Federal Deposit Insurance Corporation.

Hoyle L. Robinson,

Executive Secretary.

[FR Doc. 84-6343 Filed 3-6-84; 16:16 am]

BILLING CODE 6714-01-M

4

FEDERAL DEPOSIT INSURANCE CORPORATION

Notice of Agency Meeting.

Pursuant to the provisions of the "Government in the Sunshine Act" (5 U.S.C. 552b), notice is hereby given that at 6:35 p.m. on Friday, March 2, 1984, the Board of Directors of the Federal Deposit Insurance Corporation met in closed session, by telephone conference call, to (1) receive bids for the purchase of certain assets of and the assumption of the liability to pay deposits made in United Bank of Oregon, Milwaukie, Oregon, which was closed by the Superintendent of Banks for the State of Oregon on Friday, March 2, 1984; (2) accept the bid for the transaction submitted by United States National Bank of Oregon, Portland, Oregon; and (3) provide such financial assistance, pursuant to section 13(c)(2) of the Federal Deposit Insurance Act (12 U.S.C 1823(c)(2)), as was necessary to effect the purchase and assumption transaction.

At that same meeting, the Board also (1) received bids for the purchase of certain assets of and the assumption of the liability to pay deposits made in all American National Bank, Virginia Gardens (P.O. Miami), Florida, which was closed by the Acting Comptroller of the Currency on Friday, March 2, 1984; (2) accepted the bid for the transaction submitted by Capital Bank, North Bay Village, Florida, an insured State nonmember bank; (3) approved the application of Capital Bank, North Bay Village, Florida, for consent to purchase certain assets of and to assume the liability to pay deposits made in All American National Bank, Virginia Gardens (P.O. Miami), Florida, and for consent to establish the sole office of All American National Bank as a branch of Capital Bank; and (4) provided such financial assistance, pursuant to section 13(c)(2) of the Federal Deposit Insurance Act (12 U.S.C. 1823(c)(2)), as was necessary to facilitiate the purchase and assumption transaction.

In calling the meeting, the Board determined, on motion of Chairman William M. Issac, seconded by Director Irvine H. Sprague (Appointive), concurred in by Mr. H. Joe Selby, acting in the place and stead of Director C. T. Conover (Comptroller of the Currency), that Corporation business required its consideration of the matters on less than seven days' notice to the public; that no earlier notice of the meeting was practicable; that the public interest did not require consideration of the matters in a meeting open to public observation; and that the matters could be considered in a closed meeting pursuant to subsections (c)(8), (c)(9)(A)(ii), and (c)(9)(B) of the "Government in the Sunshine Act" (5 U.S.C. 552b (c)(8), (c)(9)(A)(ii), and (c)(9)(B)).

Dated: March 5, 1984.

Federal Deposit Insurance Corporation.

Hoyle L. Robinson,

Executive Secretary.

[FR Doc. 84-6344 Filed 3-6-84; 12:17 pm]

BILLING CODE 6714-01-M

5

FEDERAL ELECTION COMMISSION

DATE AND TIME: Tuesday, March 13, 1984, 10:00 a.m.

PLACE: 1325 K Street NW., Washington, D.C.

STATUS: This meeting will be closed to the public.

ITEMS TO BE DISCUSSED: Compliance, Litigation, Audits, Personnel.

* * * * *

AGENCY: Federal Election Commission.

DATE AND TIME: Thursday, March 15, 1984, 10:00 a.m.

PLACE: 1325 K Street NW., Washington, D.C. (Fifth Floor).

STATUS: This meeting will be open to the public.

MATTERS TO BE CONSIDERED:

Setting of dates for future meetings
Correction and approval of minutes
Eligibility reports for candidates to receive presidential primary matching funds
Draft advisory opinion #1984-6, Jeremiah J. Foley, Assistant Vice President, The Co-Operative Central Bank
Finance Committee Report
Routine Administrative Matters

PERSON TO CONTACT FOR INFORMATION: Mr. Fred Eiland, Information Officer, Telephone 202-523-4065.

Marjorie W. Emmons,

Secretary of the Commission.

[FR Doc. 84-6384 Filed 3-6-84; 3:22 pm]

BILLING CODE 6715-01-M

6

FEDERAL MARITIME COMMISSION

TIME AND DATE: 9:00 a.m.—March 14, 1984.

PLACE: Hearing Room One—1100 L Street, NW., Washington, D.C. 20573.

STATUS: Parts of the meeting will be open to the public. The rest of the meeting will be closed to the public.

MATTERS TO BE CONSIDERED: Portions open to the public:

1. Agreement No. 9973-10: Extension of the Johnson Scanstar Joint Service Agreement.
2. Docket No. 83-35: Licensing of Independent Ocean Freight Forwarders—Consideration of comments submitted in response to notice of proposed rulemaking and proposed final rules.

Portions closed to the public:

1. Docket No. 83-7: Atlantic and Gulf/West Coast of South America Conference et al. v. Empresa Maritima Del Estado—Consideration of the record.
2. Docket No. 83-16: Terry Marler and James Beasley, d.b.a. Titanic Steamship Line—Possible Violations of Section 3(a) of Public Law 89-777—Consideration of the record.

CONTACT PERSON FOR MORE INFORMATION: Francis C. Hurney, Secretary, (202) 523-5725.

Francis C. Hurney,

Secretary.

[FR Doc. 84-6345 Filed 3-6-84; 12:17 pm]

BILLING CODE 6730-01-M

7

FEDERAL MARITIME COMMISSION

"FEDERAL REGISTER" CITATION OF PREVIOUS ANNOUNCEMENT: March 1, 1984, 49 FR 7694.

PREVIOUSLY ANNOUNCED TIME AND DATE OF THE MEETING: March 7, 1984, 9:00 a.m.

CHANGE IN THE MEETING: Withdrawal of the following item from the open session:

3. Modifications of Reporting Requirements of Shippers' Requests and Complaints—Notice of Proposed Rulemaking.

Francis C. Hurney,

Secretary.

[FR Doc. 84-6388 Filed 3-6-84; 3:30 pm]

BILLING CODE 6730-01-M

8

FEDERAL MINE SAFETY AND HEALTH REVIEW COMMISSION

Change in announcement of previous scheduled meeting.

PREVIOUSLY ANNOUNCED TIME AND DATE: 10:00 a.m., Wednesday, March 7, 1984.

NEW TIME AND DATE: 10:00 a.m., Wednesday, March 21, 1984.

PLACE: Room 600, 1730 K Street, NW., Washington, D.C.

STATUS: Open.

MATTERS TO BE CONSIDERED: The Commission will hear oral argument on the following:

1. Secretary of Labor, MSHA v. Carbon County Coal Co., Docket No. WEST 82-106. (Issues include whether the judge erred in denying the operator's motion for summary decision in a civil penalty proceeding involving the operator's ventilation plan.)

TIME AND DATE: Immediately following oral argument.

STATUS: Closed (Pursuant to 5 U.S.C. 552(b)(10)).

MATTERS TO BE CONSIDERED: The Commission will consider and act upon the above mentioned item.

It was determined by a unanimous vote of Commissioners that this meeting be postponed and that no earlier announcement of the meeting was possible. 5 U.S.C. § 552(e)(1).

CONTACT PERSON FOR MORE INFORMATION: Jean Ellen, (202) 653-5629.

Jean H. Ellen,

Agenda Clerk.

[FR Doc. 84-6363 Filed 3-6-84; 2:17 pm]

BILLING CODE 6735-01-M

9

PACIFIC NORTHWEST ELECTRIC POWER AND CONSERVATION PLANNING COUNCIL

Sunshine Act Meeting.

AGENCY HOLDING THE MEETING: Pacific Northwest Electric Power and Conservation Planning Council (Northwest Power Planning Council).

ACTION: Notice of meeting to be held pursuant to the Government in the Sunshine Act (5 U.S.C. 552b).

STATUS: Open. A portion of this meeting will be closed to the public to discuss pending litigation and other legal matters.

TIME AND DATE: March 14, 1984, 10:00 a.m.; March 15, 1984, 9:00 a.m.

PLACE: ERB Memorial Union, 13th & University Streets, University of Oregon, Eugene, Oregon.

MATTERS TO BE CONSIDERED:

- Status Report of Bonneville Power Administration's FY 1985 Budget Submittal.
- Council Decision on Northwest-Southwest Intertie Access Policy.
- Presentation on Northwest Power Planning Council Power Planning Division Workplan.
- Presentation of Issue Papers on Amendment of the Columbia River Basin Fish and Wildlife Program.
- Public Comment on First Set of Issue Papers on Amendment of the Columbia River Basin Fish and Wildlife Program.
- Staff Presentation on Proposal to Require Bonneville Power Administration to Fund "Mitchell Act" Hatcheries.
- Council Business.
- Public Comment will follow each item.

FOR FURTHER INFORMATION CONTACT: Ms. Bess Wong (503) 222-5161.

Edward Sheets,

Executive Director.

