuries with heavy bleeding? [ ] yes [ ] no

    If yes, How long ago? [ ] less than 1 month
    [ ][ ] number of months

    Describe _____

23. Have you recently had any surgery? [ ] yes [ ] no

    If yes, please describe _____

24. Have you seen any blood lately in your stool or after a bowel movement? [ ] yes [ ] no

25. Have you ever had a test for blood in your stool? [ ] yes [ ] no

    If yes, did the test show any blood in the stool? [ ] yes [ ] no

    What further evaluation and treatment were done? _____

26. In addition, the following questions address your ability to wear a respirator. Additional information for the physician can be found in The Respiratory Protective Devices Manual.

Have you ever been told by a doctor that you have asthma? [ ] yes [ ] no

Are you presently taking shots for asthma? [ ] yes
Are you presently taking pills for asthma? [ ] no

Have you ever had a heart attack? [ ] yes [ ] no

If yes, how long ago? [ ][ ] No. of months
[ ][ ] No. of years

Have you ever had pains in your chest? [ ] yes [ ] no

If yes, when did it usually happen?
While resting [ ]
While working [ ]
While exercising [ ]
Activity didn't matter [ ]

Have you ever had a thyroid problem? ☐ yes ☐ no

Have you ever had a seizure or fits? ☐ yes ☐ no

Have you ever had a stroke (cerebrovascular accident)? ☐ yes ☐ no

Have you ever had a ruptured eardrum or a serious hearing problem? ☐ yes ☐ no

Do you now have a claustrophobia, by that is meant fear of crowded or closed in spaces or any psychological problems that would make it hard for you to wear a respirator? ☐ yes ☐ no

27. Please complete only one of the following two sections

FOR WOMEN ONLY

Do you have menstrual periods? ☐ yes ☐ no

If yes, do you have normal bleeding? ☐ yes ☐ no

FOR MEN ONLY

Have you ever been told by a doctor that you had any problems with your prostate gland? ☐ yes ☐ no

If yes, please describe type of problem(s) and what was done to evaluate and treat the problem(s) _____

_____

_____

_____

_____

FOR WOMEN ONLY

Are your periods regular ☐ yes ☐ no

Do you have children ☐ yes ☐ no

How many? ☐☐

Are the children healthy? ☐ yes ☐ no

Do any of the children have birth defects? ☐ yes ☐ no

If so, how many children? ☐☐

FOR WOMEN and MEN

Have you had any problem with fertility (want children but cannot)? ☐ yes ☐ no

BILLING CODE 4510-26-C

Appendix E to § 1910.1027

This Appendix is divided into two parts. The first part, Appendix-E1, is written for a time-weighted average (8-hour) permissible exposure limit (TWA PEL) of 5 $\mu g/m^3$, an action level of 2.5 $\mu g/m^3$ (and is applicable for an action level of 1 $\mu g/m^3$), and an excursion limit (EL) of 25 $\mu g/m^3$. The second part, Appendix-E2, is written for a TWA PEL of 1 $\mu g/m^3$, an action level of 0.5 $\mu g/m^3$, and an EL of 5 $\mu g/m^3$.

Appendix–E1

Method Number: ID–189 (Proposed).
Matrix: Air.
Target Concentration: 5 $\mu g/m^3$ (TWA).
Collection Procedure: A known volume of air is drawn through a 37-mm diameter filter cassette containing a 0.8-μm mixed cellulose ester membrane filter (MCEF).
Recommended Air Volume: 200 L to 960 L.
Recommended Sampling Rate: 2.0 L/min.
Analytical Procedure: Air filter samples are wet-ashed with nitric acid. After digestion, a small amount of hydrochloric acid is added. The samples are then diluted to volume with deionized water and analyzed by atomic absorption spectroscopy with an oxidizing air/acetylene flame.
Qualitative Detection Limit: 0.25 $\mu g/m^3$ for a 200 L air sample.
Quantitative Detection Limit: 1 $\mu g/m^3$ for a 200 L air sample.
Precision: (CV_1) = 0.010.
Method Classification: Validated.

ID–189

Cadmium in Workplace Atmosphere (Flame AAS)

1. Introduction

1.1. Scope

This method describes the collection of airborne elemental cadmium and cadmium compounds on 0.8-um mixed cellulose ester membrane filters and their subsequent analysis by flame atomic absorption spectroscopy. It is applicable for TWA measurements at the target level of 5 $\mu g/m^3$ and should be used concurrently with Method ID–189GF (7.6) which is applicable for Action Level TWA and EL measurements. It is also applicable for the collection and analysis of cadmium wipe and bulk material samples. The analytical method does not differentiate between cadmium fume and cadmium dust samples. It also does not differentiate between elemental cadmium and its compounds.

1.2. Principle

Airborne elemental cadmium and cadmium compounds are collected on a 0.8-um mixed cellulose ester membrane filter (MCEF). The air filter samples are wet-ashed with concentrated nitric acid to destroy the organic matrix and dissolve the cadmium analytes. A small amount of concentrated hydrochloric acid is added to help dissolve other metals which may be present. The samples are diluted with deionized water and then aspirated into the oxidizing air/acetylene flame of an atomic absorption spectrophotometer for analysis of elemental cadmium.

1.3. History

Previously, two OSHA sampling and analytical procedures for cadmium were used concurrently (7.1., 7.2.). Both of these procedures also required 0.8-um mixed cellulose ester membrane filters for the collection of air samples. These cadmium air filter samples were analyzed by either flame atomic absorption spectroscopy (AAS) (7.1.) or inductively coupled plasma/atomic emission spectroscopy (ICP) (7.2.). The new flame AAS method for the analysis of cadmium is similar to the old procedure given in the General Metals Method ID–121 (7.1.) with some modifications.

1.4. Properties (7.3.)

Elemental cadmium is a silver-white, blue-tinged, lustrous metal which is easily cut with a knife. It is slowly oxidized by moist air to form cadmium oxide. It is insoluble in water, but reacts readily with dilute nitric acid. Some of the physical properties and other descriptive information of elemental cadmium are given below:

CAS No.	7440–43–9
Atomic Number	48
Atomic Symbol	Cd
Atomic Weight	112.41
Melting Point	321°C
Boiling Point	765°C
Density	8.65 g/mL (25 °C)

The properties of specific cadmium compounds are described in reference 7.3.

2. Detection Limit (7.4.)

2.1. The qualitative detection limit for the analytical procedure is 0.05 μg cadmium for a 10 mL solution volume. This corresponds to 0.25 $\mu g/m^3$ for a 200 L air volume.

2.2. The quantitative detection limit for the analytical procedure is 0.2 ug cadmium for a 10 mL solution volume. This corresponds to 1 ug/m^3 for a 200 L air volume.

3. Precision and Accuracy

The average recovery of seventeen spiked MCEF samples containing cadmium in the range of 0.5 to 2.0 times the TWA target concentration of 5 $\mu g/m^3$ (assuming a 400 L air volume) was 104.0% with a pooled coefficient of variation (CV_1) of 0.010 (7.4.).

4. Interferences

There are no known interferences in either sampling or analysis (7.5.).

5. Sampling

5.1. Apparatus

5.1.1. Filter cassette unit for air sampling: A 37–mm diameter mixed cellulose ester membrane filter (Millipore type AA or equivalent with a pore size of 0.8 um) contained in a 37–mm polystyrene two- or three-piece cassette filter holder. The filter is supported with a cellulose backup pad. The cassette is sealed with a shrinkable gel band.

5.1.2. A calibrated personal sampling pump whose flow is determined to an accuracy of ±5% at the recommended flow rate with the filter cassette unit in line.

5.2. Procedure

5.2.1. Sample with the air filter cassettes for elemental cadmium and its compounds in accordance with current instructions in OSHA directives to the industrial hygienist.

5.2.2. Collect air samples at a flow rate of 2.0 L/min. A full-shift (at least seven hours) sample is recommended with a maximum air volume of 960 L, if the filter does not become overloaded. The minimum suggested air volume is 200 L.

5.2.3. Replace the end plugs into the filter cassettes immediately after air sampling.

5.2.4. Securely wrap each sample filter cassette end-to-end with an OSHA Form 21 sample seal.

5.2.5. Submit at least one blank sample with each set of air samples. The blank sample should be handled the same as the other samples except that no air is drawn through it.

5.2.6. Ship the samples to the laboratory for analysis as soon as possible in a suitable container designed to prevent damage in transit.

6. Analytical Procedure

6.1. Apparatus

6.1.1. Atomic absorption spectrophotometer (Perkin Elmer Model 5000 or its equivalent) equipped with a nebulizer and a four inch (one slot) burner head for use with an air/acetylene flame.

6.1.2. Oxidant: compressed air which has been filtered to remove water, oil and other foreign substances.

6.1.3. Fuel: standard commercially available tanks of acetylene dissolved in acetone; tanks should be equipped with flash arresters. CAUTION: Do not use grades of acetylene available from certain suppliers that contain solvents other than acetone which may damage the PVC tubing used in some instruments.

6.1.4. Pressure-reducing valves: two gauge, two-stage pressure regulators to maintain fuel and oxidant pressures somewhat higher than the controlled operating pressures of the instrument.

6.1.5. Cadmium hollow cathode lamp.

6.1.6. Hot plate, capable of reaching 150 °C.

6.1.7. 125 mL Phillips beakers.

6.1.8. Bottles, 500-mL, narrow-mouth, polyethylene or glass with leakproof caps: use for storage of standards.

6.1.9. Volumetric flasks, volumetric pipets, beakers and other associated general laboratory glassware.

6.1.10. Forceps.

6.2. Reagents

All reagents should be ACS analytical reagent grade or better.

6.2.1. Deionized water with a resistivity of at least 200k ohms.

6.2.2. Concentrated nitric acid, HNO_3.

6.2.3. Concentrated hydrochloric acid, HC1.

6.2.4. Diluting solution (4% HNO_3, 0.4% HC1): Add 40 mL HNO_3 and 4 mL HC1 carefully to approximately 500 mL deionized water and then dilute to 1000 mL.

6.2.5. 1000 $\mu g/mL$ cadmium standard stock solution: Use a commercially available certified 1000 $\mu g/mL$ cadmium standard or, alternatively, dissolve 1.0000 g of cadmium metal in a minimum volume of 1:1 HC1 and dilute to 1 L with 4% HNO_3.

6.3 Safety Precautions

6.3.1. Wear safety glasses and gloves at all times.

6.3.2. Handle acid solutions with care. Handle all cadmium samples and solutions with extra care. Avoid their direct contact with work area surfaces, eyes, skin and

clothes. Flush acid solutions which contact the skin or eyes with copious amounts of water.

6.3.3. Perform all acid digestions and acid dilutions in a fume hood.

6.3.4. Exercise care when using laboratory glassware. Do not use chipped pipets, volumetric flashs, beakers or any glassware with sharp edges exposed in order to avoid the possibility of cuts or abrasions.

6.3.5. Never pipet by mouth.

6.3.6. Refer to the instrument instruction manual and reference 7.1. for proper and safe operation of the atomic absorption spectrophotometer and associated equipment.

6.3.7. Since metallic elements and other toxic substances are vaporized during flame operation, it is imperative that an exhaust system be used. Always ensure that the exhaust system is operating properly during instrument use.

6.4. Glassware Preparation

6.4.1. Clean the Phillips beakers by refluxing with 1:1 nitric acid on a hot plate in a fume hood. Thoroughly rinse with deionized water and then invert the beakers to allow them to drain dry.

6.4.2. Rinse volumetric flasks and all other glassware with 10% nitric acid and deionized water prior to use.

6.5. Standard Preparation

6.5.1. Prepare 5, 10 and 100 μg/mL cadmium working standard stock solutions by making appropriate serial dilutions of the 1000 μg/mL cadmium standard stock solution with the diluting solution described in Section 6.2.4.

6.5.2. Prepare cadmium standards to be analyzed in the range of 0.02 to 2.0 μg/mL by making appropriate serial dilutions of the working standards with the same diluting solution. A suggested method of preparation of these standards is given in Table I. Store these standard solutions in the 500-mL, narrow-mouth polyethylene or glass bottles with leakproof caps.

6.6. Sample Preparation

6.6.1. Carefully transfer each sample filter with forceps from its filter cassette unit to a clean, separate 125-mL Phillips beaker along with any loose dust found in the cassette. Label each Phillips beaker with the appropriate sample number.

6.6.2. Add 5 mL of concentrated nitric acid to each Phillips beaker containing an air filter sample. Place the Phillips beakers on a hot plate in a fume hood and heat the samples until approximately 1 mL remains. The sample solution in each Phillips beaker should become clear. If it does not, wet-ash the sample with another portion of concentrated nitric acid.

6.6.3. After completing the HNO_3 digestion and cooling the samples, add 40 μL of concentrated HCl to each air sample solution. Swirl and then gently warm the contents of each Phillips beaker.

6.6.4. Quantitatively transfer each cooled air sample solution from its Phillips beaker to a clean 40-mL volumetric flask. Dilute each flask to volume with deionized water and then mix well.

6.7. Analysis

Initially analyze all of the air samples for their cadmium content by flame atomic absorption spectroscopy (AAS) according to the instructions given below. If the concentration of cadmium in a sample is less than 0.04 μg/mL, proceed with the graphite furnace AAS analysis of the sample as described in reference 7.6.

The mentioned instrument settings are for the specific instrument models used in the OSHA laboratory. These settings may vary when using other systems.

6.7.1. Set up the atomic absorption spectrophotometer for the air/acetylene flame analysis of cadmium according to the manufacturer's operational instructions. For the source lamp, use the cadmium hollow cathode lamp operated at the manufacturer's recommended current rating for continuous operation.

6.7.2. Make the following initial instrument settings on the Perkin Elmer Model 5000 spectrophotometer:

Slit=High
Slitwidth=0.7 nm
Wavelength=228.8 nm
Mode=AA/ABS
Signal=Cont
Integration Time=0.5 Sec
Range=UV

6.7.3. Optimize the energy reading of the spectrophotometer at 228.8 nm by adjusting the lamp position according to the manufacturer's instructions.

6.7.4. Light the air/acetylene flame and autozero the instrument while aspirating a deionized water blank.

6.7.5. Optimize conditions such as burner head alignment and fuel and oxidant flow rates to give a maximum absorbance reading of the aspirated 2 μg/mL standard. The 2 μg/mL cadmium standard should give an absorbance reading of about 0.350 abs. units.

6.7.6 Reset the MODE parameter from ABS to CONC and the INTEGRATION TIME to at least 3.0 SEC.

6.7.7. To increase instrument response, scale expand the absorbance reading of the aspirated 2 μg/mL standard approximately four times.

6.7.8. Autozero the instrument once again while aspirating a deionized water blank and then reset the SIGNAL parameter from CONT to HOLD. Turn on the printer, if one is available, and date and label the printer paper.

6.7.9. Aspirate the standards and samples directly into the flame and record their absorbance readings. Aspirate the deionized water blank into the flame immediately after every standard or sample to correct for and monitor any baseline drift. Record also this baseline absorbance reading of the deionized water blank. Label each standard and sample reading and its accompanying baseline reading.

6.7.10. It is recommended that the entire series of standards be analyzed at the beginning and end of the analysis of a set of samples to ensure that the standard readings are reproducible. Also, analyze a standard after every five or six samples to monitor the performance of the spectrophotometer.

6.7.11. Bracket the samples with standards during the analysis. Repeat the analysis of approximately 10% of the samples for a check of precision.

6.7.12. Record the final instrument settings on the printer paper output at the end of the analysis.

6.8. Calculations

6.8.1. Correct for baseline drift by subtracting each baseline absorbance reading from its corresponding standard or sample absorbance reading.

6.8.2. Use a least squares regression program to plot a calibration curve of absorbance reading versus the concentration (μg/mL) of cadmium in each standard.

6.8.3. Determine the concentration (μg/mL) of cadmium, C, corresponding to the absorbance reading in each analyzed sample from the resulting calibration curve.

6.8.4. Calculate the total amount (μg) of cadmium, W, in each sample from the solution volume (mL):

W = (C)(sample vol, mL)(DF)

Where: DF = Dilution Factor (use only if applicable)

6.8.5. Make a blank correction for each air sample by subtracting the total amount of cadmium in the corresponding blank sample from the total amount of cadmium in the sample.

6.8.6. Calculate the concentration of cadmium in an air sample in units of mg/m^3 or $\mu g/m^3$ by using one of the following equations:

$mg/m^3 = W_{bc}/(\text{Air vol sampled, L})$

or

$\mu g/m^3 = (W_{bc})(1000\ ng/\mu g)/(\text{Air vol sampled, L})$

Where: W_{bc} = blank corrected total amount (μg) of cadmium in the sample.

7. References:

7.1. *OSHA Analytical Methods Manual;* U.S. Department of Labor, Occupational Safety and Health Administration, OSHA Analytical Laboratory, Salt Lake City, UT; Am. Conf. of Governmental Ind. Hyg. (ACGIH): Cincinnati, OH, 1985; Method ID–121.

7.2. *OSHA Analytical Methods Manual;* U.S. Department of Labor, Occupational Safety and Health Administration, OSHA Analytical Laboratory, Salt Lake City, UT; Am. Conf. of Governmental Ind. Hyg. (ACGIH): Cincinnati, OH, 1985; Method ID–125.

7.3. Windholz, M., Ed.; *The Merck Index,* 10th ed.; Merck & Co.: Rahway, NJ, 1983.

7.4. *Backup Data Report for Cadmium (Flame AAS), Method ID–189,* Inorganic Division, OSHA Analytical Laboratory, Salt Lake City, UT, 1988.

7.5. *Analytical Methods for Atomic Absorption Spectrophotometry,* The Perkin-Elmer Corporation: Norwalk, CT, 1973.

7.6. *Cadmium in Workplace Atmospheres (GF–AAS), Method ID–189GF,* Inorganic Division, OSHA Analytical Laboratory, Salt Lake City, UT, 1988.

TABLE I.—CD STANDARD PREPARATION

Standard (μg/mL)	mL stock	Stock solution (μg/mL)	Final vol (mL)
0.02	10	1	500
0.05	5	5	500
0.10	5	10	500
0.20	10	10	500
0.50	25	10	500

TABLE I.—CD STANDARD PREPARATION—Continued

Standard (µg/mL)	mL stock	Stock solution (µg/mL)	Final vol (mL)
1.00	5	100	500
2.00	10	100	500

Cadmium in Workplace Atmosphere (GF-AAS)

Method Number: ID-189GF (Proposed).
Matrix: 2.5 ug/m³ (Action Level TWA), 25 ug/m³ (EL).
Collection Procedure: A known volume of air is drawn through a 37-mm diameter filter cassette containing a 0.8-um mixed cellulose ester membrane filter (MCEF).
Recommended Air Volumes: 200 L to 960 L for Action Level TWA, 30 L for EL.
Recommended Sampling Rate: 2.0 L/min.
Analytical Procedure: Air filter samples are wet-ashed with nitric acid. After digestion, a small amount of hydrochloric acid is added. The samples are then diluted to volume with deionized water and analyzed by flameless atomic absorption spectroscopy using a heated graphite furnace atomizer.
Qualitative Detection Limit: 0.07 ug/m³ for a 30 L air sample.
Quantitative Detection Limit: 0.33 ug/m³ for a 30 L air sample.
Precision: (CV_1) = 0.074.
Method Classification: Validated.

ID-189GF

Cadmium in Workplace Atmospheres (GF-AAS)

1. Introduction

1.1. Scope

This method describes the collection of airborne elemental cadmium and cadmium compounds on 0.8-um mixed cellulose ester membrane filters and their subsequent analysis by flameless atomic absorption spectroscopy using a heated graphite furnace atomizer. It is applicable for Action Level TWA and EL measurements and should be used concurrently with Method ID-189 (7.8.) which is applicable for TWA PEL measurements at the target level of 5 ug/m³. The analytical method does not differentiate between cadmium fume and cadmium dust samples. It also does not differentiate between elemental cadmium and its compounds.

1.2. Principle

Airborne elemental cadmium and cadmium compounds are collected on a 0.8-um mixed cellulose ester membrane filter (MCEF). The air filter samples are wet-ashed with concentrated nitric acid to destroy the organic matrix and dissolve the cadmium analytes. Before the samples are diluted with deionized water, a small amount of concentrated hydrochloric acid is added to help dissolve other metals which may be present. Aliquots of each sample and a matrix modifier are injected into the graphite tube of an atomic absorption spectrophotometer/graphite furnace assembly for analysis of elemental cadmium. The matrix modifier is added to stabilize the cadmium metal and eliminate sodium chloride as an interference during the high temperature charring step of the analysis (7.1., 7.2.).

1.3. History

Previously, two OSHA sampling and analytical procedures for cadmium were used concurrently (7.3., 7.4.). Both of these procedures also required 0.8-um mixed cellulose ester membrane filters for the collection of air samples. These cadmium air filter samples were analyzed by either flame atomic absorption spectroscopy (AAS) (7.3.) or inductively coupled plasma/atomic emission spectroscopy (ICP) (7.4.). A new flame AAS method (7.8.) for the analysis of cadmium is similar to the old procedure given in the General Metals Method ID-121 (7.3.) with some modifications. None of these analytical methods are sensitive enough for measuring workplace exposure to airborne cadmium at the lower Action Level TWA and STEL concentration levels.

1.4. Properties (7.5.)

Elemental cadmium is a silver-white, blue-tinged, lustrous metal which is easily cut with a knife. It is slowly oxidized by moist air to form cadmium oxide. It is insoluble in water, but reacts readily with dilute nitric acid. Some of the physical properties and other descriptive information of elemental cadmium are given below:

CAS No.	7440-43-9
Atomic number	48
Atomic symbol	Cd
Atomic weight	112.41
Melting point	321 °C
Boiling point	765 °C
Density	8.65 g/mL (25 °C)

The properties of specific cadmium compounds are described in reference 7.5.

2. Detection Limit (7.6.)

2.1. The qualitative detection limit for the analytical procedure is 2 ng cadmium for a 10 mL solution volume. This corresponds to 0.07 µg/m³ for a 30 L air volume.

2.2. The quantitative detection limit for the analytical procedure is 10 ng cadmium for a 10 mL solution volume. This corresponds to 0.33 µg/m³ for a 30 L air volume.

3. Precision and Accuracy (7.6.)

The average recovery of eighteen spiked MCEF samples containing cadmium in the range of 0.5 to 2.0 times the Action Level TWA target concentration of 1 µg/m³ (assuming a 200 L air volume) was 99.4% with a pooled coefficient of variation (CV_1) of 0.074. The average recovery of six spiked MCEF samples containing cadmium at 0.1 times the Action Level TWA target concentration was 97.0% with a coefficient of variation (CV_1) of 0.068.

4. Interferences

There are no known spectral line interferences (7.7.). Background absorption is minimized by using a deuterium arc or Zeeman background corrector and the addition of a matrix modifier.

5. Sampling

5.1. Apparatus

5.1.1. Filter cassette unit for air sampling: A 37-mm diameter mixed cellulose ester membrane filter (Millipore type AA or equivalent with a pore size of 0.8-um) contained in a 37-mm polystyrene two- or three-piece cassette filter holder. The filter is supported with a cellulose backup pad. The cassette is sealed with a shrinkable gel band.

5.1.2. A calibrated personal sampling pump whose flow is determined to an accuracy of ± 5% at the recommended flow rate with the filter cassette unit in line.

5.2. Procedure

5.2.1. Sample with the air filter cassettes for elemental cadmium and its compounds in accordance with current instructions in OSHA directives to the industrial hygienist.

5.2.2. Collect air samples at a flow rate of 2.0 L/min. A full-shift (at least seven hours) sample is recommended for Action Level TWA measurements with a maximum air volume of 960 L, if the filter does not become overloaded. A 15 min sample is recommended for STEL level measurements with a minimum suggested air volume of 30 L.

5.2.3. Replace the end plugs into the filter cassettes immediately after sampling.

5.2.4. Securely wrap each sample filter cassette end-to-end with an OSHA Form 21 sample seal.

5.2.5. Submit at least one blank sample with each set of air samples. The blank sample should be handled the same as the other samples except that no air is drawn through it.

5.2.6. Ship the samples to the laboratory for analysis as soon as possible in a suitable container designed to prevent damage in transit.

6. Analytical Procedure

6.1. Apparatus

6.1.1. Atomic absorption spectrophotometer (Perkin Elmer Model 5000 or its equivalent) equipped with a deuterium arc background corrector.

6.1.2. Graphite furnace (Perkin Elmer Model HGA-500 or its equivalent).

6.1.3. Auto sampler (Perkin Elmer Model AS-40 or its equivalent) or autopipets for accurately injecting 10- and 20-µL sample aliquots into the graphite furnace tube.

6.1.4. Digital printer (Perkin Elmer Model PRS-10 or its equivalent).

6.1.5. Strip chart recorder (Perkin Elmer Model 56 or its equivalent).

6.1.6. Inert purge gas for graphite furnace: compressed gas cylinder of purified argon.

6.1.7. Two gauge, two-stage pressure regulator for the argon gas cylinder.

6.1.8. Cadmium hollow cathode lamp or electrodeless discharge lamp and power supply.

6.1.9. Graphite tubes, pyrolytically coated.

6.1.10. Hot plate, capable of reaching 150 °C.

6.1.11. 125 mL Phillips beakers.

6.1.12. Bottles, narrow-mouth, polyethylene or glass with leakproof caps: used for storage of standards and matrix modifier.

6.1.13. Volumetric flasks, volumetric pipets, beakers and other associated general laboratory glassware.

6.1.14. 2.0-2.5 mL polyethylene sample cups for use with the auto sampler.

6.1.15. Forceps.

6.2. Reagents

All reagents should be ACS analytical reagent grade or better.

6.2.1. Deionized water with a resistivity of at least 200k ohms.

6.2.2. Concentrated nitric acid, HNO_3.

6.2.3. Concentrated hydrochloric acid, HCl.

6.2.4. Ammonium phosphate, monobasic, $NH_4H_2PO_4$.

6.2.5. Magnesium nitrate, $Mg(NO_3)_2$.

6.2.6. Diluting solution (4% HNO_3, 0.4% HCl): Add 40 mL HNO_3 and 4 mL HCl carefully to approximately 500 mL deionized water and then dilute to 1000 mL with deionized water.

6.2.7. 1000 ug/mL cadmium standard stock solution: Use a commercially available certified 1000 ug/mL cadmium standard or, alternatively, dissolve 1.0000 g of cadmium metal in a minimum volume of 1:1 HCl and dilute to 1 L with 4% HNO_3.

6.2.8. Matrix modifier: Dissolve 1.0 g $NH_4H_2PO_4$ and 0.15 g $Mg(NO_3)_2$ in approximately 200 mL deionized water. Add 1 mL HNO_3 and then dilute to 500 mL with deionized water.

6.3. Safety Precautions

6.3.1. Wear safety glasses and gloves at all times.

6.3.2. Handle acid solutions with care. Handle all cadmium samples and solutions with extra care. Avoid their direct contact with work area surfaces, eyes, skin and clothes. Flush acid solutions which contact the skin or eyes with copious amounts of water.

6.3.3. Perform all acid digestions and acid dilutions in a fume hood.

6.3.4. Exercise care when using laboratory glassware. Do not use chipped pipets, volumetric flasks, beakers or any glassware with sharp edges exposed in order to avoid the possibility of cuts or abrasions.

6.3.5. Never pipet by mouth.

6.3.6. Refer to the instrument instruction manuals for proper and safe operation of the atomic absorption spectrophotometer, graphite furnace and associated equipment.

6.3.7. Since metallic elements and other toxic substances are vaporized during graphite furnace operation, it is imperative that an exhaust vent be used. Always ensure that the exhaust system is operating properly during instrument use.

6.4. Glassware Preparation.

6.4.1. Clean the Phillips beakers by refluxing with 1:1 nitric acid on a hot plate in a fume hood. Thoroughly rinse with deionized water and then invert the beakers to allow them to drain dry.

6.4.2. Rinse volumetric flasks and all other glassware with 10% nitric acid and deionized water prior to use.

6.5. Standard Preparation

6.5.1. Prepare 10, 100 and 1000 ng/mL cadmium working standard stock solutions by making appropriate ten-fold serial dilutions of the 1000 μg/mL cadmium standard stock solution with the diluting solution described in Section 6.2.6.

6.5.2. Prepare cadmium standards to be analyzed in the range of 1.0 to 40 ng/mL by making appropriate serial dilutions of the working standards with the same diluting solution. A suggested method of preparation of these standards is given in Table I. Store these standard solutions in the narrow-mouth polyethylene or glass bottles with leakproof caps. Prepare fresh daily.

6.6. Sample Preparation

6.6.1. Carefully transfer each sample filter with forceps from its filter cassette unit to a clean, separate 125-mL Phillips beaker along with any loose dust found in the cassette. Label each Phillips beaker with the appropriate sample number.

6.6.2. Add 5 mL of concentrated nitric acid to each Phillips beaker containing an air filter sample. Place the Phillips beakers on a hot plate in a fume hood and heat the samples until approximately 1 mL remains. The sample solution in each Phillips beaker should become clear. If it does not, wet-ash the sample with another portion of concentrated nitric acid.

6.6.3. After completing the HNO_3 digestion and cooling the samples, add 40 uL of concentrated HCl to each air sample solution. Swirl and then gently warm the contents of each Phillips beaker.

6.6.4. Quantitatively transfer each cooled air sample solution from its Phillips beaker to a clean 10-mL volumetric flask. Dilute each flask to volume with deionized water and then mix well.

6.7. Analysis

Initially analyze all of the air samples for their cadmium content by flame atomic absorption spectroscopy (AAS) according to OSHA method ID-189 (7.8.). If the concentration of cadmium in a sample is less than 0.04 μg/mL (40 ng/mL), proceed with the graphite furnace AAS analysis of the sample as described below.

The mentioned instrument settings are for the specific instrument models used in the OSHA laboratory. These settings may vary when using other systems.

6.7.1. Set up the atomic absorption spectrophotometer with the deuterium arc background corrector, graphite furnace and auto sampler for flameless atomic absorption analysis of cadmium according to the manufacturer's operational instructions. Use of pyrolytically coated graphite tubes is recommended. For the source lamp, use a hallow cathode or electrodeless discharge cadmium lamp operated at the manufacturer's recommended rating for continuous operation.