[FR Doc. 84-6325 Filed 3-6-84; 10:35 am]

BILLING CODE 0000-00-M

10

SECURITIES AND EXCHANGE COMMISSION

"FEDERAL REGISTER" CITATION OF PREVIOUS ANNOUNCEMENTS: (To be published).

STATUS: Open/Closed meetings.

PLACE: 450 Fifth Street, NW., Washington, D.C.

DATE PREVIOUSLY ANNOUNCED: Friday, February 24, 1984.

CHANGE IN THE MEETING: Additional items.

The following additional item will be considered at an open meeting scheduled for Tuesday, March 6, 1984, at 10:00 a.m., in Room 1C30.

The Commission, on February 2, 1984, met to consider proposals by the American Stock Exchange, Inc., Chicago Board Options Exchange, Incorporated, the New York Stock Exchange, Inc., and the Pacific Stock Exchange, Inc. to introduce industry index options in addition to one already trading. At that time the Commission decided to defer action on those proposals. The Commission will now consider whether to approve certain of these proposals. For further information, please contact Alden Adkins at (202) 272-2843.

The following additional items will be considered at a closed meeting scheduled for Tuesday, March 6, 1984, following the 10:00 a.m. open meeting:

Formal order of investigation.

Institution and settlement of administrative proceedings of an enforcement nature.

Commissioner Cox, as duty officer, determined that Commission business required the above changes and that no earlier notice thereof was possible.

At times changes in Commission priorities require alternations in the scheduling of meeting items. For further information and to ascertain what, if any, matters have been added, deleted or postponed, please contact: Bruce Kohn at (202) 272-3195.

March 5, 1984.

George A. Fitzsimmons,

Secretary.

[FR Doc. 84-6300 Filed 3-5-84; 4:58 pm]

BILLING CODE 8010-01-M

11

SYNTHETIC FUELS CORPORATIONS

Meeting of the Board of Directors.

ENTITY: United States Synthetic Fuels Corporation.

ACTION: Notice of meeting.

SUMMARY: Interested members of the public are advised that a meeting of the Board of Directors of the United States Synthetic Fuels Corporation will be held at the time, date and place specified below by telephone conference call. This public announcement is made pursuant to the open meeting requirements of Section 116(f)(1) of the Energy Security Act (9 Stat. 611, 637; 42 U.S.C. 8701, 8712(f)(1) and Section 4 of the Corporation's Policy on Public Access to Board meetings. During the meeting, the Board of Directors will consider a resolution to close a portion of the meeting pursuant of Article II, Section 4 of the Corporation's By-laws, Section 116(f) of the said Act and Sections 4 and 5 of the said policy.

MATTERS TO BE CONSIDERED:

Open Session

I. Call to Order (11:00 a.m. EST)
II. Approval of Minutes
III. Contracting Policy
IV. Report of Compensation Committee
  Retention of Employees
V. Other Matters
VI. Resolution to Close Meeting

Closed Session

VII. Project-Specific Actions and Status Reports
  First Colony Project
  Northern Peat Energy Project
  Arkansas Lignite Conversion Project
  Enpex
  Hop Kern River Project

TIME AND DATE: March 15, 1984, 11:00 a.m. (EST).

PLACE: U.S. Synthetic Fuels Corporation, 2121 K Street NW., Room 503, Washington, D.C. 20586.

PERSON TO CONTACT FOR MORE INFORMATION: If you have any questions regarding this meeting, please contact Mr. Owen J. Malone, Assistant Secretary, at (202) 822-6336.

United States Synthetic Fuels Corporation.

Robert W. Gambino,

Group Vice President-Corporate.

March 6, 1984.

[FR Doc. 84-6341 Filed 3-6-84; 12:14 pm]

BILLING CODE 0000-00-M

federal register

Thursday
March 8, 1984

Part II

Environmental Protection Agency

40 CFR Part 421

Nonferrous Metals Manufacturing Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 421

[OW-FRL 2289-1]

Nonferrous Metals Manufacturing Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This regulation establishes effluent limitations guidelines and standards limiting the discharge of pollutants into navigable waters and into publicly owned treatment works (POTW) by existing and new sources that conduct particular nonferrous metals manufacturing operations. The Clean Water Act and a consent decree require EPA to issue this regulation.

This regulation establishes effluent limitations guidelines based on "best practicable technology" (BPT) and "best available technology" (BAT), new source performance standards (NSPS) based on "best demonstrated technology", and pretreatment standards for existing and new indirect dischargers (PSES and PSNS, respectively).

DATES: In accordance with 40 CFR 100.01 (45 FR 26048), this regulation shall be considered issued for purposes of judicial review at 1:00 p.m. Eastern time on March 22, 1984. This regulation shall become effective April 23, 1984.

The compliance date for the BAT regulations is as soon as possible, but in any event, no later than July 1, 1984. The compliance date for new source performance standards (NSPS) and pretreatment standards for new sources (PSNS) is the date the new source begins operations. The compliance date for pretreatment standards for existing sources (PSES) is March 9, 1987.

Under section 509(b)(1) of the Clean Water Act, judicial review of this regulation can be made only by filing a petition for review in the United States Court of Appeals within 90 days after the regulation is considered issued for purposes of judicial review. Under section 509(b)(2) of the Clean Water Act, the requirements in this regulation may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

ADDRESSES: Address questions on the final rule to Mr. James R. Berlow, Effluent Guidelines Division (WH-552), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460, Attention Nonferrous Metals Manufacturing Rules (WH-552). The basis for this regulation is detailed in four major documents. See Supplementary Information (under "XIV. Availability of Technical Information") for a description of each document. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161 (703/487-4600). Technical information may be obtained by writing Mr. James R. Berlow, Effluent Guidelines Division (WH-552), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 or by calling (202) 382-7126. Additional economic information may be obtained by writing Ms. Debra Maness, Economic Analysis Staff (WH-586), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460 or by calling (202) 382-5397.

The Record for the final rule will be available for public review not later than May 14, 1984, in EPA's Public Information Reference Unit, Room 2904 (Rear) (EPA Library), 401 M Street, SW., Washington, D.C. The EPA public information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Ernst P. Hall (202) 382-7126.

SUPPLEMENTARY INFORMATION:

Organization of This Notice

I. Legal Authority
II. Scope of This Rulemaking
III. Summary of Legal Background
IV. Methodology and Data Gathering Efforts
V. Control Treatment Options and Technology Basis for Final Regulations
  A. Summary of Category
  B. Control and Treatment Technologies and Treatment Effectiveness
  C. Technology Basis for Final Regulations
VI. Economic Considerations
  A. Compliance Costing Methodology
  B. General Cost Assumptions for the Nonferrous Metals Manufacturing Phase I Category
  C. Specific Instance of Conservative Costing
  D. Analyses and Reports
  E. Costs and Impacts
  F. Regulatory Flexibility Analysis
  G. Executive Order 12291
  H. SBA Loans
VII. Nonwater Quality Environmental Impacts
  A. Air Pollution
  B. Solid Waste
  C. Consumptive Water Loss
  D. Energy Requirements
VIII. Pollutants and Subcategories Not Regulated
  A. Exclusion of Pollutants
  B. Exclusion of Subcategories
IX. Public Participation and Response to Major Comments
X. Best Management Practices
XI. Upset and Bypass Provisions
XII. Variances and Modifications
XIII. Implementation of Limitations and Standards
  A. Relationship to NPDES Permits
  B. Indirect Dischargers
XIV. Availability of Technical Information
XV. List of Subjects in 40 CFR Part 468
XVI. Appendices
  A. Abbreviations, Acronyms, and Other Terms Used in This Notice
  B. Pollutants Selected for Regulation by Subcategory
  C. Toxic Pollutants Not Detected
  D. Toxic Pollutants Detected Below the Analytical Quantification Limit
  E. Toxic Pollutants Detected in Amounts Too Small to be Effectively Reduced by Technologies Considered in Preparing This Guideline
  F. Toxic Pollutants Detected in the Effluent From Only a Small Number of Sources
  G. Toxic Pollutants Effectively Controlled by Technologies Upon Which are Based Other Effluent Limitations and Guidelines
  H. Toxic Pollutants Detected But Only in Trace Amounts and are Neither Causing Nor Likely to Cause Toxic Effects

I. Legal Authority

This regulation is being promulgated under the authority of sections 301, 304, 306, 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 *et seq.*, as amended by the Clean Water Act of 1977, Pub. L. 95-217), also called "the Act". It is also being promulgated in response to the Settlement Agreement in *Natural Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976), *modified*, 12 ERC 1833 (D.D.C. 1979), modified by Orders dated October 26, 1982, August 2, 1983, and January 6, 1984.

II. Scope of This Rulemaking

This final regulation, which was proposed on February 17, 1983 (48 FR 7032), establishes effluent limitations guidelines and standards for existing and new nonferrous metals manufacturing facilities. The nonferrous metals manufacturing category is comprised of plants that process ore concentrates and scrap metals to recover and increase the metal purity contained in these materials. Depending on the metal and the desired purity, hydrometallurgical, pyrometallurgical, or liquid-liquid ion exchange operations may be used to purify and upgrade metal values. Many of the production operations characterizing the nonferrous metals manufacturing category follow mining and milling operations. The ore mining and dressing category includes

the extraction of the ore from the ground and the subsequent beneficiation of the ore including gravity concentration, magnetic separation, electrostatic separation, froth flotation, and leaching to produce ore concentrates. The ore concentrates and scrap materials form the raw materials in the nonferrous metals manufacturing subcategories.