6.7.2. Make the following initial instrument settings on the Perkin Elmer Model 5000 spectrophotometer:

Slit = Low
Slitwidth = 0.2nm
Wavelength = 228.8 nm
Mode = AA-BG/ABS
Signal = Cont
Integration Time = 0.5 Sec
Range = UV

6.7.3. The settings for the graphite furnace parameters may vary according to the condition of the graphite tube and other factors. The recommended initial settings for the Perkin Elmer Model HGA-500 graphite furnace are given in Table II.

6.7.4. Turn on the strip chart recorder by setting the power switch to the SERVO position. Set the CHART SPEED to 20 mm/minute and the CHART RANGE to 10 mV.

6.7.5. Optimize the energy reading of the spectrophotometer at 228.8 nm by adjusting the lamp position according to the manufacturer's instructions. Minimize the ABSORBANCE reading by aligning the graphite furnace assembly in the light beam of the spectrophotometer according to the manufacturer's instructions.

6.7.6. Autozero the spectrophotometer and run the instrument until the baseline stops drifting.

6.7.7. Autozero the spectrophotometer once again and use the ZERO control on the chart recorder to set the pen to approximately 1 cm above the zero line on the paper.

6.7.8. Reset the MODE parameter on the spectrophotometer to PEAK HT/REC ABS or PEAK AREA/REC ABS and the INTEGRATION TIME to 6.0 SEC. Turn on the digital printer and date and label the printer paper.

6.7.9. Inject a 20 μL aliquot of the standard, sample or reagent blank solution to be analyzed into the graphite tube followed by a 10 uL overlay of the matrix modifier. Analyze the aliquot and record and label the peak height or peak area absorbance reading measured on the printer paper. Label the peak on the chart paper.

6.7.10. It is recommended that a high standard be analyzed two or three times to check for reproducibility and sensitivity before starting the analysis of a set of samples.

6.7.11. It is also recommended that the entire series of standards be analyzed at the beginning and end of the analysis of a set of samples to ensure that the standard readings are reproducible. Also, analyze a standard after every five or six samples to monitor the performance of the system.

6.7.12. Bracket the sample readings with standards during the analysis. If the absorbance reading of a sample is above the absorbance reading of the highest standard, dilute the sample with the diluting solution, reanalyze and use the appropriate dilution factor in the calculations.

6.7.13. Repeat the analysis of approximately 10% of the samples for a check of precision.

6.7.14. Record the final instrument settings on the chart paper output at the end of the analysis. Date and label the chart paper.

6.8. Calculations

6.8.1. Use a least squares regression program to plot a calibration curve of peak height or peak area absorbance reading versus the concentration (ng/mL) of cadmium in each standard.

6.8.2. Determine the concentration (ng/mL) of cadmium, C, corresponding to the peak height or peak area absorbance reading in each analyzed sample from the resulting calibration curve.

6.8.3. Calculate the total amount (ng) of cadmium, W, in each sample from the sample solution volume (mL):

W = (C)(sample vol, mL)(DF)

Where: DF = Dilution Factor (use only if applicable)

6.8.4. Make a blank correction for each air sample by subtracting the total amount of cadmium in the corresponding blank sample from the total amount of cadmium in the sample.

6.8.5. Calculate the concentration of cadmium in an air sample in unts of $\mu g/m^3$ or mg/m^3 by using one of the following equations:

$\mu g/m^3 = W_{bc}/(\text{Air vol sampled, L})$

or

$mg/m^3 = W_{bc}/[(\text{Air vol sampled, L})(1000\ ng/\mu g)]$

Where: W_{bc} = blank corrected total amount (ng) of cadmium in the sample.

7. References:

7.1. Slavin, W. *Graphite Furnace AAS—A Source Book;* Perkin-Elmer Corp., Spectroscopy Div.: Ridgefield, CT, 1984; p. 18 and pp. 83–90.

7.2. Grosser, Z., Ed.; *Techniques in Graphite Furnace Atomic Absorption Spectrophotometry;* Perkin-Elmer Corp., Spectroscopy Div.; Ridgefield, CT, 1985; p. 106.

7.3. *OSHA Analytical Methods Manual;* U.S. Department of Labor, Occupational Safety and Health Administration, OSHA Analytical Laboratory, Salt Lake City, UT; Am. Conf. of Governmental Ind. Hyg. (ACGIH): Cincinnati, OH, 1985; Method ID–121.

7.4. *OSHA Analytical Methods Manual;* U.S. Department of Labor, Occupational Safety and Health Administration, OSHA Analytical Laboratory, Salt Lake City, UT; Am. Conf. of Governmental Ind. Hyg. (ACGIH): Cincinnati, OH, 1985; Method ID–125.

7.5. Windholz, M., Ed.; *The Merck Index,* 10th ed.; Merck & Co.: Rahway, NJ 1983.

7.6. *Backup Data Report for Cadmium (GF–AAS), Method ID–189GF,* Inorganic Division, OSHA Analytical Laboratory, Salt Lake City, UT, 1988.

7.7. *Analytical Methods for Atomic Absorption Spectrophotometry,* The Perkin-Elmer Corporation: Norwalk, CT, 1973.

7.8. *Cadmium in Workplace Atmospheres (Flame AAS), Method ID–189,* Inorganic Division, OSHA Analytical Laboratory, Salt Lake City, UT, 1988.

TABLE I.—CD STANDARD PREPARATION

Standard (ng/mL)	mL stock	Stock solution (ng/mL)	Final vol (mL)
1.0	10	10	100
2.0	20	10	100
5.0	5	100	100
10.0	10	100	100
20.0	20	100	100
30.0	30	100	100
40.0	4	1000	100

TABLE II.—GRAPHITE FURNACE PARAMETERS

[Perkin Elmer Model HGA–500]

Step (sec)	Ramp time (sec)	Hold time (sec)	Temp (°C)	Argon flow (mL/min)	Record	Read (sec)	BOC (sec)
1	15	20	100	300			
2	15	45	500	300			
3	0	8	20	300			1
4	0	8	2100	250	−10	0	
5	0	20	20	300			
6	0	8	2500	300			

BOC = Background Offset Correction.

Appendix–E2

Method Number: ID–189GF (Proposed)

Applicability: This method is applicable for TWA PEL, Action Level TWA and EL measurements and should be used concurrently with Method ID–189 (7.8)

Matrix: Air

OSHA Standards: 1.0 $\mu g/m^3$ (TWA)
0.5 $\mu g/m^3$ (Action Level TWA)
5.0 $\mu g/m^3$ (EL)

Collection Procedure: A known volume of air is drawn through a 37-mm diameter filter cassette containing a 0.8-um mixed cellulose ester membrane filter (MCEF)

Recommended Air Volumes: 200 L to 960 L for TWA and Action Level TWA 30 L for EL

Recommended Sampling Rate: 2.0 L/min

Analytical Procedure: Air filter samples are wet-ashed with nitric acid. After digestion, a small amount of hydrochloric acid is added. The samples are then diluted to volume with deionized water and analyzed by flameless atomic absorption spectroscopy using a heated graphite furnace atomizer

Validation Range: 0.1 $\mu g/m^3$ to 2.0 $\mu g/m^3$ for a 200 L air volume

Quantitative Detection Limit: 0.33 $\mu g/m^3$ for a 30 L air sample

Precision: $(CV_t) = 0.074$

Method Classification: Validated ID–189GF

Cadmium in Workplace Atmospheres (GF–AAS)

1. Introduction

1.1. Scope

This method describes the collection of airborne elemental cadmium and cadmium compounds on 0.8-um mixed cellulose ester membrane filters and their subsequent analysis by flameless atomic absorption spectroscopy using a heated graphite furnace atomizer. It is applicable for TWA PEL, Action Level TWA and EL measurements and should be used concurrently with Method ID–189 (Reference 7.6) which is applicable for TWA measurements at twice the target level of 1 $\mu g/m^3$ or greater (assuming a 200 L air volume). The analytical method does not differentiate between cadmium fume and cadmium dust. It also does not differentiate between elemental cadmium and its compounds.

1.2. Principle

Airborne elemental cadmium and cadmium compounds are collected on a 0.8-um mixed cellulose ester membrane filter (MCEF). The air filter samples are wet-ashed with concentrated nitric acid to destroy the organic matrix and dissolve the cadmium analytes. Before the samples are diluted with deionized water, a small amount of concentrated hydrochloric acid is added to help dissolve other metals which may be present. Aliquots of each sample and a matrix modifier are injected into the graphite tube of an atomic absorption spectrophotometer/graphite furnace assembly for analysis of elemental cadmium. The matrix modifier is added to stabilize the cadmium metal and eliminate sodium chloride as an interference during the high temperature charring step of the analysis (7.1., 7.2.).

1.3. History

Previously, two OSHA sampling and analytical procedures for cadmium were used concurrently (7.3., 7.4.). Both of these procedures also required 0.8-um mixed cellulose ester membrane filters for the collection of air samples. These cadmium air filter samples were analyzed by either flame atomic absorption spectroscopy (AAS) (7.3.) or inductively coupled plasma/atomic

emission spectroscopy (ICP) (7.4.). A new flame AAS method (7.8.) for the analysis of cadmium is similar to the old procedure given in the General Metals Method ID–121 (7.3.) with some modifications. None of these analytical methods are sensitive enough for measuring workplace exposure to airborne cadmium at the lower TWA PEL, Action level TWA and EL concentration levels. Elemental cadmium is a silver-white, blue-tinged, lustrous metal which is easily cut with a knife. It is slowly oxidized by moist air to form cadmium oxide. It is insoluble in water, but reacts readily with dilute nitric acid. Some of the physical properties and other descriptive information of elemental cadmium are given below:

CAS No. 7440–43–9
Atomic Number 48
Atomic Symbol Cd
Atomic Weight 112.41
Melting Point 321 °C
Boiling Point 765 °C
Density 8.65 g/mL (25 °C)

The properties of specific cadmium compounds are described in reference 7.5.

2. Detection Limit (7.6.)

2.1. The qualitative detection limit for the analytical procedure is 2 ng cadmium for a 10 mL solution volume. This corresponds to 0.07 $\mu g/m^3$ for a 30 L air volume.

2.2 The quantitative detection limit for the analytical procedure is 10 ng cadmium for a 10 mL solution volume. This corresponds to 0.33 $\mu g/m^3$ for a 30 L air volume.

3. Precision and Accuracy (7.6.)

The average recovery of eighteen spiked MCEF samples containing cadmium in the range of 0.5 to 2.0 times the TWA target concentration of 1 $\mu g/m^3$ (assuming a 200 L air volume) was 99.4% with a pooled coefficient of variation (CV_t) of 0.074. The average recovery of six spiked MCEF samples containing cadmium at 0.1 times the TWA target concentration was 97.0% with a coefficient of variation (CV_t) of 0.068.

4. Interferences

There are no known spectral line interferences (7.7.). Background absorption is minimized by using a deuterium arc or Zeeman background corrector and the addition of a matrix modifier.

5. Sampling

5.1. Apparatus

5.1.1. Filter cassette unit for air sampling: A 37-mm diameter mixed cellulose ester membrane filter (Millipore type AA or equivalent with a pore size of 0.8-um) contained in a 37-mm polystyrene two- or three-piece cassette filter holder. The filter is supported with a cellulose backup pad. The cassette is sealed with a shrinkable gel band.

5.1.2. A calibrated personal sampling pump whose flow is determined to an accuracy of ±5% at the recommend flow rate with the filter cassette unit in line.

5.2. Procedure

5.2.1. Sample with the air filter cassettes for elemental cadmium and its compounds in accordance with current instructions in OSHA directives to the industrial hygienist.

5.2.2. Collect air samples at a flow rate of 2.0 L/min. A full-shift (at least seven hours) sample is recommended for TWA and Action Level TWA measurements with a maximum air volume of 960 L, if the filter does not become overloaded. A 15 min sample is recommended for EL level measurements with a minimum suggested air volume of 30 L.

5.2.3. Replace the end plugs into the filter cassettes immediately after sampling.

5.2.4. Securely wrap each sample filter cassette end-to-end with an OSHA Form 21 sample seal.

5.2.5. Submit at least one blank sample with each set of air samples. The blank sample should be handled the same as the other samples except that no air is drawn through it.

5.2.6. Ship the samples to the laboratory for analysis in a suitable container designed to prevent damage in transit.

6. Analytical Procedure

6.1. Apparatus

6.1.1. Atomic absorption spectrophotometer (Perkin Elmer Model 5000 or its equivalent) equipped with a deuterium arc background corrector.

6.1.2. Graphite furnace (Perkin Elmer Model HGA–500 or its equivalent).

6.1.3. Auto sampler (Perkin Elmer Model AS–40 or its equivalent) or autopipets for accurately injecting 10- and 20-uL sample aliquots into the graphite furnace tube.

6.1.4. Digital printer (Perkin Elmer Model PRS–10 or its equivalent).

6.1.5. Strip chart recorder (Perkin Elmer Model 56 or its equivalent).

6.1.6. Inert purge gas for graphite furnace: compressed gas cylinder of purified argon.

6.1.7. Two gauge, two-stage pressure regulator for the argon gas cylinder.

6.1.8. Cadmium hollow cathode lamp or electrodeless discharge lamp and power supply.

6.1.9. Graphite tubes, pyrolytically coated.

6.1.10. Hot plate, capable of reaching 150 °C.

6.1.11. 125 mL Phillips beakers.

6.1.12. Bottles, narrow-mouth, polyethylene or glass with leakproof caps: used for storage of standards and matrix modifier.

6.1.13. Volumetric flasks, volumetric pipets, beakers and other associated general laboratory glassware.

6.1.14. 2.0–2.5 mL polyethylene same cups for use with the auto sampler.

6.1.15. Forceps.

6.2 Reagents

All reagents should be ACS analytical reagent grade or better.

6.2.1. Deionized water with a resistivity of at least 200k ohms.

6.2.2. Concentrated nitric acid, HNO_3.

6.2.3. Concentrated hydrochloric acid, HCl.

6.2.4. Ammonium phosphate, monobasic, $NH_4H_2PO_4$.

6.2.5. Magnesium nitrate, $Mg(NO_3)_2$.

6.2.6. Diluting solution (4 percent HNO_3, 0.4 percent HCl): Add 40 mL HNO_3 and 4 mL HCl carefuly to approximately 500 mL deionized water and then dilute to 1000 μmL with deionized water.

6.2.7. 1000 $\mu g/mL$ cadmium standard stock solution: Use a commercially available certified 1000 $\mu g/mL$ cadmium standard or, alternatively, dissolve 1.0000 g of cadmium metal in a minimum volume of 1:1 HCl and dilute to 1 L with 4 percent HNO_3.

6.2.8. Matrix modifier: Dissolve 1.0 g $NH_4H_2PO_4$ and 0.15 g $Mg(NO_3)_2$ in approximately 200 mL deionized water. Add 1 mL HNO_3 and then dilute to 500 ml with deionized water.

6.3. Safety Precautions

6.3.1. Wear safety glasses and gloves at all times.

6.3.2. Handle acid solutions with care. Handle all cadmium samples and solutions with extra care. Avoid their direct contact with work area surfaces, eyes, skin and clothes. Flush acid solutions which contact the skin or eyes with copious amounts of water.