Following smelting, refining, or extraction of metal values in the nonferrous metals manufacturing category, the metal or metal salt products are used as raw materials for such operations as forming, alloying, and the manufacture of inorganic chemicals. Operations such as these, where the metal purity is not increased, are covered by other point source categories. In many of the nonferrous metals manufacturing subcategories, the production operations cease with the casting of the smelted or refined metal. Recasting of the metal without refining for use in subsequent forming or alloying operations is covered by the point source category in which the metal is being used as a raw material.

Because of the diversity of the nonferrous metals category, EPA has divided it into separate segments (nonferrous metals manufacturing phase I, nonferrous metals manufacturing phase II, and nonferrous metals forming) in order to devote immediate resources to regulation of the phase I plants, which generate the largest quantities of toxic pollutants.

The regulatory strategy for phase I nonferrous metals manufacturing addresses 12 subcategories: primary aluminum, copper smelting, copper electrolytic refining, lead, zinc, columbium-tantalum, and tungsten; secondary aluminum, silver, copper, lead; and metallurgical acid plants. Nonferrous metals manufacturing phase II, containing an additional 19 primary metals and metal groups, 10 secondary metals and metal groups and bauxite refining, will be considered separately and will be proposed shortly. A group of metals—including six primary metals and five secondary metals—were excluded from regulation in a Paragraph 8 affidavit executed pursuant to the Settlement Agreement on May 10, 1979 (see Section VIII of this preamble). These metals were excluded from regulation either because the manufacturing processes do not use water or because they are regulated by toxic pollutant limitations and standards in other categories (ferroalloys and inorganic chemicals). Other portions of the nonferrous metals industry are addressed by separate effluent limitations and standards. Interim final and final rules for aluminum forming were promulgated on October 24, 1983 (48 FR 49126). Final rules for copper forming were promulgated on August 15, 1983 (48 FR 36942). Proposed regulations for metal molding and casting were issued on November 15, 1982 (47 FR 51512). The forming of metals other than aluminum and copper is addressed in a proposed regulation for nonferrous metals forming recently published in the Federal Register.

III. Summary of Legal Background

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" [Section 101(a)]. To implement the Act, EPA was to issue effluent limitations guidelines, pretreatment standards, and new source performance standards for industrial dischargers.

The Act included a timetable for issuing these standards. However, EPA was unable to meet many of the deadlines and, as a result, in 1976, it was sued by several environmental groups. In settling this lawsuit, EPA and the plaintiffs executed a "Settlement Agreement" which was approved by the court. This Agreement required EPA to develop a program and adhere to a schedule in promulgating effluent limitations guidelines, new source performance standards, and pretreatment standards for 65 "priority" pollutants and classes of pollutants for 21 major industries. See *Natural Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976), *modified* 12 ERC 1833 (D.D.C. 1979), modified by Orders dated August 25, 1982, October 26, 1982, August 2, 1983, and January 6, 1984.

Many of the basic elements of the Settlement Agreement were incorporated into the Clean Water Act of 1977. Like the Agreement, the Act stressed control of toxic pollutants, including the 65 "priority" pollutants. In addition, to strengthen the toxic control program, Section 304(e) of the Act authorizes the Administrator to prescribe "best management practices" (BMPs) to prevent the release of toxic and hazardous pollutants from plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage associated with, or ancillary to, the manufacturing or treatment process.

Under the Act, the EPA is to set a number of different kinds of effluent limitations. These are discussed in detail in the preamble to the proposed regulation and in the Development Document. They are summarized briefly below:

1. Best Practicable Control Technology (BPT)

BPT Limitations are generally based on the average of the best existing performance by plants of various sizes, ages, and unit processes within the category or subcategory.

In establishing BPT limitations, EPA considers the total cost in relation to the age of equipment and facilities involved, the processes employed, process changes required, engineering aspects of the control technologies, and nonwater quality environmental impacts (including energy requirements). We balance the total cost of applying the technology against the effluent reduction.

2. Best Available Technology (BAT)

BAT limitations, in general, represent the best existing performance in the industrial subcategory or category. The Act establishes BAT as the principal national means of controlling the direct discharge of toxic and nonconventional pollutants to navigable waters.

In arriving at BAT, the Agency considers the age of the equipment and facilities involved, the process employed, the engineering aspects of the control technologies, process changes, the cost of achieving such effluent reduction, and nonwater quality environmental impacts. The Agency retains considerable discretion in assigning the weight to be accorded these factors.

3. Best Conventional Pollutant Control Technology (BCT)

The 1977 Amendments to the Clean Water Act added Section 301(b)(2)(E), establishing "best conventional pollutant control technology" (BCT) for discharge of conventional pollutants from existing industrial point sources. Section 304(a)(4) designated the following as conventional pollutants: BOD, TSS, fecal coliform, pH, and any additional pollutants defined by the Administrator as conventional. The Administrator designated oil and grease an additional conventional pollutant on July 30, 1979 (44 FR 44501).

BCT is not an additional limitation but replaces BAT for control of conventional pollutants. In addition to other factors specified in section 304(b)(4)(B), the Act requires the BCT limitations be established in light of a two part "cost-reasonableness" test. *American Paper Institute* v. *EPA*, 660 f. 2d 954 (4th Cir., 1981). The first test compares the cost for private industry to reduce its

conventional pollutants with the costs to publicly owned treatment works to achieve similar reduction of these pollutants. The second test examines the cost-effectiveness of additional industrial treatment beyond BPT. EPA must find that limitations are "reasonable" under both tests before establishing them as BCT. In no case may BCT be less stringent than BPT.

EPA published its methodology for carrying out the BCT analysis on August 29, 1979 (44 FR 50732). In the case mentioned above, the Court of Appeals ordered EPA to correct data errors underlying EPA's calculation of the first test, and to apply the second cost test. (EPA argued that a second cost test was not required.)

A revised methodology for the general development of BCT limitations was proposed on October 29, 1982 (47 FR 49176), but has not been promulgated as a final rule. We accordingly are not promulgating BCT limits for plants in the nonferrous phase I category at this time. We will await establishing nationally applicable BCT limits for this industry until promulgation of the final methodology for BCT.

4. New Source Performance Standards (NSPS)

NSPS are based on the best available demonstrated technology (BDT). New plants have the opportunity to install the best and most efficient production processes and wastewater treatment technologies.

5. Pretreatment Standards for Existing Sources (PSES)

PSES are designed to prevent discharge of pollutants that pass through, interfere with, or are otherwise incompatible with the operation of publicly owned treatment works (POTW). They must be achieved within three years of promulgation. The Clean Water Act of 1977 requires pretreatment for toxic pollutants that pass through the POTW in amounts that would violate direct discharger effluent limitations or interfere with the POTW's treatment process or chosen sludge disposal method. The legislative history of the 1977 Act indicates that pretreatment standards are to be technology-based, analogous to the best available technology for removal of toxic pollutants. EPA has generally determined that pollutants pass through a POTW if the nationwide average percentage of pollutants removed by a well operated POTW achieving secondary treatment is less than the percent removed by the BAT model treatment system. The General Pretreatment Regulations, which serve as the framework for the pretreatment regulations, are found at 40 CFR Part 403. These regulations were recently upheld substantially in *NAMF et al.* v. *EPA*, Nos. 79–2256 et al. (3rd Cir., September 20, 1983).

6. Pretreatment Standards for New Sources (PSNS)

Like PSES, PSNS are designed to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with the operation of a POTW. PSNS are to be issued at the same time as NSPS. New indirect dischargers, like new direct dischargers, have the opportunity to incorporate in their plant the best available demonstrated technologies. The Agency considers the same factors in promulgating PSNS as it considers in promulgating PSES.

IV. Methodology and Data Gathering Efforts

The methodology and data gethering efforts used in developing the proposed regulation were summarized in the "Preamble to the Proposed Nonferrous Metals Manufacturing Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards" (48 FR 7032, February 17, 1983), and described in detail in the Development Document for Effluent Limitations Guidelines and Standards for the Nonferrous Metals Manufacturing Point Source Category.

After proposal, the Agency gathered additional data to clarify comments and to provide further support for the regulation. The Agency performed additional analysis of new and existing data. These additional data and activities are described in two "Notices of Data Availability and Request for Comment" (48 FR 50906, November 4, 1983 and 48 FR 52604, November 21, 1983) and are discussed briefly below. The data are also described in substantial detail in the appropriate sections of the General Development Document and the supplements. The supporting information and additional data are in the public record supporting this final rule.

We did add DMR data from an integrated secondary lead and battery manufacturing plant to the existing data base to evaluate whether the proposed attainable concentrations for lead by lime and settle treatment are achievable by nonferrous industry plants. The expanded data set now consists of 204 effluent lead data points. Statistical analysis of the data confirmed that the proposed long-term mean for lead, computed using the Combined Metals Data Base (CMDB), is achieved by this plant, and so can be achieved by these plants throughout the category. At the same time, the data illustrated that the proposed variability factors from the CMDB used to determine the one-day maximum and monthly averages for lead were too low. Accordingly, as discussed in section VII of the Development Document, we are establishing different one- and 10-day treatment performance values for lead, reflecting these different variabilities.

In addition to collecting data from industry, the Agency also developed additional information by conducting its own bench-scale and pilot tests. To fully respond to comments, the Agency performed bench-scale and pilot work primary aluminum, wastewaters. The treatment technologies tested were cyanide precipitation and lime, settle and filter treatment on toxic organic pollutants. The Agency's pilot scale treatability study of primary aluminum wastewaters indicates that the proposed nickel, antimony, fluoride, and TSS treatment performances are not achievable when certain heavily polluted waste streams associated with cathode reprocessing operations are treated apart from more dilute streams (a configuration that occurs at certain primary plants). Data obtained from the study have been incorporated into the technical record, compliance costs, and the promulgated regulation.

In addition, since proposal, the Agency made engineering visits to five nonferrous metals manufacturing plants. Analytical data gathered at these plants were used to further characterize wastewaters generated in the primary zinc, metallurgical acid plant, secondary lead, and primary tungsten subcategories. We also used the analytical data to revise compliance costs and pollutant removal estimates. The Agency also gathered data collection portfolios (dcp's) from plants not in the Agency's data base at the time we issued the proposed regulation. In a few instances where the Agency was aware of major modifications since receiving the 1977 dcp, plants were asked to resubmit the dcp so that the Agency could update its data base.

New data obtained by the Agency since proposal have been carefully analyzed and, where appropriate, changes have been made to the regulation. Flow allowances for a number of waste streams have been revised as discussed in Section V. Mass limitations have also been provided for several waste streams not receiving allowances at proposal. The lime and settle treatment effectiveness values for

the pollutant lead and the treatment effectiveness value for regulated pollutant parameters for certain plants in the primary aluminum subcategory have also been revised.

The Agency has revised the compliance costs for the nonferrous metals manufacturing category by computing plant-by-plant costs. In addition, pollutant removal estimates were recalculated for each subcategory. We carefully reviewed comments before making revisions and changes in data. The costing methodology used to cost these plants is discussed in Section VIII of the General Development Document. The economic impact analysis was also revised to respond to comments on the methodology, to reflect current financial conditions in the industry, and to include the revised compliance costs.

Under the authority of Section 308 of the Clean Water Act, the Agency requested specific additional information and data from 44 commenters to clarify and support their individual comments. The Agency's request for information asked each commenter to provide specific information supporting their particular comments. The additional data and information received related primarily to wastewater sources not specifically considered by the proposed regulation; to costs of compliance; and to the classification and disposal costs of solid wastes generated by wastewater treatment. We received flow and production data for additional waste streams as well as information on treatment and characteristics of these streams. A brief description of the data solicited for each subcategory is presented below.

Primary Aluminum

We requested additional information through Section 308 information request in the primary aluminum subcategory concerning the use of potline scrubbing and its impact on product quality; alternate in-line fluxing methods and their impact on product quality; anode bake plant air pollution control; cathode manufacturing; cathode reprocessing; supporting documentation for comments questioning compliance costs; and additional waste streams not considered at proposal.

Secondary Aluminum

Additional data and information collected in the secondary aluminum subcategory pertained to water use practices for shot, ingot conveyor, and stationary casting; and attainable concentrations for ammonia steam stripping treatment.

Primary Copper

We requested additional information through Section 308 information requests in the primary copper subcategories to clarify comments concerning by-product recovery; water use for air pollution control; 100 percent reuse of spent electrolyte; water use for occupational health requirements; and operating characteristics of existing wastewater treatment systems.

Primary Zinc

We requested additional information through Section 308 information requests to clarify comments concerning additional waste streams; stormwater; and operating characteristics of existing wastewater treatment systems. We also requested information to determine how compliance with the Clean Air Act, OSHA standards, and RCRA have affected water usage in the subcategory.

Primary Lead

We requested additional information through Section 308 information requests to clarify comments concerning additional waste streams; stormwater; and operating characteristics of existing wastewater treatment systems. We also requested information to determine how compliance with the Clean Air Act, OSHA standards, and RCRA have affected water usage in the subcategory.

Primary Tungsten

In the primary tungsten subcategory, Section 308 information requests were made for performance data to evaluate ammonia steam stripping technology.

Primary Columbium-Tantalum

We requested additional information through Section 308 information requests to clarify comments concerning solid waste disposal existing regulatory flows; performance of ammonia steam stripping; and supporting documentation for comments regarding compliance costs.

Secondary Lead

Additional data collected in the secondry lead subcategory through section 308 information requests consisted to treatment performance data; water use for occupational health requirements; solid waste disposal; supporting documentation for comments about compliance costs; and furnace SO_2 control.

Secondary Silver

We made one section 308 information request in the secondary silver subcategory to gather information on the use of photographic papers as a raw material.

Secondary Copper

We requested additional information through Section 308 information requests in the secondary copper subcategory concerning recycle of casting contact cooling water.

V. Control Treatment Options and Technology Basis for Final Regulations

A. Summary of Category

The nonferrous metals manufacturing category includes plants producing primary metals from ore concentrates and plants recovering secondary metals from recycled metallic wastes (aluminum cans, lead batteries, etc.). There are 307 plants in the phase I subcategories which EPA estimates employ 61,000 people and annually generate raw wastes containing approximately 11 million pounds of toxic pollutants. There are 80 (26 percent) direct dischargers that currently discharge 225,000 kg/yr of toxic pollutants and there are 85 (28 percent) indirect dischargers that currently discharge an additional 59,400 kg/yr of toxics. There are 142 plants in this category (46 percent) that do not discharge process wastewater.

In developing this regulation, it was necessary to determine whether different effluent limitations and standards were appropriate for different segments (subcategories) of the category. The major factors considered in assessing the need for subcategorization and in identifying subcategories included: waste characteristics, raw materials, manufacturing processes, products manufactured, water use, water pollution control technology, treatment costs, solid waste generation, size of plant, age of plant, number of employees, total energy requirements, nonwater quality characteristics, and unique plant characteristics. Section IV of the Development Document and its supplements contain a detailed discussion of these factors and the rationale for subcategorization.

A brief description of each of the subcategories is provided below, with particular emphasis on the sources of wastewater and the types of pollutants present. Section V of the subcategory supplemental Development Documents provides specific characterization data on each of the wastewater sources.

We are promulgating discharge limitations for each of the wastewater sources identified below. The limitation for an individual plant would then be the sum of all limitations for those wastewater sources actually present at

the plant. (See discussion of building blocks in Section VIII below.)

Primary Aluminum

There are 31 primary aluminum reduction plants in the United States. The majority of plants are located near sources of abundant and inexpensive hydroelectric power (the east, southeast and northwest regions), since considerable amounts of electrical energy are required to produce aluminum. Twenty-four plants are direct dischargers and the remaining seven do not discharge wastewater; none are indirect dischargers.

Industry data indicate that 27 of the 31 plants (85 percent) produce less than 200,000 tons per year each. Median production is in the 100,000 to 150,000 tons per year range. All primary aluminum produced in the United States is manufactured by the electrolytic reduction of alumina via the Hall-Heroult Process.

The sources of process wastewater receiving an allowance in the primary aluminum plants are listed below, along with the pollutants typically found in each:

(1) *Anode and cathode paste plant wet air pollution control* wastewater results from wet scrubbers used to control process emissions from the paste plant; it contains toxic organic pollutants and suspended solids.

(2) *Anode bake plant wet air pollution control* wastewater results from wet scrubbers used to control process emissions from the bake plant; it contains toxic organics, oil and grease, and suspended solids.

(3) *Anode contact cooling and briquette quenching* water is used to quench the anodes after they are formed; the wastewater contains toxic organics and suspended solids.

(4) *Cathode reprocessing* wastewater results from the recovery of cryolite from spent potliners. Cathode reprocessing also serves as a hazardous waste treating operation by treatment spent potliners to remove cyanide, and to reduce the volume of hazardous waste. This wastewater contains toxic metals, cyanide, toxic organics, and suspended solids.

(5) *Pot soaking* wastewater results from soaking or repair of the electrolytic cells to remove the carbon liners; the wastewater contains fluorides, cyanide, toxic organics, and suspended solids.

(6) *Potline wet air pollution control* wastewater results from wet scrubbers used to control process emissions immediately above the electrolytic cells; the wastewater contains fluoride, toxic metals, and suspended solids. It may contain toxic organics in plants using Soderberg electrolytic cells.

(7) *Potline SO_2 wet air pollution control* wastewater results from wet scrubbers used to control SO_2 emissions from the electrolytic cells; the wastewater may contain fluoride and toxic metals at all plants and organics at Soderberg plants.