6.3.3. Perform all acid digestions and acid dilutions in a fume hood.

6.3.4. Exercise care when using laboratory glassware. Do not use chipped pipets, volumetric flasks, beakers or any glassware with sharp edges exposed in order to avoid the possibility of cuts or abrasions.

6.3.5. Never pipet by mouth.

6.3.6. Refer to the instrument instruction manuals for proper and safe operation of the atomic absorption spectrophotometer, graphite furnace and associated equipment.

6.3.7. Since metallic elements and other toxic substances are vaporized during graphite furnace operation, it is imperative that an exhaust vent be used. Always ensure that the exhaust system is operating properly during instrument use.

6.4. Glassware Preparation

6.4.1. Clean the Phillips beakers by refluxing with 1:1 nitric acid on a hot plate in a fume hood. Thoroughly rinse with deionized water and then invert the beakers to allow them to drain dry.

6.4.2. Rinse volumetric flasks and all other glassware with 10-percent nitric acid and deionized water prior to use.

6.5. Standard Preparation

6.5.1. Prepare 10, 100 and 1000 ng/mL cadmium working standard stock solutions by making appropriate ten-fold serial dilutions of the 1000 $\mu g/mL$ cadmium standard stock solution with the diluting solution described in Section 6.2.6.

6.5.2. Prepare cadmium standards to be analyzed in the range of 1.0 to 40 ng/mL by making appropriate serial dilutions of the working standards with the same diluting solution. A suggested method of preparation of these standards is given in Table I. Store these standard solutions in the narrow-mouth polyethylene or glass bottles with leakproof caps. Prepare fresh daily.

6.6. Sample Preparation

6.6.1. Carefully transfer each sample filter with forceps from its filter cassette unit to a clean, separate 125-mL et-ash the sample with another portion of concentrated nitric acid.

6.6.3. After completing the HNO_3 digestion and cooling the samples, add 40 μL of concentrated HCl to each air sample solution. Swirl and then gently warm the contents of each Phillips beaker.

6.6.4. Quantitatively transfer each cooled air sample solution from its Phillips beaker to a clean 10-mL volumetric flask. Dilute each flask to volume with deionized water and then mix well.

6.7. Analysis

Initially analyze all of the air samples for their cadmium content by flame atomic absorption spectroscopy (AAS) according to OSHA Method ID-189 (7.8.). If the concentration of cadmium in a sample is less than 0.04 μg/mL (40 ng/mL), proceed with the graphite furnace AAS analysis of the sample as described below. The mentioned instrument settings are for the specific instrument models used in the Salt Lake City Analytical Laboratory (SLCAL). These settings may vary when using other systems.

6.7.1. Set up the atomic absorption spectrophotometer with the deuterium arc background corrector, graphite furnace and auto sampler for flameless atomic absorption analysis of cadmium according to the manufacturer's operational instructions. Use of pyrolytically coated graphite tubes is recommended. For the source lamp, use a hollow cathode or electrodeless discharge cadmium lamp operated at the manufacturer's recommended rating for continuous operation.

6.7.2. Make the following initial instrument settings on the Perkin Elmer Model 5000 spectrophotometer:

Slit=Low
Slitwidth=0.2nm
Wavelength=228.8 nm
Mode=AA-BG/ABS
Signal=Cont
Integration Time=0.5 SEC
Range=UV

6.7.3. The settings for the graphite furnace parameters may vary according to the condition of the graphite tube and other factors. The recommended initial settings for the Perkin Elmer Model HGA-500 graphite furnace are given in Table II.

6.7.4. Turn on the strip chart recorder by setting the power switch to the SERVO position. Set the CHART SPEED to 20 mm/minute and the CHART RANGE to 10 mV.

6.7.5. Optimize the energy reading of the spectrophotometer at 228.8 nm by adjusting the lamp position according to the manufacturer's instructions. Minimize the ABSORBANCE reading by aligning the graphite furnace assembly in the light beam of the spectrophotometer according to the manufacturer's instructions.

6.7.6. Autozero the spectrophotometer and run the instrument until the baseline stops drifting.

6.7.7. Autozero the spectrophotometer once again and use the ZERO control on the chart recorder to set the pen to approximately 1 cm above the zero line on the paper.

6.7.8. Reset the MODE parameter on the spectrophotometer to PEAK HT/REC ABS or PEAK AREA/REC ABS and the INTEGRATION TIME to 6.0 SEC. Turn on the digital printer and date and label the printer paper.

6.7.9. Inject a 20 μL aliquot of the standard, sample or reagent blank solution to be analyzed into the graphite tube followed by a 10 μL overlay of the matrix modifier. Analyze the aliquot and record and label the peak height or peak area absorbance reading measured on the printer paper. Label the peak on the chart paper.

6.7.10. It is recommended that a high standard be analyzed two or three times to check for reproducibility and sensitivity before starting the analysis of a set of samples.

6.7.11. It is also recommended that the entire series of standards be analyzed at the beginning and end of the analysis of a set of samples to ensure that the standard readings are reproducible. Also, analyze a standard after every five or six samples to monitor the performance of the system.

6.7.12. Bracket the sample readings with standards during the analysis. If the absorbance reading of a sample is above the absorbance reading of the highest standard, dilute the sample with the diluting solution, reanalyze and use the appropriate dilution factor in the calculations.

6.7.13. Repeat the analysis of approximately 10 percent of the samples for a check of precision.

6.7.14. Record the final instrument settings on the chart paper output at the end of the analysis. Date and label the chart paper.

6.8. Calculations

6.8.1. Use a least squares regression program to plot a calibration curve of peak height or peak area absorbance reading versus the concentration (ng/mL) of cadmium in each standard.

6.8.2. Determine the concentration (ng/mL) of cadmium, C, corresponding to the peak height or peak area absorbance reading in each analyzed sample from the resulting calibration curve.

6.8.3. Calculate the total amount (ng) of cadmium, W, in each sample from the sample solution volume (mL):

$W = (C)(\text{sample vol, mL})(DF)$

Where: DF=Dilution Factor (use only if applicable)

6.8.4. Make a blank correction for each air sample by subtracting the total amount of cadmium in the corresponding blank sample from the total amount of cadmium in the sample.

6.8.5. Calculate the concentration of cadmium in an air sample in units of $\mu g/m^3$ or mg/m^3 by using one of the following equations:

$\mu g/m^3 = W_{bc}/(\text{Air vol sampled, L})$, or

$mg/m^3 = W_{bc}/[(\text{Air vol sampled, L})(1000\ ng/\mu g)]$

Where: W_{bc}=blank corrected total amount (ng) of cadmium in the sample.

7. References:

7.1. Slavin, W. *Graphite Furnace AAS—A Source Book;* Perkin-Elmer Corp., Spectroscopy Div.: Ridgefield, CT, 1984; p. 1 and pp. 83-90.

7.2. Grosser, Z., Ed.; *Techniques in Graphite Furnace Atomic Absorption Spectrophotometry;* Perkin-Elmer Corp., Spectroscopy Div.: Ridgefield, CT, 1985; p. 106.

7.3. *OSHA Analytical Methods Manual;* U.S. Department of Labor, Occupational Safety and Health Administration, OSHA Analytical Laboratory, Salt Lake City, UT; Am. Conf. of Governmental Ind. Hyg. (ACGIH): Cincinnati, OH, 1985; Method ID-121.

7.4. *OSHA Analytical Methods Manual;* U.S. Department of Labor, Occupational Safety and Health Administration, OSHA Analytical Laboratory, Salt Lake City, UT; Am. Conf. of Governmental Ind. Hyg. (ACGIH): Cincinnati, OH, 1985; Method ID-125.

7.5. Windholz, M., Ed.; *The Merck Index,* 10th ed.; Merck & Co.: Rahway, NJ, 1983.

7.6. *Backup Data Report for Cadmium (GF-AAS), Method ID-189GF,* Inorganic Division, OSHA Analytical Laboratory, Salt Lake City, UT, 1988.

7.7. *Analytical Methods for Atomic Absorption Spectrophotometry,* The Perkin-Elmer Corporation: Norwalk, CT, 1973.

7.8. *Cadmium in Workplace Atmospheres (Flame AAS), Method ID-189,* Inorganic Division, OSHA Analytical Laboratory, Salt Lake City, UT, 1988.

TABLE I.—CD STANDARD PREPARATION

Standard (ng/ml)	mL Stock	Stock solution (ng/mL)	Final vol (mL)
1.0	10	10	100
2.0	20	10	100
5.0	5	100	100
10.0	10	100	100
20.0	20	100	100
30.0	30	100	100
40.0	4	1000	100

TABLE II.—GRAPHITE FURNACE PARAMETERS

[Perkin Elmer Model HGA-500]

Step	Ramp time (sec)	Hold time (sec)	Temp (°C)	Argon flow (ml/min)	Record (sec)	Read (sec)	BOC (sec)
1	15	20	100	300			
2	15	45	500	300			
3	0	8	20	300			1
4	0	8	2100	250	−10	0	
5	0	20	20	300			
6	0	8	2500	300			

BOC=Background Offset Correction

Cadmium in Workplace Atmospheres (Flame AAS)

Method Number: ID–189.

Applicability: This method is applicable for TWA measurements at twice the target level of 1.0 $\mu g/m^3$ or greater (assuming a 200 L air volume) and should be used concurrently with Method ID–189F (7.6.) which is applicable for TWA PEL, Action Level TWA and EL measurements.

Matrix: Air.

OSHA Standards:

1 $\mu g/m^3$ (TWA PEL)
0.5 $\mu g/m^3$ (Action Level TWA)
5 $\mu g/m^3$ (EL)

Collection Procedure: A known volume of air is drawn through a 37-mm diameter filter cassette containing a 0.8-um mixed cellulose ester membrane filter (MCEF).

Recommended Air Volume: 200 L to 960 L.

Recommended Sampling Rate: 2.0 L/min.

Analytical Procedure: Air filter samples are wet-ashed with nitric acid. After digestion, a small amount of hydrochloric acid is added. The samples are then diluted to volume with dionized water and analyzed by atomic absorption spectroscopy with an oxidizing air/acetylene flame.

Validation Range: 5.0 $\mu g/m^3$ to 20.0 $\mu g/m^3$ for a 200 L air volume.

Quantitative Detection Limit: 1 $\mu g/m^3$ for a 200 L air sample.

Precision: (CV_1)=0.010.

Method Classification: Validated.

Cadmium in Workplace Atmospheres (Flame AAS)

1. Introduction

1.1. Scope. This method describes the collection of airborne elemental cadmium and cadmium compounds on 0.8-um mixed cellulose ester membrane filters and their subsequent analysis by flame atomic absorption spectroscopy. It is applicable for TWA measurements at twice the target level of 1 $\mu g/m^3$ or greater and should be used concurrently with Method ID–189GF (7.6.) which is applicable for TWA PEL, Action Level TWA and EL measurements. It is also applicable for the collection and analysis of cadmium wipe and bulk material samples. The analytical method does not differentiate between cadmium fume and cadmium dust. It also does not differentiate between elemental cadmium and its compounds.

1.2. Principle. Airborne elemental cadmium and cadmium compounds are collected on a 0.8-um mixed cellulose ester membrane filter (MCEF). The air filter samples are wet-ashed with concentrated nitric acid to destroy the organic matrix and dissolve the cadmium analytes. A small amount of concentrated hydrochloric acid is added to help dissolve other metals which may be present. The samples are diluted with deionized water and then aspirated into the oxidizing air/acetylene flame of an atomic absorption spectrophotometer for analysis of elemental cadmium.

1.3. History: Previously, two OSHA sampling and analytical procedures for cadmium were used concurrently (7.1., 7.2.). Both of these procedures also rquired 0.8-um mixed cellulose ester membrane filters for the collection of air samples. These cadmium air filter samples were analyzed by either flame atomic absorption spectroscopy (AAS) (7.1.) or inductively coupled plasma/atomic emission spectroscopy (ICP (7.2.). The new flame AAS method for the analysis of cadmium is similar to the old procedure given in the General Metals Method ID–121 (7.1.) with some modifications.

1.4. Properties (7.3.): Elemental cadmium is a silver-white, blue-tinged, lustrous metal which is easily cut with a knife. It is slowly oxidized by moist air to form cadmium oxide. It is insoluble in water, but reacts readily with dilute nitric acid. Some of the physical properties and other descriptive information of elemental cadmium are given below:

CAS No.: 7440–43–9
Atomic Number: 48
Atomic Symbol: Cd
Atomic Weight: 112.41
Melting Point: 321 °C
Boiling Point: 765 °C
Density: 8.65 g/mL (25 °C)

The properties of specific cadmium compounds are described in reference 7.3.

2. Detection Limit (7.4.)

2.1. The qualitative detection limit for the analytical procedure is 0.05 μg cadmium for a 10 mL solution volume. This corresponds to 0.25 $\mu g/m^3$ for a 200 L air volume.

2.2. The quantitative detection limit for the analytical procedure is 0.2 μg cadmium for a 10 mL solution volume. This corresponds to 1 $\mu g/m^3$ for a 200 L air volume.

3. Precision and Accuracy

The average recovery of seventeen spiked MCEF samples containing cadmium in the range of 5 to 20 times the TWA target concentration of 1 $\mu g/m^3$ (assuming a 200 L air volume) was 104.0 percent with a pooled coefficient of variation (CV_1) of 0.010 (7.4.).

4. Interferences

There are no known interferences in either sampling or analysis (7.5.).

5. Sampling

5.1. Apparatus

5.1.1. Filter cassette unit for air sampling: A 37-mm diameter mixed cellulose ester membrane filter (Millipore type AA or equivalent with a pore size of 0.8 μm) contained in a 37-mm polystyrene two- or three-piece cassette filter holder. The filter is supported with a cellulose backup pad. The cassette is sealed with a shrinkable gel band.

5.1.2. A calibrated personal sampling pump whose flow is determined to an accuracy of ±5 percent at the recommended flow rate with the filter cassette unit in line.

5.2. Procedure

5.2.1. Sample with the air filter cassettes for elemental cadmium and its compounds in accordance with current instructions in OSHA directives to the industrial hygienist.

5.2.2. Collect air samples at a flow rate of 2.0 L/min. A full-shift (at least seven hours) sample is recommended with a maximum air volume of 960 L, if the filter does not become overloaded. The minimum suggested air volume is 200 L.

5.2.3. Replace the end plugs into the filter cassettes immediately after air sampling.

5.2.4. Securely wrap each sample filter cassette end-to-end with an OSHA Form 21 sample seal.

5.2.5. Submit at least one blank sample with each set of air samples. The blank sample should be handled the same as the other samples except that no air is drawn through it.

5.2.6. Ship the samples to the laboratory for analysis in a suitable container designed to prevent damage in transit.

6. Analytical Procedure

6.1. Apparatus

6.1.1. Atomic absorption spectrophotometer (Perkin Elmer Model 5000 or its equivalent) equipped with a nebulizer and a four inch (one slot) burner head for use with an air-acetylene flame.

6.1.2. Oxidant: compressed air which has been filtered to remove water, oil and other foreign substances.

6.1.3. Fuel: standard commercially available tanks of acetylene dissolved in acetone; tanks should be equipped with flash arresters. CAUTION: Do not use grades of acetylene available from certain suppliers that contain solvents other than acetone which may damage the PVC tubing used in some instruments.

6.1.4. Pressure-reducing valves: two gauge, two-stage pressure regulators to maintain fuel and oxidant pressures somewhat higher than the controlled operating pressures of the instrument.

6.1.5. Cadmium hollow cathode lamp.

6.1.6. Hot plate, capable of reaching 150 °C.

6.1.7. 125 mL Phillips beakers.

6.1.8. Bottles, 500-mL, narrow-mouth, polyethylene or glass with leakproof caps: used for storage of standards.

6.1.9. Volumetric flasks, volumetric pipets, beakers and other associated general laboratory glassware.

6.1.10. Forceps.

6.2. Reagents

All reagents should be ACS analytical reagent grade or better.

6.2.1. Deionized water with a resistivity of at least 200k ohms.

6.2.2. Concentrated nitric acid, HNO_3.

6.2.3. Concentrated hydrochloric acid, HC1.

6.2.4. Diluting solution (4 percent HNO_3, 0.4 percent HC1): Add 40 mL HNO_3 and 4 mL HC1 carefully to approximately 500 mL deionized water and then dilute to 1000 mL with deionized water.

6.2.5. 1000 $\mu g/mL$ cadmium standard stock solution: Use a commercially available certified 1000 $\mu g/mL$ cadmium standard or, alternatively, dissolve 1.0000 g of cadmium metal in a minimum volume of 1:1 HC1 and dilute to 1 L with 4 percent HNO_3.

6.3. Safety Precautions

6.3.1. Wear safety glasses and gloves at all times.

Federal Register

Tuesday
February 6, 1990

Part III

Department of Labor

Office of the Secretary

Women's Bureau; Announcement of Expected Timetable for Issuing SGAs and RFPs in Fiscal Year 1990 and for Making Grant and Contract Awards; Notice

DEPARTMENT OF LABOR

Office of the Secretary

Women's Bureau; Announcement of Expected Timetable for Issuing SGAs and RFPs in Fiscal Year 1990 and for Making Grant and Contract Awards

AGENCY: Office of the Secretary, Women's Bureau, Labor.

ACTION: Notice.

SUMMARY: The Women's Bureau, National Office (Washington, DC), announces an expected timetable for issuing Solicitations for Grant Applications (SGAs) and Requests for Proposals (RFPs) to implement its Fiscal Year (FY) 1990 procurement program. Information is also provided on the expected schedule for making grant and contract awards. This notice is intended to assist prospective Offerors in scheduling the preparation of their proposals and to provide an indication of the approximate start date (*i.e.*, the date of grant or contract award) for the projects to which the SGAs and RFPs refer. It is anticipated that approximately $245,000 will be awarded through these solicitations in FY 1990.

FOR FURTHER INFORMATION CONTACT: Ms. Dora E. Carrington, Chief, Office of Administrative Management, U.S. Department of Labor, Office of the Secretary, Women's Bureau, 200 Constitution Avenue NW., Room S-3305, Washington, DC 20210; telephone number: (202) 523-6606.

SUPPLEMENTARY INFORMATION:

I. Background

The Women's Bureau, National Office, research, demonstration program and technical assistance plan for FY 1990, published in the January 16, 1990, issue of the **Federal Register**, set out the subject areas within which the National Office procurement program would be developed in FY 1990 and provided a general description of the specific projects that may be the subject of SGAs and RFPs issued in FY 1990. This notice provides information on the expected timetable for issuing those solicitations and for making grant and contract awards.

Plans for an annual competition for grant applications sponsored by the Women's Bureau, National Office, were also announced in the January 16, 1990, issue of the **Federal Register**. The expected timetable for issuing the SGA for the annual grant competition will be announced in a **Federal Register** notice planned to be issued in the coming weeks. That notice will provide detailed information on applying for assistance through the annual grant competition.

II. Expected Timetable for Issuing Solicitations and Making Grant and Contract Awards

The timetable for issuing SGAs and RFPs for all projects included in the research, demonstration program and technical assistance plan published in the January 16, 1990, issue of the **Federal Register** is as follows:

Late February 1990	Availability of SGAs and RFPs announced in the *Commerce Business Daily* and/or the **Federal Register**.
Late March 1990	SGAs and RFPs mailed to individuals and organizations who have requested copies of the solicitations in writing.
Late April to early May 1990.	Offerors' proposals due in the Office of Procurement Services, U.S. Department of Labor, Washington, DC
Early June 1990	Evaluation of proposals completed.
Late June 1990	Negotiations conducted for final offers.
Mid-July 1990	Notice of action taken on proposals issued to Offerors.
Late August 1990	Awards made and start of project work authorized.

The above timetable is approximate and is subject to change. Individuals and organizations in responding to the solicitations referred to in this notice should obtain copies of the relevant SGA(s) or RFP(s) when issued. Those SGAs and RFPs will indicate the final timetable for the steps in the procurement process that result in the award of a grant or contract.

Signed at Washington, DC, this 30th day of January 1990.

Debra R. Bowland,

Acting Director, Women's Bureau.

[FR Doc. 90-2534 Filed 2-5-90; 8:45 am]

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federal register

Tuesday
February 6, 1990

Part IV

Department of the Interior

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for Lesquerella Congesta (Dudley Bluffs Bladderpod) and Physaria Obcordata (Dudley Bluffs Twinpod and the Plant Calyptronoma rivalis; Rules

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AB38

Endangered and Threatened Wildlife and Plants; Final Rule To Determine Lesquerella Congesta (Dudley Bluffs Bladderpod) and Physaria Obcordata (Dudley Bluffs Twinpod) To Be Threatened Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The U.S. Fish and Wildlife Service determines two plants, *Lesquerella congesta* (Dudley Bluffs bladderpod) and *Physaria obcordata* (Dudley Bluffs twinpod) from Rio Blanco County, Colorado, to be threatened species under the authority of the Endangered Species Act of 1973, as amended. Both members of the mustard family, these species have been found only in or on the outer edge of the Piceance Basin in Colorado. Both species grow on oil shale outcrops. These species are known from five major populations each, two of which occur together. Most sites are on public land administered by the Bureau of Land Management, with the remainder located on private land or Colorado Division of Wildlife land. Within the Piceance Basin, the two plants occur in the multimineral oil shale zone, an area containing rich deposits of oil shale and sodium minerals (nahcolite and dawsonite). If project designs for development of these deposits do not include plans for conservation of these two mustards, both species could be significantly impacted. The determination that *Lesquerella congesta* and *Physaria obcordata* are threatened species will provide them protection under the authority of the Endangered Species Act of 1973, as amended.

EFFECTIVE DATE: March 8, 1990.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Colorado State Supervisor's Office, Fish and Wildlife Enhancement, 730 Simms Street, Room 290, Golden, Colorado 80401, and at the Western Colorado Fish and Wildlife Enhancement Office, 529 25½ Road, Suite B-113, Grand Junction, Colorado 81505.

FOR FURTHER INFORMATION CONTACT: Mr. John Anderson, botanist, Fish and Wildlife Enhancement, at the Grand Junction address above, (303) 243-2778 or FTS 322-0351.

SUPPLEMENTARY INFORMATION:

Background

Two new species of wild mustards, *Lesquerella congesta* (Dudley Bluffs bladderpod) and *Physaria obcordata* (Dudley Bluffs twinpod), were discovered in 1982 during a floristic inventory of the Piceance Basin conducted by the Colorado Natural Heritage Inventory for the Bureau of Land Management (Bureau)(Colorado Natural Areas Program 1987). An earlier collection of *L. congesta*, unrecognized as such, was made in 1959. They were subsequently described by Dr. Reed Rollins, an expert on the mustard family, who visited the Piceance Basin and observed them at Dudley Bluffs in 1983 (Rollins 1983, Rollins 1984). With the exception of the recently described *Penstemon debilis* (O'Kane and Anderson 1987), these two herbaceous perennials are the rarest of several oil shale plant species in the Piceance Basin.

L. congesta is an extremely small cushion plant only 1–3 centimeters (0.4–1.2 inches) in diameter with fruiting stems up to 1.5 centimeters (0.6 inches) tall. The cushion growth habit is an adaptation to erosive badland soils, which has evolved independently in several unrelated taxa in this area. *L. congesta* has small, linear, entire, silvery leaves 8–13 millimeters (0.3–0.5 inches) long, bright yellow flowers, and rounded, pubescent fruits 2.5–3.5 millimeters (0.10–0.14 inches) wide.

P. obcordata is 12–18 centimeters (4.8–7.2 inches) tall with oblanceolate, entire leaves 1.0–1.5 centimeters (0.4–0.6 inches) wide and 4.0–8.0 centimeters (1.6–3.8 inches) long, with a silvery sheen due to a dense covering of overlapping, dish-shaped trichomes. It has yellow flowers, 7–9 millimeters (0.3–0.4 inches) long, and slightly inflated, heart-shaped (obcordate) fruits.

These two rare mustards grow on barren white outcrops exposed along drainages through erosion from downcutting of streams in the Piceance Basin. Each species, however, has a slightly different microenvironment. While the twinpod grows on steep sideslopes, the bladderpod grows above it on level surfaces at the points of ridges; the bladderpod also occurs by itself where narrow outcrops of level white shale are exposed. Because more sideslope habitat is available (for instance, there is no ridgepoint habitat at Calamity Ridge), the bladderpod is the rarer of the two species.

The strata exposed in the Piceance Basin are derived from the Eocene Green River and Uinta Formations (Cashion and Donnell 1974). The rich, oil-shale-bearing Green River Formation formed as a lacustrine deposit in Lake Uinta, forming fine-textured shale. Later, Lake Uinta filled with sand and silt deposits, which formed the coarser-grained overlying Uinta Formation. Thus, the surface of the Piceance Basin is filled with the Uinta Formation above and the thick shale beds of the Parachute Creek member of the Green River Formation below. The shale rims of the Piceance Basin, such as Calamity Ridge, are formed from upturned strata of the Green River Formation.

At the interface of the two formations, in the middle of the Piceance Basin, the lakebed Green River Formation shale intertongues with the deltaic and fluvial sandstones and siltstones of the Uinta Formation. For instance, at Dudley Bluffs, the type locality of the two species, the ridge and hillside supporting the bladderpod and twinpod is formed by strata of Unit 5 of the Uinta Formation on the top and Unit 4 at the base, with the Thirteen Mile Creek Tongue of the Green River Formation on the midslope where the twinpods grow. The bladderpod only occurs at or near the end of the ridge where erosion has removed the overlying Unit 5 from the point as the ridge recedes. Along Yellow Creek, the Dudley Bluffs bladderpod and twinpod grow primarily on other narrow tongues of white shale within the Uinta Formation, whereas at Calamity Ridge the twinpod grows on outcrops of the Parachute Creek Member of the Green River Formation. Elevational ranges for these species are 1,860–2,010 meters (6,140–6,644 feet) for *L. congesta* and 1,806–2,255 meters (5,960–7,440 feet) for *P. obcordata*. The surrounding hills and mesas support pinyon-juniper woodlands.

In 1986, the Colorado Natural Areas Program followed up on the 1982 inventory by conducting field work on *P. obcordata* to determine its rarity and range (Colorado Natural Areas Program 1987). Sites of *L. congesta* were delineated at the same time. During this survey, populations of both species were found for the first time along Yellow Creek, the next drainage west of Piceance Creek and about 5 miles away. The largest known populations of both species, approximately 10,000 individuals each, were discovered growing together at the junction of Piceance Creek and Ryan Gulch, 2 miles north of Dudley Bluffs. Between the 1982 inventory and the 1986 survey, all major drainages in the Piceance Basin were surveyed. Both species were found only along Piceance and Yellow Creeks, and

the twinpod at Calamity Ridge. During the 1988 field season, the author visited all the wild mustard sites and more precisely delineated their geological habitat.

L. congesta has five populations on approximately 50 total acres over a range of 10 miles. *P. obcordata*, which occurs on outcrops further upstream on Piceance Creek and downstream on Yellow Creek, has a range of 15 miles, plus the two populations on Calamity Ridge, for a total of five major populations on approximately 250 acres. However, the Dudley Bluffs and Ryan Gulch sites, which are only 2 miles apart, contain most members of the species.

The Dudley Bluffs bladderpod and twinpod occur mostly on land administered by the Bureau, with the exception of portions of the Dudley Bluffs site on private land (containing twinpod) and a portion of the Yellow Creek sites on Colorado Division of Wildlife land (containing bladderpod). The Bureau has designated the Federal portions of the Dudley Bluffs site and one of the Calamity Ridge sites as Areas of Critical Environmental Concern (Bureau of Land Management 1987a).

L. congesta and *P. obcordata* grow on tongues of white Green River shale within the overlying Uinta Formation, which is considered overburden to the thick underlying oil shale deposits. Except for the Calamity Ridge sites, all the occurrences are within the multimineral oil shale area. Beneath the overburden of the surface Uinta Formation, this area at the center of the Piceance Basin contains thick, rich sections of oil shale in the mahogany zone and the sodium minerals nahcolite (sodium bicarbonate) and dawsonite (a potential source of alumina) in the underlying saline zone. *L. congesta* and *P. obcordata* are vulnerable to impacts resulting from future development and extraction of these oil shale minerals and associated activities.

Federal action involving these species began on September 27, 1985, when the Fish and Wildlife Service (Service) published a notice of review in the **Federal Register** (45 FR 39526) covering plants being considered for classification as endangered or threatened. *L. congesta* and *P. obcordata* were included in this notice as Category 2 species. Unfortunately, *L. congesta* was erroneously listed as *L. condensata*, a common species. Category 2 comprises taxa for which information now in possession of the Service indicates that proposing to list them as endangered or threatened species is possibly appropriate, but for which substantial data on biological vulnerability and threats are not currently known or on file. The present proposal is based on more current biological data from the Colorado Natural Areas Program (1987).

Section 4(b)(3)(B) of the Endangered Species Act (Act) (16 U.S.C. 1531 *et seq.*), as amended in 1982, requires the Secretary of the Interior to make findings on certain petitions within 1 year of their receipt. All taxa contained in the 1985 notice, including *L. congesta* and *P. obcordata*, were treated as being petitioned on October 11, 1985. In October 1986, October 1987, and October 1988, the Service made the 12-month finding that the petition to list *L. congesta* and *P. obcordata* was warranted, but precluded by other listing actions of higher priority. The Service published a proposed rule to list *L. congesta* and *P. obcordata* as threatened species on January 24, 1989 (54 FR 3499), constituting the next 12-month finding that would have been required on or before October 7, 1989.

Summary of Comments and Recommendations

In the January 24, 1989, proposed rule (54 FR 3499) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State and Federal agencies, county governments, scientific organizations, and other interested parties were contacted and requested to comment. A public hearing was requested by the Rio Blanco County Board of Commissioners (County) and by the Associated Governments of Northwest Colorado on March 9, 1989. On March 28, 1989, the Service published a notice (54 FR 12663) extending the initial comment period to April 26, 1989, to accommodate the requested public hearing which was held on April 13, 1989, in Meeker, Colorado. Newspaper notices announcing the public hearing and the extension of the comment period were published in the Meeker Herald on April 6 and 13, 1989, and in the Rocky Mountain News on April 6 and 7, 1989. At the hearing, a Service botanist read a prepared statement and showed slides of the plants and their habitat. Individuals in the audience were then given the opportunity to present their oral comments. Following the comments there was a question and answer period. Two dozen people attended the public hearing and six presented oral comments. Nine written comments also were received in response to the proposed rule. The State Natural Areas Programs both commented at the public hearing and sent in a separate written comment. Thus, there were 14 comments overall.