(8) *Potroom wet air pollution control* wastewater results from wet scrubbers used to control process emissions in the buildings housing the electrolytic cells; the wastewater contains fluoride and suspended solids.

(9) *Degassing wet air pollution control* wastewater results from wet scrubbers used to control emissions from degassing; the wastewater contains suspended solids.

(10) *Direct chill, stationary, shot and continuous rod casting contact cooling* water is used to cool the aluminum as it is cast. Wastewater from plants using direct chill casting may contain oil and grease when lubricants are used.

Secondary Aluminum

Of the 47 secondary aluminum plants operating in the United States, the majority are located in the eastern region, and most are in urban areas near raw materials and markets. Most of the facilities are less than 25 years old, reflecting the relatively recent development of this industry. Industry data indicate that the majority of facilities produce between 5,000 and 20,000 tons of aluminum per year. Most plants use a demagging process and almost all cast molten aluminum. Twenty-three of these facilities achieve zero discharge through evaporation and recycle. Ten plants are direct dischargers and 14 are indirect dischargers.

Refining scrap into aluminum involves a two-step process: scrap pretreatment and smelting/refining. Secondary aluminum raw materials include: old sheet and castings, new clippings and forgings, borings and turnings, residues, aluminum cans, and high run.

The sources of wastewater receiving an allowance in the secondary aluminum plants are listed below, along with the pollutants typically found in each:

(1) *Scrap drying wet air pollution control* wastewater results from the drying of aluminum scrap to remove cutting oils and water. This wastewater contains total suspended solids and aluminum.

(2) *Scrap screening/milling* wastewater results from washing contaminants from scrap aluminum and contains total suspended solids, aluminum and toxic metals.

(3) *Dross washing* wastewater is generated from the leaching or residues with water to remove contaminants. This wastewater contains toxic metals, aluminum, ammonia and suspended solids.

(4) *Demagging wet air pollution control* wastewater is the scrubber liquor resulting from the removal of magnesium from molten aluminum. Toxic metals, fluroide and suspended solids characterize the wastewater.

(5) *Direct chill, ingot conveyor, and stationary casting contact cooling* water results from casting the molten aluminum into ingot, bars, or shot. This wastewater contains oil and grease, and suspended solids.

(6) *Delacquering wet air pollution control* wastewater results from the removal of paint and lacquer from the surface of aluminum scrap. This wastewater contains oil and grease phenols, and suspended solids.

Primary Copper Smelting

Primary copper smelting occurs at 19 smelting operations located primarily in the southwest. Of these 20 facilities, four were built in the past 20 years, while seven of them were built at least 80 years ago. On an average, the plant production from these facilities is 200,000 tons of smelter copper. There is one direct discharger, no indirect dischargers, and 18 zero dischargers. Smelting of copper ore concentrates involves a four-step process: roasting, smelting, converting, and casting of fire-refined copper.

The principal sources of wastewater in the primary copper smelting plants are listed below, along with the pollutants typically found in each:

(1) *Slag granulation* wastewater results from conditioning slag tapped from the furnaces. Wastewater from this operation contains inpurities found within the slag, toxic metals, and suspended solids.

(2) *Casting wet air pollution control* wastewater results from the control of particulate matter produced in the casting furnace and contains dissolved toxic metals and suspended solids.

Wastewater discharges from roaster, converter and smelting furnace wet air pollution control are included as a part of the metallurgical acid plant.

Primary Electrolytic Copper Refining

Primary electrolytic copper refining occurs at 14 refining and electrowinning facilities located along maritime centers and in the southwest near smelters. Three of these facilities are direct dischargers while 11 achieve zero discharge. The average age of these

facilities is approximately 30 years, and the average production is approximately 115,000 tons per year of cathode copper.

Further refining of copper is necessary if it is to be used in electrical applications. By using electrolysis, the copper can be refined to a purity of 99.98 percent or greater, and the precious metals contained as impurities in the copper can be recovered. Fire refined blister copper from the smelting operation, sulfuric acid, and copper sulfate are the principle raw materials used in electrolytic refining.

The sources of wastewater receiving an allowance in primary electrolytic copper refining are listed below, along with the pollutants typically found in each:

(1) *Anode-cathode rinse water* results from rinsing anodes and cathodes when they are removed from the electrolytic cells. Characteristics of the rinse water include a lo pH due to the sulfuric acid rinsed from the anodes or cathodes. The rinse water also contains dissolved toxic metals.

(2) *Spent electrolyte* after electrowinning and nickel sulfate removal may be discharged, although in most cases it is recycled back to the electrolytic tank house. This waste stream contains dissolved toxic metals and is characterized by a low pH due to electrolyte medium.

(3) *Casting contact cooling* wastewater results from the contact cooling of metal castings and contains dissolved toxic metals and suspended solids.

(4) *Casting wet air pollution* wastewater results from the control of particulate matter produced in the casting furnace and contains dissolved toxic metals and suspended solids.

Secondary Copper

Of the 31 secondary copper processing plants in the United States, the majority are located in or near major industrial cities in the Great Lakes and New England states, where most of the raw materials are generated and collected. The industry is fairly well established; the average plant age falls between 30 and 40 years, somewhat older than the average for plants in the primary copper industry. The average production of secondary copper plants is only about one-tenth of the average of primary copper plants. Only five plants of the 31 plants listed in this subcategory are direct dischargers while six of these plants are indirect dischargers. Zero discharge of process wastewater is achieved by 20 plants.

Depending on the type of raw materials and the desired end product, the manufacturing process consists of three distinct operations: pretreatment of scrap, smelting and refining. Most plants, however, do not go beyond the smelting process.

The principal sources of wastewater generated by secondary copper plants are listed below, along with the pollutants typically found in each:

(1) *Slag milling and classification* wastewater results from milling and classifying slag (when used as a raw material) prior to smelting, and is characterized by the presence of suspended solids, copper, lead and zinc.

(2) *Smelting wet air pollution control* wastewater is typically acidic and contains copper; it may also contain varying concentrations of other metals, due in part to differences in the metallic contents of the raw material and the fluxes used.

(3) *Casting contact cooling* wastewater results when the water used in ingots or anode cooling is discharged without recycle. This stream is characterized by the presence of suspended solids and toxic metals.

(4) *Spent electrolyte*, a solution of sulfuric acid and copper sulfate, is usually recycled or sold; when discharged, however, the strongly acidic wastewater contains copper.

(5) *Slag granulation* wastewater results when molten slag is impacted with a high pressure water jet. This stream contains toxic metals.

Primary Lead

Four of the six plants in the Primary Lead Subcategory are direct discharges. Two are indirect discharges. Three of these plants are located near the rich lead ore deposits in Missouri, while the rest are spread throughout the west. Four plants were built before World War I, another in 1920, and the final two in 1968 in Missouri. EPA data show that plant production ranges from 100,000 to 250,000 tons per year while average annual plant production is about 150,000 tons.

The process used in lead production has changed very little in the last 75 years. Primary lead production can be divided into six distinct steps; sintering, reduction (blast furnace), dross removal, softening and refining, and casting.

The principal sources of wastewater in the primary lead industry are listed below, along with the pollutants typically found in each:

(1) *Slag granulation* wastewater results when molten blast furnace slag is impacted with a high pressure water jet. Toxic metals, especially lead, are present in this waste stream.

(2) *Zinc fuming furnace scrubber water* is generated by wet scrubbers used to contain particulates and volatilized metals (especially zinc) produced by fuming the blast furnace slag.

(3) *Dross reverberatory furnace scrubber water* is a potential discharge associated with the wet scrubbers which are used to contain particulates and fumes from the reverberatory furnaces. Toxic metals and suspended solids are present in this wastewater.

(4) *Dross reverberatory furnace granulation* wastewater is used to prepare speiss and matte from the dross reverberatory furnace for resale. Metals and suspended solids characterize this stream.

(5) *Hard lead refining wet air pollution control* wastewater results from air pollution control equipment on furnaces used to refine antimonial, or "hard," lead from the softening step. Metals, particularly lead and antimony, and suspended solids are present.

(6) *Hard lead refining slag granulation* wastewater is used to granulate slag from the hard lead refining blast furnace. Toxic metals and suspended solids characterize this stream.

(7) *Materials handling wet air pollution control* wastewater results from the scrubbing of particulate matter from transfer points, conveyors, and crushing operations.

(8) *Handwash* wastewater is generated to reduce occupational lead exposures. Wastewater from handwashing contains treatable concentrations of lead and other toxic metals.

(9) *Respirator wash* wastewater is generated during washing of the respirators used to reduce occupational lead exposures. Wastewater from respirator wash contains toxic metals, most notably lead.

(10) *Laundry* wastewater is generated during laundering of uniforms to reduce occupational lead exposures. Wastewater from laundries contain lead and other toxic metals.

(11) *Facility washdown* wastewater results from floor and equipment washing to control fugitive lead emissions. This wastewater source is characterized by presence of lead and suspended solids.

Wastewater discharges associated with sintering wet air pollution control are included as a part of the metallurgical acid plant.

Primary Zinc

There are six primary zinc plants in the United States. The primary zinc industry is well established; the average plant age is about 50 years. Zinc production is not confined to any particular geographic location. Four

plants are located east of the Mississippi river and two plants are located in the southwest (Texas and Oklahoma). The average plant has a production of 100,000 to 200,000 tons per year. Three of the plants are direct dischargers, one is an indirect discharger, and the remaining two are classified as zero dischargers.

There are two zinc production processes; pyrolytic and electrolytic. The first step in each process is roasting. Roasting converts the sulfur present in the zinc concentrates to sulfur dioxide. The sulfur dioxide is then converted to sulfuric acid at an acid plant located on-site with the zinc plants.

The principal sources of wastewater in the primary zinc industry are listed below, along with the pollutants typically found in each:

(1) *Zinc reduction furnace wet air pollution control* wastewater results from conditioning off-gases from the reduction furnaces, and contains zinc, cadmium, and several other toxic metals at treatable concentrations.

(2) *Preleach* wastewater results from leaching of zinc concentrates to reduce the amount of magnesium present in the electrolytic circuit. The leachate contains zinc and other toxic metals.

(3) *Electrolyte bleed* watewater results from blowdown of electrolyte to reduce the amount of magnesium present in the electrolytic circuit. The leachate contains zinc and other toxic metals.

(4) *Leaching wet air pollution control* wastewater results from the use of contact scrubbers to control acidic leaching emissions. The scrubbing liquor contains various toxic metals.

(5) *Cathode and anode washing* wastewater results from periodic washing of the cathodes and anodes used in the electrolytic zinc process. Cathode and anode washing wastewater contains toxic metals and suspended solids.

(6) *Casting wet air pollution control* wastewater results from cleaning the gaseous emissions associated with the casting melting furnace, and contains toxic metals and suspended solids.

(7) *Casting contact cooling* wastewater results from the contact cooling of metal castings and contains toxic metals.

(8) *Cadmium plant* wastewater results from byproduct cadmium recovery and contains toxic metals.

Wastewater discharges associated with roasting wet air pollution control and sintering wet air pollution control are included as a part of the metallurgical acid plant.

Metallurgical Acid Plants

Metallurgical acid plants produce sulfuric acid from sulfur dioxide air emissions at primary copper, lead, or zinc facilities. There are 19 metallurgical sulfuric acid plants in the United States. Of these, eight are direct dischargers, two are indirect dischargers and 9 achieve zero discharge. Ten metallurgical acid plants are located on-site with primary copper smelting plants, three are on-site at primary lead plants, and six are on-site at primary zinc plants. All but one of the plants associated with copper smelting are located in Texas or west of Texas, and all except one of these are zero dischargers. Two of the acid plants associated with lead are located in Missouri and are both direct discharge acid plants. The other acid plant is located in Montana and achieves zero discharge. The six zinc-related acid plants, four direct dischargers and two indirect dischargers, are located between Texas and Pennsylvania. There are insufficient data to ascertain the age of acid plants independently of the base metal plants associated with them. Acid plants have been added as a result of air pollution abatement measures at some of the existing primary metal production facilities. The average production capacity for metallurgical acid plants is 100,000 to 300,000 tons per year of 100 percent sulfuric acid. The production capacities range from 50,000 to 850,000 tons per year.

Metallurgical acid plants produce sulfuric acid from the air emissions of pyrometallurgical operations. By producing acid, the acid plants not only clean the smelter emission of many tons per day of sulfur oxides, but they also produce a marketable sulfuric acid product.

The principal wastewater sources in metallurgical acid plants are as follows:

—Sintering wet air pollution control,
—Roasting wet air pollution control,
—Conversion wet air pollution control,
—Acid plant wet air pollution control,
—Mist precipitator,
—Box cooler, and
—Mist eliminator.

These wastewater sources are usually combined into a single wastewater stream—acid plant blowdown—which is treated and then recycled or discharged.

The acid plant blowdown stream contains the toxic metals antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc, and total suspended solids.

Primary Tungsten

Of the 16 primary tungsten plants in the United State, four are direct dischargers, six are indirect dischargers, and six are zero dischargers. Only two primary tungsten plants have been built in the last 30 years; most were built around the time of World War II. EPA data show that plant production ranges from 100 to 4,000 tons per year while the average yearly production is approximately 1,000 tons.

The processes used at a primary tungsten production facility depend largely on the raw material used and the final product desired. The three basic primary tungsten processing steps which an individual plant may utilize are chemical separation of impurities, purification, and oxide and metal recovery.

The principal sources of wastewater in the primary tungsten industry are listed below, along with the pollutants typically found in each:

(1) *Tungstic acid* rinsewater is generated when water is used to wash the insoluble tungstic acid product of leaching. This stream is characterized by high acidity as well as the presence of toxic metals and suspended solids.

(2) *Acid leach wet air pollution control* wastewater results from air pollution controls used to control HC1 fumes from acid leaching, and is characterized by low pH (2 to 5) and contains toxic metals and suspended solids.

(3) *Alkali leach* wash water results from the filtering and washing of alkaline leaching products (i.e., Na_2WO_4). This stream contains toxic metals and suspended solids.

(4) *Ion-exchange raffinate* is a waste stream from the liquid ion-exchange process used to convert Na_2WO_4 to ammonium paratungstate (APT). Organics are present in this stream due to the use of organic compounds as an ion-exchange medium. This stream is also characterized by the presence of toxic metals and suspended solids.

(5) *Calcium tungstate precipitation* wash water results from the precipitation of calcium tungstate from a sodium tungstate solution to which calcium chloride has been added. The resulting waste stream is characterized by the presence of toxic metals.

(6) *The crystallization and drying of APT* may generate water as the APT crystals are precipitated from the mother liquor. Additionally, wet air pollution control methods may be applied to control ammonia fumes. The wastewater associated with this stream is characterized by the presence of ammonia.

(7) *APT conversion to oxides wet air pollution control* wastewater results from air pollution control devices on the

rotary furnaces used to convert APT to tungsten oxides and contains ammonia and toxic metals.

(8) *APT conversion to oxides water of formation* wastewater results from the water formed when APT is reduced to oxides. The wastewater source is characterized by the presence of ammonia.

(9) *Reduction to tungsten wet air pollution control* wastewater results from wet scrubbers on the reduction furnace. Toxic metals and suspended solids are found in this waste stream.

(10) *Reduction to tungsten water of formation* is produced in the reduction furnace when the reduction of oxides to metal frees oxygen to combine with the hydrogen in the furnace. The characteristics of this stream are similar to those of the reduction scrubber waters.

(11) *Tungsten powder leach and wash* wastewater results from the acid leaching and washing of tungsten powders. This wastewater source is characterized by a low pH.

Primary Columbium-Tantalum

All five of the columbium-tantalum plants were built in the 20-year period just after World War II. The plants are scattered geographically, with half the plants located in New England and the rest in the West and Midwest. EPA data show that average plant production is approximately 450 tons per year, and that all plants discharge wastewater. There are three direct dischargers and two indirect dischargers.

The processes used at a columbium and tantalum production facility depend largely upon the raw material used and the plant's final product. Five basic operations from ore or slag to metal must be performed. These include pulverizing and leaching, separation of columbium and tantalum, purification, precipitation of salts, and reduction of salts to metal.

The principal sources of wastewater in the primary columbium-tantalum subcategory are listed below, along with the pollutants typically found in each:

(1) *Concentrate digestion wet air pollution control* wastewater results from digesting ore concentrates and slags with hydrofluoric acid, and contains suspended solids, fluorides and toxic metals.

(2) *Solvent extraction raffinate* is a product of the two-step extraction process, resulting in the extraction and separation of columbium and tantalum. The raffinate contains impurities from digestion and contains toxic organics, fluorides, toxic metals and suspended solids.

(3) *Precipitation and filtration* wastewater results from precipitation of pure metal salts from the aqueous phase by ammonia addition to form columbium and tantalum oxides, or by hydrofluoric acid and potassium fluoride addition to recover tantalum. These precipitates are filtered and washed, producing effluent streams containing ammonia, fluoride, toxic metals and total suspended solids, potassium fluorides, and chlorides, for the respective processes.

(4) *Precipitation and filtration wet air pollution control* wastewater is produced from scrubbing air emissions during precipitation. The scrubber liquor contains ammonia, fluoride, toxic metals, and total suspended solids.

(5) *Tantalum salt drying* wastewater is produced during the drying of potassium fluoride salts and contains fluorides and total suspended solids.

(6) *Metal oxide calcining wet air pollution control* wastewater are produced as the columbium and tantalum oxide precipitates are dried and calcined to yield purified oxides. The solvents produced reflect the precipitation process employed.

(7) *Reduction of tantalum salt to metal* wastewater is produced from sodium reduction, or extensive washing of the product metal with water and/or acid. The resulting waste streams typically contain dissolved solids and fluoride, sodium chloride and sulfate, and potassium chloride and sulfate. Another reduction process, aluminothermic reduction, is used in plants in the United States; however, the process generates no wastewater.