Six comments in support were received, including the State, conservation groups, a botany professor, and other interested individuals: six comments in opposition were received from a local (county) government, oil shale and nahcolite companies, and a consulting geologist; and two comments were neutral. Written and oral comments presented at the public hearing and received during the public comment period are covered in the following summary. Comments of similar content are grouped into a number of general issues. These issues and the Service's response to each are discussed below.

Issue 1: Oil shale and nahcolite companies questioned the observed rarity of the species. In their view, there was a possibility that the plants might be more common than currently known and, therefore, not qualify for threatened or endangered status. Their rationale was as follows:

First, there are large areas of oil shale outcrops outside the Piceance Basin in Colorado, Utah, and Wyoming that may contain the two wild mustards.

Second, the adequacy of knowledge of their range and, hence, rarity was questioned based upon an inadequate knowledge of their geologic habitat; therefore, they could occur elsewhere in other habitats.

Third, the adequacy of inventory for these species was questioned based on the amount of time spent and the large areas of the Piceance Basin to be covered.

Response: Based on the extensive evidence gathered to date, it is unlikely that these particular species of wild mustards will be found outside the Piceance Basin.

First, evolution in these genera is characterized by local endemism. Rugged topography and varied geologic substrates led to population isolation which, in turn, resulted in the evolution of localized species with restricted distribution, rather than several ecotypes of one common species. For example, other new species of twinpod have been described recently in Wyoming. Herbarium records for these genera in Utah and Wyoming were checked at regional herbaria and no specimens and, hence, no new locations were discovered.

Second, since the proposed rule was developed, additional field work was conducted to more precisely characterize their geological habitat. This new data has been incorporated into the final rule. The two wild

mustards were found to have very specific, but slightly different, microhabitats within or adjacent to the Piceance Basin, as explained in the "Background" section. Most populations are contained within the center of the Piceance Basin where the Green River and Uinta Formations intertongue. The Calamity Ridge twinpod population, though not technically within the Basin, lies on the outer rim of the Piceance Basin.

Third, inventories for rare plants are stratified based on their specific potential habitat, i.e., areas considered likely to be potential habitat are thoroughly searched. This approach maximizes the probability of discovering new populations. Therefore, an inventory of the entire Piceance Basin was not necessary, only that portion characterized as potential habitat. Once the initial 1982 inventory was completed and results analyzed, those species determined to be the rarest, such as these wild mustards, were then made the specific subject of an inventory that was the basis for the 1987 status report. After both inventories, these wild mustards were still found to be rare species. Given the degree of search effort already expended, were new populations to be found in the future, it is unlikely that they would significantly alter overall population estimates or the conclusion that these are rare species capable of becoming extinct in the foreseeable future if protective measures are not undertaken.

Issue 2: The oil shale companies stated that there are no current threats to these species because there is no current oil shale mining occurring in the Piceance Basin.

Response: The proposed rule to list these species as threatened recognized planned oil shale development as being large scale, but not imminent. Because this development could potentially endanger these plants which were not protected under State or Federal law, the plants fit the definition of threatened species under the Act, i.e., species likely to become endangered within the foreseeable future throughout all or a significant portion of their range. It should be noted that new Federal subsidies for oil shale development have been proposed by Congressional committees for fiscal year 1990.

Issue 3: The oil shale companies stated that designating Areas of Environmental Concern for the plants on Bureau of Land Management Land while further inventories are being conducted would provide adequate protection.

Response: Although most of the wild mustard sites are located on Bureau land, the designation of these areas as Areas of Critical Environmental Concern would still allow for multiple use without the degree of protection afforded a species designated as threatened under the Act. Management of these multiple uses, particularly those that might conflict with the protection of these rare plants, would require more vigilant management by the Bureau. For example, in the Yanks Gulch Area of Critical Environmental Concern containing the twinpod, significant impacts from livestock trampling were observed in 1988 by the author on the hillside where the twinpod occurs. Listing the species as threatened under the Act would provide greater protection through its requirement for section 7 interagency consultation, section 9 prohibitions against take, and recovery actions.

Issue 4: The oil shale companies stated that, since the plants are locally common (as stated in the proposed rule), the populations are healthy and there are no threats to them.

Response: Many rare plant species are characterized by locally abundant populations restricted to small areas of specialized habitat. The threat to plants with this pattern of rarity is the vulnerability of their small acreage, which could easily be impacted significantly by surface disturbance from many different causes.

Issue 5: One oil shale company expressed a concern about future recovery actions possibly affecting their operations (tract "C–A" on Bureau land).

Response: The Service has no plans at this time for recovery actions on the "C–A" oil shale tract. No populations occur on this tract, thus recovery activities will be carried out elsewhere.

Issue 6: The County stated that there was inadequate data in the status report on population ecology on which to base a listing.

Response: The standardized New York Botanical Garden format (Henifin et al. 1981) which was used for the status report differentiates between minimally necessary information and other additional data. Under that model, population ecology is considered additional, but not necessary, data. Adequate data has been collected on all necessary categories and the Service believes this data supports listing as threatened. One of the results of species listing tends to be collection of additional data, such as population ecology, in order to better understand the species and the limiting factors causing its rarity.

Issue 7: The County stated that scientific collecting of the plants in small populations could have more of an effect than development activities.

Response: As stated in the proposed rule, the Service does not know of any over-collection for scientific purposes. Fortunately, most populations are locally abundant and over-collecting has not yet posed a threat. Listing of the species will initiate the permit process that regulates the degree of collecting.

Issue 8: The County stated that they did not agree with a statement in the status report that livestock grazing could be a threat. This belief was echoed by another attendee at the public hearing.

Response: The status report refers to the threat of grazing as a possibility, not a fact, and the proposed rule does not even refer to grazing as a threat. On the other hand, as mentioned earlier, significant impacts from livestock trampling were observed to occur on the hillside where the twinpod occurs in the Yanks Gulch Area of Critical Environmental Concern.

Issue 9: The County raised the point that surface disturbance may actually favor *P. obcordata* by reducing competition from other plants.

Response: P. obcordata has been observed to colonize small disturbed areas, such as road cuts, below communities where it is already found. However, were large-scale surface mining of oil shale to occur, widespread habitat destruction would occur, and natural recolonization of very large disturbed areas would be unlikely without a nearby seed source.

Issue 10: One attendee at the public hearing offered to show the Service other *Lesquerella* sites.

Response: The Service contacted this commenter after the hearing. The commenter stated he would be visiting the area where he thought he saw the species, and would bring specimens back if he found any. As of this writing, the Service has not received further word on this subject from the commenter.

Issue 11: Two attendees at the public hearing wished to know whether it would be possible to transplant or revegetate these species to minimize the probability of conflict with development activities.

Response: As yet, no research has been conducted with these species to determine whether transplantation or revegetation could be used as techniques to minimize conflict. Were development contemplated in the Piceance Basin in the near future, several years of lead time would be

required to evaluate the efficacy of these techniques, *e.g.*, evaluating survivorship within transplanted or revegetated areas. It has been noted, however, that other species of *Physaria* are relatively easy to propagate from seed.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Lesquerella congesta* and *Physaria obcordata* should be classified as threatened species. Procedures found at section 4(a)(1) of the Endangered Species Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Lesquerella congesta* Rollins (Dudley Bluffs bladderpod) and *Physaria obcordata* Rollins (Dudley Bluffs twinpod) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Portions of the multimineral oil shale area, including Dudley Bluffs, Ryan Gulch, and Yellow Creek, overlay oil shale deposits that are potentially recoverable by open-pit mining (Bureau of Land Management 1984). The rest of the area is suitable for underground mining of oil shale. A pilot project for a nahcolite solution mine has been constructed on Bar D Mesa between Piceance Creek, Yellow Creek, Ryan Gulch, and a 125,000 tons per year commercial mine, including evaporation ponds and a pipeline, has been proposed which would cover 254 acres (Bureau of Land Management 1986, Bureau of Land Management 1987b). Currently, the Bureau is reserving the multimineral area from commercial leasing until improved multimineral recovery technology is developed. However, leases for noncommercial research tracts not exceeding 2,000 acres will still be considered. Because of the massive scale of potential development in the limited area in which *L. congesta* and *P. obcordata* occur, a significant portion of the habitat of these two wild mustards would be destroyed and/or modified and their range possibly curtailed if development occurs. Up to 100 and 72 percent of the acreages on which *L. congesta* and *P. obcordata* occur, respectively, could be developed. There is already a designated linear utility corridor for pipelines, transmission lines, and roads along Ryan Gulch (Bureau of Land Management 1987a), and potential corridors exist along Dudley Gulch, Piceance Creek, and Yellow Creeks (Bureau of Land Management 1984). One of the Calamity Ridge sites has been bisected by a road (Colorado Natural Areas Program 1987).

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* No such detrimental uses of these plants are known.

C. *Disease or predation.* No threats are known from disease or predation.

D. *The inadequacy of existing regulatory mechanisms.* There were no Federal or State laws protecting *L. congesta* and *P. obcordata* on Federal, State, or private lands prior to this listing. The Bureau's designation of one area each at Dudley Bluffs and Calamity Ridge as Areas of Critical Environmental Concern has provided and continues to provide for priority management of *L. congesta* and *P. obcordata* at these sites. However, these areas only protect about 20 percent of these species' limited habitat (about 50 acres for *L. congesta* and 250 acres for *P. obcordata*). The Act would provide additional protection and encourage active management through the "Available Conservation Measures" discussed below.

E. *Other natural or man-made factors affecting its continued existence.* These species' pattern of rarity, being locally abundant on small areas of specialized habitat, makes them particularly vulnerable to surface disturbances despite their high densities.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these species in determining to make this rule final. Based on this evaluation, the preferred action is to list *Lesquerella congesta* and *Physaria obcordata* as threatened. These species are restricted endemics with threats from potential oil shale development which could cause the two species to become endangered within the foreseeable future throughout all or a significant portion of their range; thus, they are threatened species as defined by the Act. Were large-scale oil shale development in the Piceance Basin imminent, these species would have been considered for endangered status. The Bureau has designated two areas containing these species as Areas of Critical Environmental Concern, which will provide for priority management (although impacts may still occur as noted above in "Comments" section), but neither species was protected by any State or Federal legislation prior to this listing. For reasons given below, it is not considered prudent to propose designation of critical habitat.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary designate any habitat of a species which is considered to be critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not presently prudent for *L. congesta* and *P. obcordata*. The designation of critical habitat is not considered prudent when such designation would not be of net benefit to the species. No benefit to these species can be identified from critical habitat designation that would outweigh the potential threat of vandalism or collection, which might increase if detailed habitat maps were published. The major populations of these species are accessible by major roads and their high densities on small acreages make them vulnerable to vandalism or collection.

Few, if any, additional benefits would be provided to these species by the critical habitat designation that would not already be provided by listing these species as threatened, particularly as the majority of the populations are located on lands under Federal jurisdiction. Any Federal action that would impact these plants' habitat would affect the plants as rooted organisms and, consequently, would be addressed through consultation under section 7 consultation. Moreover, section 9(a)(2)(B) of the Act, as implemented by 50 CFR 17.61 and 17.71, makes it unlawful to remove and reduce to possession any listed species of plant from areas under Federal jurisdiction. The Bureau is aware of the occurrences on their land and of its obligation under section 7 of the Act. Additional protection was extended by the 1988 amendments to the Act, which prohibited the malicious damage or destruction of listed plants on Federal lands, and the removal, cutting, digging up, or damaging or destroying of these plants on areas not under Federal jurisdiction in knowing violation of any State law or regulation, including State criminal trespass law. All involved parties and landowners have been or will be notified of the location and importance of protecting these species' habitat, and such protection will be addressed through the recovery process.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered

Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat if any is being designated. 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 such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

L. congesta and *P. obcordata* occur largely on Federal land administered by the Bureau. The Bureau's involvement could include section 7 consultation on multimineral development and land exchanges with energy companies to bring the privately owned sites into Federal ownership and protection. On both Federal and private land, the Service expects that listing would elevate the awareness of these plants' status and foster efforts aimed toward their conservation.

The Act and its implementing regulations found at 50 CFR 17.71 and 17.72 set forth a series of general trade prohibitions and exceptions that apply to all threatened plants. All trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.71, would apply. These prohibitions, in part, would make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of commercial activity, sell or offer for sale this species in interstate or foreign commerce, or to remove and reduce to possession the species from areas under Federal jurisdiction. Seeds from cultivated specimens of threatened plant species are exempt from these prohibitions provided that a statement of "cultivated origin" appears on their containers. In addition, for endangered plants, the 1988 amendments (Pub. L. 100–478) to the Act prohibit the malicious damage or destruction on Federal lands and the removal, cutting, digging up, or damaging or destroying of listed plants in knowing violation of any State law or regulation, including State criminal trespass law. Certain exceptions apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.72 also provide for the issuance of permits to carry out otherwise prohibited activities involving threatened species under certain circumstances. With regard to *L. congesta and P. obcordata*, it is anticipated that few, if any, trade permits would ever be sought or issued since these species are not common in cultivation or in the wild. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, P.O. Box 3507, Arlington, Virginia 22203 (703/358–2104).

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).

References Cited

Bureau of Land Management. 1984. Draft Piceance Basin resource management plan and environmental impact statement. U.S. Government Printing Office. Washington, DC. 270 pp.

Bureau of Land Management. 1986. Draft environmental impact statement, Wolf Ridge Corporation mine plan for a nahcolite solution mine. Meeker, Colorado. 149 pp.

Bureau of Land Management. 1987a. Piceance Basin resource management plan record of decision. U.S. Government Printing Office. Washington, DC. 57 pp.

Bureau of Land Management. 1987b. Final environmental impact statement, Wolf Ridge Corporation mine plan for a nahcolite solution mine. Meeker, Colorado. 97 pp.

Cashion, W.B., and J.R. Donnell. 1974. Revision of nomenclature of the upper part of the Green River Formation, Piceance Creek Basin, Colorado, and Eastern Uinta Basin, Utah. U.S. Geological Survey Bulletin 1394–G. 9 pp.

Colorado Natural Areas Program. 1987. Status report for *Physaria obcordata*. Denver, Colorado. 53 pp.

Henifin, M.S., L.E. Morse, J.L. Reveal, B. MacBryde, and J.I. Lawyer. 1981. Guidelines for the preparation of status reports on rare or endangered plant species. Pages 261–282 *in* L.E. Morse and M.S. Henifin, eds. Rare plant conservation: geographical data organization. The New York Botanical Garden, Bronx, New York.

O'Kane, S.L., and J.L. Anderson. 1987. *Penstemon debilis* (Scrophulariaceae): a new species from Colorado endemic to oil shale. Brittonia 39:412–416.

Rollins, R.C. 1983. Studies in the Cruciferae of western North America. Journal of the Arnold Arboretum 64:494–496.