(8) *Reduction of tantalum salt to metal wet air pollution* control wastewater results from wet scrubbers which control the reduction process emissions; this discharge is similar in pollutant content to the reduction washing stream.

(9) *Consolidation and casting contact cooling* produces no wastewater discharge. One plant surveyed practiced direct contact cooling of metal castings; however, it recycles 100 percent of the water used in this process.

(10) *Tantalum powder wash* wastewater results from the acid leaching of tantalum powders to give the powder certain physical characteristics. This waste is characterized by a low pH and suspended solids.

Secondary Silver

There are 61 plants in the United States that recover silver from photographic and nonphotographic sources. The plants are grouped in three major areas of the country: the Gulf Coast, the Rocky Mountains-Pacific Coast, and the Great Lakes-New England area. EPA data show that a small minority (seven) of secondary silver plants are direct dischargers. Of the remainder, 26 are indirect dischargers and 28 are zero dischargers. Of those plants that discharge wastewater, five plants process only photographic materials, 26 process only nonphotographic materials, and two process both types. The average plant age is between 15 and 24 years.

Over half of the secondary silver plants that reported data produce in excess of 100,000 troy ounces of silver per year; three of these plants produce over 1,000,000 troy ounces of silver per year. Twenty-one plants reported production of less than 50,000 troy ounces per year.

The processes used at a secondary silver production facility depend largely upon the raw materials used and the plant's final product. Secondary silver production processes can be discussed in the context of two sources of raw materials: photographic and nonphotographic materials. The principal raw materials used by plants recovering silver from photographic materials are discarded photographic film and silver-rich sludges and solutions from photographic processing. Waste plating solutions, sterling ware scrap, and electrical component strap are the principal raw materials used in the nonphotographic category.

The principal sources of wastewater in the secondary silver subcategory are listed below, along with pollutants typically found in each:

(1) *Film stripping* wastewater consists of wash water from the screening and rinsing of emulsions which have been stripped from photographic film. This effluent contains toxic organics and metals, as well as cyanide, suspended solids, and oil and grease.

(2) *Film stripping and precipitation of film stripping solutions wet air pollution control* wastewater is a result of air emissions from film stripping operations. Pollutants found in this wastewater include toxic organics and metals, cyanide, and suspended solids.

(3) *Precipitation and filtration of film stripping solution* wastewater consists of discharged silver-free solution from the silver preciptiation-filtration process, and contains toxic organics, toxic metals, and suspended solids.

(4) *Precipitation and filtration of photographic solutions* wastewater results from the precipitation of silver from photographic hypo solutions. The presence of toxic organics, toxic metals, ammonia, chloride, suspended solids and oil and grease characterize this wastewater.

(5) *Precipitation and filtration of photographic solutions wet air pollution control* wastewater consists of scrubber liquor from the precipitation and filtration of photographic solutions, and contains toxic organics and toxic metals. Suspended solids and ammonia may also be present.

(6) *Electrolytic refining* wastewater is a product of silver refining, after the metal has been roasted and cast into electrodes. This effluent consists of spent electrolyte solution and contains toxic organics, toxic metals, ammonia, phenols, fluoride, cyanide, suspended solids and oil and grease.

(7) *Furnace wet air pollution control* wastewater results from the scrubbing of roasting and melting furnace off-gases. Suspended solids may be present in this wastewater, along with toxic organics and toxic metals.

(8) *Leaching* wastewater is a product of the leaching of nonphotographic silver sludges and copper matte associated with he melting of electrical component parts. This stream contains toxic organics and metals, ammonia, fluoride, phenols, cyanide, suspended solids, and oil and grease.

(9) *Leaching and precipitation of nonphotographic solutions wet air pollution control* wastewater is the effluent from scrubbers employed to reduce air emissions from leaching operations. The scrubber liquor is characterized by toxic organics and metals, phenols, cyanide, suspended solids, and oil and grease.

(10) *Precipitation and filtration of nonphotographic solutions* wastewater consists of the spent solutions left after silver is precipitated from leachates, waste plating solutions and melted silver scrap. Wash water from filtration may also be included in this effluent which contains toxic organics and metals, ammonia, cyanide, chloride, fluroide, phenols, suspended solids, and oil and grease.

(11) *Floor and equipment washdown* wastewater results from the washing of floors and equipment. This wastewater source has many of the same characteristics as the precipitation and filtration of nonphotographic solutions wastewater source.

Secondary Lead

Forty-nine secondary lead plants presently operate in the United States, and are located predominantly in or near major urban centers where most of the raw materials are readily available. Thirty-four plants (68 percent) are located west of the Mississippi River, and the remaining 32 percent are located in two bands east of the Mississippi, around the Great Lakes and in the South. Twenty-six plants discharging to a POTW and 15 plants achieving zero discharge are found in all areas, while eight plants discharging directly to receiving waters are found in the East and South. An additional 19 plants remelt and alloy secondary lead, but do not smelt.

The median age of secondary lead plants is within a span of 25 to 44 years. Data gathered from the industry show that for the plants providing sufficient production data, only nine produced over 20,000 tons of lead in 1976. Most secondary lead plants are relatively small operations; two-thirds of the plants produced under 15,000 tons of lead in 1976.

There are three major phases involved in the secondary lead industry: scrap pretreatment, smelting, and refining/casting. However, not all secondary lead plants perform all of these processes.

The principal waste streams that are produced in the secondary lead industry are described below, together with the major pollutants found in each:

(1) *Battery cracking* produces a wastewater stream containing dissolved toxic metals, suspended solids, and oil and grease. It is generated when batteries are broken or shredded and the electrolyte is drained from the battery case and commingled with water to cool the saws used to cut batteries.

(2) *Battery case classification* wastewater results from the classification of lead and battery cases after battery cracking using water as a flotation medium. This wastewater source is characterized by the presence of lead and total suspended solids.

(3) *Lead paste desulfurization* wastewater is generated when the sulfur content of lead paste is reduced using ammonia. Wastewater from this source is expected to contain lead and total suspended solids.

(4) *Smelting furnace wet air pollution control* systems are used to control emissions from this operation, especially particulate matter. The scrubber liquor is characterized by the presence of total suspended solids and lead.

(5) *Kettle wet air pollution control* systems are used to control particulate matter in the off-gases from refining. This waste stream contains total suspended solids and toxic dissolved metals.

(6) *Casting contact cooling* water is frequently recycled and may be totally evaporated. However, a small stream is often blown down to limit the buildup of dissolved solids. This waste stream is characterized by the presence of toxic metals such as antimony, arsenic, thallium, and zinc.

Truck washing wastewater results from washing trucks that are used to haul scrap batteries. Wastewater from truck wash contains suspended solids, lead, and other toxic metals.

(8) *Hand wash* wastewater results from washing employee hands to reduce occupational lead exposures. This wastewater contains lead and other toxic metals.

(9) *Respirator wash* wastewater results from washing respirators to reduce occupational lead exposures. This wastewater source is characterized by the presence of lead and other toxic metals.

(10) *Laundry* wastewater results from the laundering of employee uniforms to reduce occupational lead exposures. Laundry wastewater contains lead and other toxic metals.

(11) *Facility washdown* wastewater results from washdown of floors and equipment to control fugitive lead emissions. This wastewater source principally contains lead and suspended solids.

(12) *Laboratory* wastewater results from the quality assurance testing of refined lead. Laboratory wastewater contains lead and other toxic metals.

B. Control and Treatment Technologies and Treatment Effectiveness

1. Control and Treatment Technologies

Before proposing the nonferrous metals manufacturing regulation, EPA considered a wide range of control and treatment options including both in-process changes and end-of-pipe treatment. These options are discussed in detail in the preamble to the proposed nonferrous metals manufacturing regulation (48 FR 7032). For the most part, the end-of-pipe model treatment technology proposed for each subcategory has been selected as the basis for the final rule. This technology is hydroxide precipitation (with additions of iron or polyelectrolyte coagulant aids as necessary) and sedimentation ("lime and settle") followed by multimedia filtration as a polishing step, with flow reductions where appropriate. In three subcategories (primary copper, secondary lead, and secondary silver), we proposed alternative limitations and standards—one alternative based on lime and settle technology and the other on lime, settle, and filter—due to concerns as to economic achievability of the added filtration step. After revising the compliance costs and economic analysis for these subcategories, the Agency has determined that the requirement of multimedia filtration is

economically achievable, and is basing the final regulation on this technology. The control and treatment technologies used as the basis for the final limitations and standards are described below.

As a result of public comment and solicitation of additional information, we are adding sulfide precipitation as a part of the model technology in four subcategories, adding activated carbon as a part of the model technology in another subcategory, but removing activated carbon from one subcategory where we had previously proposed it. In-process controls and preliminary treatment in the final rule thus are based on flow reduction techniques and preliminary treatment of specific waste streams for the control of cyanide, oil and grease, and ammonia. Preliminary treatment for the removal of polynuclear aromatic hydrocarbons has been eliminated from the proposed technology basis in the primary aluminum subcategory. Through pilot-scale work, the Agency has determined these toxic organic pollutants are effectively controlled by lime, settle, and multimedia filtration technology. Preliminary treatment for the removal of total phenols using activated carbon was added to the secondary aluminum subcategory.