Rollins, R.C. 1984. Studies in the Cruciferae of western North America II. Contributions from the Gray Herbarium 214:7–9.

Author

The primary author of this final rule is John L. Anderson, botanist, U.S. Fish and Wildlife Service, Grand Junction, Colorado (303/243–2778, FTS 322–0351; see **ADDRESSES** above.)

List of Subjects in 50 CFR Part 17

Endangered and threatened species, 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: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1543; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. Amend § 17.12(h) by adding the following, in alphabetical order under the family Brassicaceae, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Brassicaceae—Mustard family						
* * *	* * *	* * *	*	*		
Lesquerella congesta	Dudley Bluffs bladderpod	U.S.A. (CO)	T	373	NA	NA
* * *	* * *	* * *	*	*		
Physaria obcordata	Dudley Bluffs twinpod	U.S.A. (CO)	T	373	NA	NA
* * *	* * *	* * *	*	*		

Dated: January 24, 1990.

Jay L. Gerst,

Acting Director, Fish and Wildlife Service.

[FR Doc. 90-2642 Filed 2-5-90; 845am]

BILLING CODE 4310-55-M

50 CFR Part 17

RIN 1018-AB31

Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Plant Calyptronoma rivalis

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines *Calyptronoma rivalis* (palma de manaca) to be a threatened species pursuant to the Endangered Species Act of 1973 (Act), as amended. *Calyptronoma rivalis* is a palm tree that is endemic to the island of Puerto Rico. The three remaining natural populations are restricted to the subtropical moist and subtropical wet limestone forests of the northwest part of the island. The species is threatened by erosion due to flash flooding, and by agricultural expansion, and rural development. Flash flooding has increased due to extensive deforestation in surrounding areas. This final rule for *Calyptronoma rivalis* will implement the Federal protection and recovery provisions afforded by the Act.

EFFECTIVE DATE: March 8, 1990.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Caribbean Field Office, U.S. Fish and Wildlife Service, P.O. Box 491, Boqueron, Puerto Rico 00622 and at the Service's Southeast Regional Office, Suite 1282, 75 Spring Street SW., Atlanta, Georgia 30303.

FOR FURTHER INFORMATION CONTACT: Ms. Susan Silander at the Caribbean Field Office address (809/851-7297) or Mr. Tom Turnipseed at the Atlanta Regional Office address (404/331-3583 or FTS 242-3583).

SUPPLEMENTARY INFORMATION:

Background

Calyptronoma rivalis was first collected in 1901 by L.M. Underwood and R.F. Grigg in San Sebastian of western Puerto Rico. In 1923, N. Britton and P. Wilson referred to this species as *Calyptrogyne occidentalis*; however, L.H. Bailey, in his 1938 monograph on the group, provided sufficient evidence to place the species in a separate genus *Calyptronoma*. Authorities on the palm family accept this opinion and view this palm as an endemic species. Until recently, the species was known only from the type locality, where 44 individuals occur. Additional populations were discovered along the Camuy River in 1981 and later along the Guajataca River, both in northwestern Puerto Rico (Vivaldi and Woodbury 1981, Natural Heritage Program 1989). About 220 individuals are presently known from these populations. In addition, seeds have been collected from mature specimens and a small number of seedlings cultivated from these have been introduced into the Puerto Rico Department of Natural Resource's Rio Abajo Commonwealth Forest and the nearbly Camp Guajataca of the Boy Scouts.

Calyptronoma rivalis is an arobrescent palm that may reach 30 to 40 feet (8 to 10 meters) in height and 6 to 10 inches (13 to 25 cm) in diameter. The spineless, pinnate leaves may reach up to 12 feet (3 meters) and have petioles and sheaths up to 2 feet long (.8 meter). The inflorescence is a drooping panicle about 3 feet (1 meter) long. The flowers are in triads of two males and one female and are borne on sunken pits. Fruits are only .24 inch (6 millimeters) in diameter and are subglobose and reddish when ripe. All fruits mature at approximately the same time and fall with the persistent flower parts still attached to the base.

Only three natural populations and two small, introduced populations are known: San Sebastián, Camuy River, Guajataca River, Camp Guajataca and the Rio Abajo Commonwealth Forest. All occur in the semievergreen seasonal forests of the karst region of northwestern Puerto Rico at elevations of 100 to 150 meters. All three natural populations are found in level or nearly level areas along stream banks. Deforestation in the surrounding areas has increased the threat of flash flooding and therefore the establishment of seedlings may be difficult. The construction of a road in the Camuy area resulted in the destruction of a large portion of that population.

Calyptronoma rivalis was recommended for Federal listing by the Smithsonian Institution (Ayensu and DeFilipps 1978). The species was included among the plants being considered as candidates for proposal to list as endangered or threatened species by the Fish and Wildlife Service in notices of review published in the **Federal Register** (45 FR 82480) dated December 15, 1980; the November 28, 1983, update (48 FR 53640) of the 1980 notice; and the September 27, 1985, revised notice (50 FR 39526). The species was designated category 1 (species for which the Service has substantial information supporting the appropriateness of proposing to list them as endangered or threatened) in each of these three notices.

In a notice published in the **Federal Register** on February 15, 1983 (48 FR 6752), the Service reported the earlier acceptance of the new taxa in the Smithsonian's 1978 book as under petition within the context of section 4(b)(3)(A) of the Act, as amended in 1982. The Service made subsequent petition findings in 1984 through 1988 that listing *Calyptronoma rivalis* was warranted but precluded by other pending listing actions of a higher priority, and that additional data on vulnerability and threats were still being gathered. The Service proposed listing *Calyptronoma rivalis* on February 7, 1989 (54 FR 5983), which constituted the final required petition finding in accordance with section 4(b)(3)(B)(ii) of the Act.

Summary of Comments and Recommendations

In the February 7, 1989, proposed rule and associated notifications, all interested parties were requested to submit factual reports of information that might contribute to the development

of a final rule. Appropriate agencies of the Commonwealth of Puerto Rico, Federal agencies, scentific organizations, and other interested parties were contacted and requested to comment. A newspaper notice inviting general public comment was published in the *San Juan Star* on February 18, 1989. Five letters of comment were received and are discussed below.

Comments were received from several offices with the Puerto Rico Department of Natural Resources. The Secretary of the agency and the Terrestrial Ecology Section supported the listing but had no additional information on the status of the species. Dr. George Proctor, Natural Resources Specialist, provided details on location and abundance in the Camuy River population. The Natural Heritage Program provided information on an additional population of 10 to 15 mature individuals located along the Guajataca River.

The U.S. Army Corps of Engineers did not have additional information on the plant but stated that the palma de manaca was considered a facultative wetland species.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Calyptronoma rivalis* should be classified as a threatened species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Calyptronoma rivalis* (O.F. Cook) L.H. Bailey (palma manaca) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Modification of the original semievergreen seasonal forest and conversion to agricultural and pasture land may have eliminated populations and reduced available habitat. Direct destruction of plants through deforestation and flash flooding and the continued modification of habitat appear to be the most serious threats to *Calyptronoma rivalis.* Road construction eliminated part of the Camuy River population. Fires in surrounding sugar cane fields have burned some individuals. Flash flooding, exacerbated by deforestation in surrounding areas, may cause erosion of stream banks, may reduce germination by washing away the seeds, and may result in poor establishment and survival of seedlings.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Taking for these purposes has not been a documented factor, but it could become a problem if information on the palm were to be widely publicized.

C. *Disease or predation.* Disease and predation have not been documented as factors in the decline of this species.

D. *The inadequacy of existing regulatory mechanisms.* The Commonwealth of Puerto Rico has adopted a regulation that recognizes and provides protection for certain Commonwealth listed species. Although the Puerto Rico Department of Natural Resources issued an internal directive in 1979 to try to protect this endemic palm, *Calyptronoma rivalis* is not yet on the Commonwealth list. Federal listing would assure protection and, if the species is ultimately placed on the Commonwealth list, enhance its protection and possibilities for funding needed research.

E. *Other natural or manmade factors affecting its continued existence.* All 3 natural populations, totalling perhaps 275 individuals, are known to inhabit areas that are susceptible to flash flooding. Although germination may occur readily, establishment of seedlings is often impossible due to the frequency of such occurrences. Additionally, cattle have been observed feeding on and trampling young seedlings.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this rule final. Based on this evaluation, the preferred action is to list *Calyptronoma rivalis* as threatened. Since the species appears to produce large quantities of viable seed, improvement in the species' status may only require mechanisms to protect it from the effects of deforestation in surrounding areas. In addition, introduction efforts in the Rio Abajo Forest appear to have been initially successful, although it is not yet known if the palms will reproduce and colonize the area naturally. Therefore, threatened rather than endangered seems an accurate assessment of the species' status. The reasons for not proposing critical habitat for this species are discussed below.

Critical Habitat

Section 4(a)(3) of the Act requires that to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for this species at this time. The number of individuals of *Calyptronoma rivalis* is sufficiently small that vandalism could seriously affect the survival of the species. Such an activity is difficult to control and is only regulated by the Act with respect to plants in cases of (1) removal and reduction to possession of endangered plants from lands under Federal jurisdiction, or malicious damage or destruction on such lands; and (2) removal, cutting, digging up, or damaging or destroying in knowing violation of any State law or regulation, including State criminal trespass law. Publication of critical habitat descriptions and maps in the **Federal Register** would increase the likelihood of such activities. The Service believes that Federal involvement in the areas where this plant occurs can be identified without the designation of critical habitat. All involved parties and landowners have been notified of the location and importance of protecting this species' habitat. Protection of this species' habitat will also be addressed through the recovery process and through the section 7 jeopardy standard. Therefore, it would not be prudent to determine critical habitat for *Calyptronoma rivalis* at this time.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, Commonwealth and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the Commonwealth and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. 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 a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. No critical habitat is being proposed for *Calyptronoma rivalis*, as discussed above. Federal involvement is not expected where the species is known to occur.

The Act and its implementing regulations found at 50 CFR 17.71 and 17.72 set forth a series of general trade prohibitions and exceptions that apply to all threatened plants. All trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.71, would apply. These prohibitions, in part make it illegal for any person subject to the jurisdiction of the United States to import or export any threatened plant, transport it in interstate or foreign commerce in the course of a commercial activity, sell or offer it for sale in interstate or foreign commerce, or to remove and reduce to possession the species from areas under Federal jurisdiction. Seeds from cultivated specimens of threatened plant species are exempt from these prohibitions provided that a statement of "cultivated origin" appears on their containers. In addition, for endangered plants, the 1988 amendments (Pub. L. 100–478) to the Act prohibit the malicious damage or destruction on Federal lands and the removal, cutting, digging up, or damaging or destroying of endangered plants in knowing violation of any State law or regulation, including State criminal trespass law. Equivalent protection for threatened plants is not reflected in the 1988 amendments. Certain exceptions apply to agents of the Service and State conservation agencies.

The Act and 50 CFR 17.72 also provide for the issuance of permits to carry out otherwise prohibited activities involving threatened species under certain circumstances. It is anticipated that few trade permits for *Calyptronoma rivalis* will ever be sought or issued since the species is not known to be in cultivation and is uncommon in the wild. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, P.O. Box 3507, Arlington, Virginia 22203 (703/358–2104).

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).

References Cited

Ayensu, E.S., and R.A. DeFilipps. 1978. Endangered and threatened plants of the United States. Smithsonian Institution and World Wildlife Fund, Washington, DC xv + 403 pp.

Bailey, L.H. 1938. Certain palms of the Greater Antilles. I. 7. *Calyptronoma rivalis*. Gentes Herbarum 4:153–177.

Vivaldi, J.L., and R.O. Woodbury. 1981. Status report on *Calyptronoma rivalis* (O.F. Cook) L.H. Bailey. Unpublished status report submitted to the Fish and Wildlife Service, Atlanta, Georgia. 35 pp.

Author

The primary author of this final rule is Ms. Susan Silander, Caribbean Field Office, U.S. Fish and Wildlife Service, P.O. Box 491, Boquerón, Puerto Rico 00622 (809/851–7297).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, 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: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1543; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500, unless otherwise noted.

2. Amend §§ 17.12(h) by adding the following, in alphabetical order, under Arecaceae to the list of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
*	*	*	*	*	*	
Arecaceae—Palm family:						
*	*	*	*	*	*	
Calyptronoma rivalis	Palma de manaca	U.S.A. (PR)	T	374	NA	NA
*	*	*	*		*	

Dated: January 23, 1990.

Constance B. Harriman,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 90–2643 Filed 2–5–90; 8:45 am]

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federal register

Tuesday
February 6, 1990

Part V

Environmental Protection Agency

Premanufacture Notices; Monthly Status Report for November 1989; Notice

ENVIRONMENTAL PROTECTION AGENCY

[OPTS-53125; FRL 3690-8]

Premanufacture Notices; Monthly Status Report for November 1989

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: Section 5(d)(3) of the Toxic Substance Control Act (TSCA) requires EPA to issue a list in the **Federal Register** each month reporting the premanufacture notices (PMNs) and exemption request pending before the Agency and the PMNs and exemption requests for which the review period has expired since publication of the last monthly summary. This is the report for November 1989.

Nonconfidential portions of the PMNs and exemption request may be seen in the Public Reading Room NE-G004 at the address below between 8:00 a.m. and 4:00 p.m., Monday through Friday, excluding legal holidays.

ADDRESSES: Written comments, identified with the document control number "(OPTS-53125)" and the specific PMN and exemption request number shound be sent to: Document Processing Center (TS-790), Office of Toxic Substances, Environmental Protection Agency, 401 M Street, SW., Room L-100, Washington, DC 20460 (202) 382-3532.

FOR FURTHER INFORMATION CONTACT: Michael M. Stahl, Director, Environmental Assistance Division (TS-799), Office of Toxic Substances, Environmental Protection Agency, Room EB-44, 401 M Street, SW., Washington, DC 20460 (202) 382-3725.

SUPPLEMENTARY INFORMATION: The monthly status report published in the **Federal Register** as required under section 5(d)(3) of TSCA (90 Stat. 2012 (15 U.S.C. 2504)), will identify: (a) PMNs received during November; (b) PMNs received previous and still under review at the end of November; (c) PMNs for which the notice review period has ended during November; (d) chemical substances for which EPA has received a notice of commencement to manufacture during November; and (e) PMNs for which the review period has been suspended. Therefore, the November 1989 PMN Status Report is being published.

Dated: January 11, 1990.

Steven Newburg-Rinn,

Acting Director, Information Management Division, Office of Toxic Substances.

Premanufacture Notice Monthly Status Report November 1989

I. 144 Premanufacture Notices and Exemption Requests Received During the Month

PMN No.

P 90-0088	P 90-0089	P 90-0090	P 90-0091
P 90-0092	P 90-0093	P 90-0094	P 90-0095
P 90-0097	P 90-0098	P 90-0099	P 90-0100
P 90-0101	P 90-0102	P 90-0103	P 90-0104
P 90-0105	P 90-0106	P 90-0107	P 90-0108
P 90-0109	P 90-0110	P 90-0111	P 90-0112
P 90-0113	P 90-0114	P 90-0115	P 90-0116
P 90-0117	P 90-0118	P 90-0119	P 90-0120
P 90-0121	P 90-0122	P 90-0123	P 90-0124
P 90-0125	P 90-0126	P 90-0127	P 90-0128
P 90-0129	P 90-0130	P 90-0131	P 90-0132
P 90-0133	P 90-0134	P 90-0135	P 90-0136
P 90-0137	P 90-0138	P 90-0139	P 90-0140
P 90-0141	P 90-0142	P 90-0143	P 90-0145
P 90-0146	P 90-0147	P 90-0148	P 90-0149
P 90-0150	P 90-0152	P 90-0153	P 90-0154
P 90-0155	P 90-0157	P 90-0158	P 90-0159
P 90-0160	P 90-0161	P 90-0162	P 90-0163
P 90-0164	P 90-0165	P 90-0166	P 90-0167
P 90-0168	P 90-0169	P 90-0170	P 90-0171
P 90-0172	P 90-0173	P 90-0174	P 90-0175
P 90-0176	P 90-0177	P 90-0178	P 90-0179
P 90-0180	P 90-0181	P 90-0182	P 90-0183
P 90-0184	P 90-0185	P 90-0186	P 90-0187
P 90-0188	P 90-0189	P 90-0190	P 90-0191
P 90-0192	P 90-0193	P 90-0194	P 90-0195
P 90-0196	P 90-0197	P 90-0198	P 90-0199
P 90-0200	P 90-0201	P 90-0202	P 90-0203
P 90-0204	P 90-0205	P 90-0206	P 90-0207
P 90-0208	P 90-0209	P 90-0210	P 90-0211
P 90-0212	P 90-0213	P 90-0214	Y 90-0015
Y 90-0017	Y 90-0018	Y 90-0019	Y 90-0020
Y 90-0021	Y 90-0022	Y 90-0023	Y 90-0024
Y 90-0025	Y 90-0026	Y 90-0027	Y 90-0028
Y 90-0029	Y 90-0030	Y 90-0031	Y 90-0032
Y 90-0033	Y 90-0034	Y 90-0035	Y 90-0036

II. 267 Premanufacture Notices Received Previously and Still Under Review at the End of the Month

PMN No.

P 84-1167	P 85-0216	P 85-0535	P 85-0536
P 85-0619	P 85-0718	P 85-0735	P 86-1322
P 86-1602	P 86-1603	P 86-1604	P 86-1607
P 87-0105	P 87-0197	P 87-0198	P 87-0199
P 87-0200	P 87-0201	P 87-0323	P 87-0502
P 87-0794	P 87-1104	P 87-1192	P 87-1226
P 87-1227	P 87-1555	P 87-1760	P 87-1872
P 87-1881	P 87-1882	P 88-0049	P 88-0083
P 88-0195	P 88-0225	P 88-0275	P 88-0319
P 88-0320	P 88-0353	P 88-0468	P 88-0515
P 88-0522	P 88-0576	P 88-0671	P 88-0701
P 88-0336	P 88-0864	P 88-0884	P 88-0888
P 88-0889	P 88-0890	P 88-0894	P 88-0898
P 88-0918	P 88-0972	P 88-1020	P 88-1021
P 88-1035	P 88-1211	P 88-1212	P 88-1271
P 88-1272	P 88-1273	P 88-1274	P 88-1303
P 88-1375	P 88-1473	P 88-1529	P 88-1567
P 88-1568	P 88-1618	P 88-1619	P 88-1620
P 88-1621	P 88-1622	P 88-1630	P 88-1631
P 88-1632	P 88-1690	P 88-1691	P 88-1740
P 88-1753	P 88-1761	P 88-1763	P 88-1774
P 88-1783	P 88-1807	P 88-1809	P 88-1811
P 88-1823	P 88-1844	P 88-1850	P 88-1856
P 88-1898	P 88-1937	P 88-1938	P 88-1980
P 88-1962	P 88-1984	P 88-1985	P 88-1995
P 88-1999	P 88-2000	P 88-2001	P 88-2069
P 88-2100	P 88-2169	P 88-2177	P 88-2179
P 88-2180	P 88-2181	P 88-2188	P 88-2196
P 88-2210	P 88-2212	P 88-2213	P 88-2228
P 88-2229	P 88-2230	P 88-2231	P 88-2236
P 88-2237	P 88-2271	P 88-2275	P 88-2343
P 88-2349	P 88-2380	P 88-2389	P 88-2469
P 88-2473	P 88-2484	P 88-2518	P 88-2529
P 88-2530	P 88-2540	P 88-2566	P 88-2568
P 88-2575	P 88-2582	P 89-0030	P 89-0031
P 89-0073	P 89-0077	P 89-0078	P 89-0089
P 89-0090	P 89-0091	P 89-0097	P 89-0184
P 89-0225	P 89-0254	P 89-0268	P 89-0292
P 89-0301	P 89-0321	P 89-0326	P 89-0336
P 89-0380	P 89-0383	P 89-0384	P 89-0385
P 89-0386	P 89-0387	P 89-0396	P 89-0413
P 89-0422	P 89-0423	P 89-0424	P 89-0483
P 89-0507	P 89-0520	P 89-0538	P 89-0539
P 89-0576	P 89-0577	P 89-0589	P 89-0626
P 89-0632	P 89-0648	P 89-0651	P 89-0655
P 89-0657	P 89-0658	P 89-0659	P 89-0660
P 89-0661	P 89-0672	P 89-0676	P 89-0701
P 89-0708	P 89-0711	P 89-0713	P 89-0714
P 89-0721	P 89-0726	P 89-0739	P 89-0742
P 89-0749	P 89-0750	P 89-0760	P 89-0764
P 89-0769	P 89-0770	P 89-0775	P 89-0776
P 89-0810	P 89-0836	P 89-0837	P 89-0844
P 89-0854	P 89-0855	P 89-0867	P 89-0870
P 89-0906	P 89-0918	P 89-0924	P 89-0942
P 89-0946	P 89-0957	P 89-0958	P 89-0959
P 89-0963	P 89-0977	P 89-0978	P 89-0979
P 89-0980	P 89-0991	P 89-0998	P 89-1005
P 89-1009	P 89-1010	P 89-1014	P 89-1036
P 89-1038	P 89-1041	P 89-1058	P 89-1062
P 89-1071	P 89-1072	P 89-1081	P 89-1082
P 89-1093	P 89-1104	P 89-1125	P 89-1134
P 89-1135	P 89-1140	P 89-1148	P 90-0002
P 90-0003	P 90-0004	P 90-0009	P 90-0013
P 90-0015	P 90-0024	P 90-0025	P 90-0026
P 90-0031	P 90-0032	P 90-0033	P 90-0035
P 90-0036	P 90-0058	P 90-0064	P 90-0072
P 90-0074	P 90-0081	Y 90-0016	

III. 132 Premanufacture Notices and Exemption Request for Which the Notice Review Period Has Ended During the Month. (Expiration or the Notice Review Period Does Not Signify That the Chemical Has Been Added to the Inventory).

PMN No.

P 87-0794	P 88-1658	P 88-1937	P 88-1938

P 88-1956 P 88-2160 P 88-2230 P 88-2529 Y 90-0013 Y 90-0014 Y 90-0015 Y 90-0016
P 89-0078 P 89-0385 P 89-0386 P 89-0387 Y 90-0017 Y 90-0018 Y 90-0019 Y 90-0020
P 89-0396 P 89-0427 P 89-0506 P 89-0520 Y 90-0021 Y 90-0022 Y 90-0023 Y 90-0024
P 89-0626 P 89-0641 P 89-0694 P 89-0697
P 89-0708 P 89-0817 P 89-0918 P 89-0955
P 89-0956 P 89-0960 P 89-0961 P 89-0962
P 89-0964 P 89-0965 P 89-0966 P 89-0967
P 89-0968 P 89-0969 P 89-0970 P 89-0971
P 89-0972 P 89-0973 P 89-0974 P 89-0975
P 89-0976 P 89-0981 P 89-0982 P 89-0984
P 89-0985 P 89-0986 P 89-0987 P 89-0988
P 89-0989 P 89-0990 P 89-0992 P 89-0993
P 89-0994 P 89-0995 P 89-0996 P 89-0997
P 89-0999 P 89-1000 P 89-1001 P 89-1002
P 89-1003 P 89-1004 P 89-1006 P 89-1007
P 89-1008 P 89-1009 P 89-1011 P 89-1012
P 89-1013 P 89-1015 P 89-1016 P 89-1017
P 89-1018 P 89-1019 P 89-1020 P 89-1021
P 89-1022 P 89-1023 P 89-1024 P 89-1025
P 89-1026 P 89-1027 P 89-1028 P 89-1029
P 89-1030 P 89-1031 P 89-1032 P 89-1033
P 89-1034 P 89-1035 P 89-1037 P 89-1039
P 89-1040 P 89-1041 P 89-1042 P 89-1043
P 89-1044 P 89-1045 P 89-1046 P 89-1047
P 89-1048 P 89-1049 P 89-1050 P 89-1051
P 89-1052 P 89-1053 P 89-1054 P 89-1055
P 89-1056 P 89-1057 P 89-1059 P 89-1060
P 89-1079 Y 90-0006 Y 90-0007 Y 90-0008
Y 90-0009 Y 90-0010 Y 90-0011 Y 90-0012

IV.— 73 Chemical Substances for Which EPA Has Received Notices of Commencement to Manufacture

PMN No.	Identity/generic name	Date of commencement
P 83-0560	G Organophosphate polymer	October 6, 1989.
P 84-0498	G Fatty alcohol, ethoxy-lated, propoxylated, fatty acid ester	October 3, 1984.
P 84-0660	G Substituted aryl olefin	February 9, 1988.
P 84-1167	G Epoxy ester	February 16, 1985.
P 85-0009	G Fatty alcohol, ethoxy-lated, propoxylated, fatty acid ester	May 15, 1985.
P 85-0369	G Haloalkyl substituted cyclic ether	October 12, 1989.
P 86-0165	G Alkyd modified vinyl copolymer	October 9, 1989.
P 86-1046	G Dialky carbamate	October 23, 1989.
P 86-1285	3-Hydroxy-2-Naphthalene-carboxylic acid; benzenamine, 2,4-dimethoxy-	April 15, 1987.
P 87-1904	G Terpene aldehyde	September 27, 1989.
P 88-0073	Polyethylene terphthalate; diethylene glycol; tetrabutyl titanate	January 8, 1988.
P 88-0837	G Epoxy resin	September 23, 1989.
P 88-0974	G Substituted phenanthrene	October 17, 1969.
P 88-1233	G Styrene modified acrylic polyol polymer	September 13, 1989.
P 88-1302	G Salt of substituted arylazo butanamide	October 5, 1989.
P 88-1355	G Mixed sodium/potassium salt substituted naphthalene disulfonic acid	October 9, 1989.
P 88-1375	Dimethyl octenes mixture and 2-methyl-6-methyleneoctane	November 11, 1988.
P 88-1559	G Aminated epoxy urethane	October 3, 1989.
P 88-1603	G Vinyl acrylic copolymer	September 26, 1988.
P 88-1628	G Di(substituted)alkyl hydrogen acid phosphite	December 6, 1988.
P 88-1654	G Acid catalyzed reaction product of alkylidene bicycloalkene with alkyl alcohol	October 10, 1989.
P 88-1854	G Prepolymer of an aliphatic diisocyanate with diol and an aromatic polyester	October 5, 1989.
P 88-1855	G Alkylamine salt of a polymer of a diisocyanate, an aromatic polyester, diols and water	October 5, 1989.
P 88-1889	G Modified fatty acid, amine salt	October 3, 1989.
P 88-2071	G Aliphatic polyester acid polymer	October 5, 1989.
P 88-2358	G Methoxy polyethylene oxide diol	October 30, 1989.
P 88-2492	G Alkyd modified triazine polyol	October 10, 1989.
P 88-2497	G Polyester/acrylic polymer	September 29, 1989.
P 89-0006	G Substituted ketazine	October 8, 1989.
P 89-0007	G Substituted phenone	October 4, 1989.
P 89-0039	G Acrylic solution resin	October 5, 1989.
P 89-0049	G Polyphenylene ether graft polymer	February 15, 1989.
P 89-0220	G Substituted aminophenyl(chloroheterocycle)	October 11, 1989.
P 89-0221	G Substituted nitrophenyl(chloroheterocycle)	October 2, 1989.
P 89-0234	G Oligomeric phosphate ester	October 26, 1989.
P 89-0331	G Styrenated acrylic polymer	October 13, 1989.
P 89-0332	G Styrenated acrylic polymer oxirane adduct	August 3, 1989.
P 89-0346	G Fluorinated copolymer	October 13, 1989.
P 89-0410	G Substituted(phenylchloroheterocycle)aromatic substituted alkanamide	September 22, 1989.
P 89-0411	G Substituted(phenylchloroheterocycle)aromatic substituted alkanamide	October 10, 1989.
P 89-0430	G Blocked aromatic isocyanate	October 18, 1989.
P 89-0431	G Blocked aromatic isocyanate	October 18, 1989.
P 89-0432	G Blocked aromatic isocyanate	October 18, 1989.
P 89-0433	G Blocked aromatic isocyanate	October 18, 1989.
P 89-0434	G Blocked aromatic isocyanate	October 18, 1989.
P 89-0435	G Blocked aromatic isocyanate	October 18, 1989.

IV.— 73 CHEMICAL SUBSTANCES FOR WHICH EPA HAS RECEIVED NOTICES OF COMMENCEMENT TO MANUFACTURE.—Continued

PMN No.	Identity/generic name	Date of commencement
P 89-0436	G Blocked aromatic isocyanate	June 1, 1989.
P 89-0437	G Blocked aromatic isocyanate	October 18, 1989.
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P 89-0567	G Linseed alkyd resin	October 17, 1989.
P 89-0578	G Polyurethane	October 9, 1989.
P 89-0590	G Fatty acids, esters with pentaerythritol, reaction products with diisocyanate	July 3, 1989.
P 89-0595	G (Alkylaminoarylalkylidenyl) pyrazolinone	October 12, 1989.
P 89-0611	G Fluorinated alkanol	September 1, 1989.
P 89-0612	G Fluorinated alkanol	September 1, 1989.
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P 89-0614	G Fluorinated acrylic monomer	October 5, 1989.
P 89-0622	G Polyester urethane block polymer	September 19, 1989.
P 89-0746	G Acrylic copolymer	October 4, 1989.
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P 89-0788	G Heterocylic substituted alkyl amine	October 13, 1989.
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P 89-0856	G Saturated, oil-free polyester rsin	October 12, 1989.
P 89-0882	G Partially hydrolyzed alkyl silicate-polyol-siliane polymer	October 9, 1989.
P 89-0890	G Halo-aliphatic oxy-substituted saturated pyran	October 13, 1989.
Y 88-0094	G Acrylic polymer	October 13, 1989.
Y 89-0021	(2,2-bis(4-Hydropropoxyl)propane, isophthalic acid, neopentyl glycol, trimethylol dimethyl terephthalenate, isophorone diisocyanate.	December 24, 1988.
Y 89-0131	Polymer of neopentyl glycol, trimethylolpropane, isophthalic acid, 1,4,-cyclohexanedicarboxylic acid	July 19, 1989.
Y 89-0214	G A salt of an acrylic-styrene copolymer	September 21, 1989.
Y 89-0222	Polydextrose	October 20, 1989.

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