End-of-pipe treatment thus includes: chemical precipitation of metal ions using hydroxides or carbonates, removal of precipitated metals by settling, pH control, and filtration. Sulfide precipitation has also been included as an end-of-pipe treatment technology for four subcategories. These treatment technologies are described in detail in Section VII of the General Development Document.

2. Treatment Effectiveness

The treatment effectiveness of these technologies has been evaluated by observing their performance on nonferrous metals manufacturing and other similar wastewaters. Each technology is discussed below.

a. Lime and Settle Technology.

1. *The Combined Metal Data Base.* The data base for the performance and variability of hydroxide precipitation-sedimentation technology is a composite of data drawn from EPA protocol sampling and analysis of aluminum forming, copper forming, battery manufacturing, porcelain enameling, and coil coating wastewaters. These data, collectively called the combined metals data base ("CMDB"), include influent and effluent concentrations for nine pollutants. The wastewaters from each subcategory have been found to be statistically similar in all material respects. A separate study of statistical homogeneity of these wastewaters is part of the record for this rulemaking.

With the exception of the primary aluminum (under certain conditions), primary lead, primary zinc, primary copper, and metallurgical acid plant subcategories, we regard the combined metals data base as the best available measure for establishing the concentrations of pollutants attainable with hydroxide precipitation and sedimentation. Our determination is based on an analysis which found that the untreated pollutant concentrations are generally homogeneous across subcategories within the nonferrous category and that the nonferrous untreated pollutant concentrations pooled across subcategories are generally homogeneous with the CMDB untreated pollutant concentrations pooled across categories. A report of this homogeneity analysis is also a part of the record for this rulemaking.

We view the use of the combined metals data base as appropriate for setting effluent limitations for the following six pollutants in nonferrous metals manufacturing plants: cadmium, copper, lead, nickel, zinc, and TSS. There are several reasons for this conclusion:

(1) Process Chemistry: We believe that properly operated hydroxide precipitation and sedimentation will result in effluent concentrations that are directly related to pollutant solubilities. Since the nonferrous metals manufacturing raw wastewater matrix contains the same toxic pollutants in the same order of magnitude (for the most part) as the combined metals data base raw wastewater and the technology is solubility-based, we believe the mean treatment process effluent and variability will be identical.

(2) Homogeneity: EPA examined the homogeneity among nonferrous subcategories, as well as between the pooled nonferrous subcategories and the combined metals data base. Homogeneity is the absence of statistically discernible differences among mean pollutant concentrations observed in a set of data. The purpose of these analyses was to check the Agency's engineering judgment that the untreated wastewater characteristics observed in the nonferrous category were similar to those observed in the combined metals data base. Establishment of similarity of raw wastes through a statistical assessment provides further support to EPA's assumption that lime and settle treatment reduces the toxic metal pollutant concentrations in untreated nonferrous wastewater to concentrations achieved by the same technology applied to the wastewater from the categories in the combined metals data base. In general, the results of the analysis showed that the nonferrous subcategories are homogeneous with respect to mean pollutant concentrations across subcategories. Comparison of the untreated nonferrous metals manufacturing data combined across subcategories and the combined metals data also showed good agreement.

(3) Nonferrous Metals Manufacturing Data Base: EPA sampled nine nonferrous plants with lime precipitation and sedimentation. For the six plants with well-operated systems, we combined the EPA short-term sampling data with any available plant self-monitoring data and compared their long-term mean performance with the long-term mean performance calculated from the combined metals data base performance.

These nonferrous metals manufacturing plants are achieving a long-term mean performance that equals or betters the combined metals data base for five of six metals and TSS. These nonferrous metals plants exceed the 0.12 mg/l mean for lead by only 0.01 mg/l. (Additional discussion regarding revised variabilities for lead is found later in this section.)

(4) Commenters from most subcategories failed to present any data showing that they were unable to achieve limits based on the CMDB. In those subcategories where the commenters submitted data, the Agency studied the data carefully and, where appropriate, developed alternative limitations or made modifications to the CMDB limitations and variabilities.

Although we are continuing to use the CMDB treatment effectiveness values and variabilities for most of the nonferrous subcategories, we have reevaluated and changed certain values within the CMDB. In particular, the Agency revised the variability of lime and settle technology for the pollutant lead. After proposal, the Agency collected an additional two useable effluent samples from an integrated secondary lead and battery manufacturing plant which the Agency judges to have a state-of-the-art lime and settle treatment system. These data verified plant supplied data containing 199 days of daily lead concentrations measured in the raw and treated wastewater for their lime and settle treatment system. When the 201 data points were combined with the three data points previously used in the CMDB and analyzed statistically, the long-term mean 0.12 mg/l as proposed

was verified, but the one-day maximum and monthly average increased.

Commenters from the primary lead, primary zinc, primary copper, and metallurgical acid plant subcategories submitted extensive self-monitoring. In addition, we solicited design and operating parameters for the treatment systems from which the data were collected. Of the seven plants submitting data, the Agency has determined that data from three of the plants should not be used to establish treatment effectiveness because of design or operational deficiencies. Another plant submitting data is from the primary copper subcategory and was found to be operating its treatment system at pH 12 to optimize arsenic removal. At pH 12, metals removal for pollutants other than arsenic decreases due to the increased solubility of metals at higher pH levels. Therefore, the Agency believes effluent data from this plant are not appropriate to determine treatment performance for other plants in the category without this problem. After examining the arsenic values of the raw materials used by plants in the copper smelting subcategory, the Agency believes this one plant is the only discharger experiencing arsenic concentrations frequently over 100 mg/l in the raw wastewater. However, three of the remaining plants may be properly designed and, of these, the two primary zinc plants appear to have problems complying with the proposed zinc limitations (possibly due to extremely high influent zinc concentrations or to ammonia interferences) while another plant, from the primary lead subcategory, appears to have difficulty meeting the proposed limit for cadmium and lead. Although there were indications that these plants might not be operating optimally—the coefficient of variation for treated effluent was higher than for influent, the Agency, as a conservative measure, assumed that additional treatment with sulfide precipitation would be necessary for plants in these subcategories to meet the limitations.

The data from the three acceptable plants have been summarized and are presented in a memorandum that is included in the administrative record for this regulation.

Therefore, sulfide precipitation has been added to the technology basis for BAT in these four subcategories (primary copper refining, lead, zinc and metallurgical acid plants). The Agency believes that the combination of lime and settle plus sulfide precipitation will achieve the performance values originally proposed for lime and settle treatment. We believe that sulfide precipitation will enhance the metals removal by providing two stage precipitation and by using sulfide to form a metal sulfide that is more insoluble than the metal hydroxide formed by hydroxide precipitation (see Section VII of the General Development Document). We also have data from one U.S., one Swedish, and one Japanese nonferrous metals plant that we believe support this conclusion. Sulfide precipitation is used to remove arsenic, cadmium, lead, zinc, and other toxic metals at these plants. There are several laboratory studies that have supported the use of sulfide to remove toxic metals. The technology also is demonstrated in wastewater and process applications in the nonferrous metals industry.

The Agency also received extensive effluent monitoring data from the secondary lead subcategory. However, the effluent data were not usable because there is inadequate influent data and, for the most part, did not include effluent total suspended solids measurements. Without extensive influent data, it is not possible for the Agency to examine the raw matrix and check for aberrations from the raw wastewater matrix of the combined metals data base. In addition, one of the plants submitting effluent data discharges wastewater to a percolation pond and may not have the incentive to achieve the same effluent quality as a direct discharger. Without effluent TSS measurements we cannot determine if there is acceptable design and operation of the treatment system. As stated above, the Agency has verified the proposed long-term mean for lead and increased the variability factors for lead based on adding 201 data points from an integrated secondary lead and battery manufacturing plant.

In addition, the Agency has revised the nickel performance for the primary aluminum subcategory. The pilot-scale study conducted by the Agency has demonstrated the proposed nickel performance (as well as antimony, fluoride and aluminum performance that is not directly developed from the CMDB) value from the CMDB is unachievable in primary aluminum wastewaters when cathode reprocessing is operated at the plant. Therefore, the Agency has promulgated two sets of performance standards for the subcategory as explained more fully in the primary aluminum BAT technology basis discussion.

2. Aluminum. We have revised the treatment effectiveness of lime and settle technology for the pollutant aluminum (which was not based on the CMDB) based on analysis of the effluent concentrations of aluminum at three aluminum forming plants and one aluminum coil coating plant with lime and settle wastewater treatment. These plants are from categories included in the combined metals data set, and so the matrices are comparable to the raw wastewater matrices for the nonferrous subcategories (primary and secondary aluminum) where these values are used. A total of 11 data points were available which were used to establish the treatment effectiveness value for aluminum. This aluminum value reflects the aluminum removals achievable when treatment is optimized for removal of toxic metals such as chromium and zinc.

3. Fluoride. The Agency has reevaluated lime and settle technology performance for fluoride removal. The proposed treatment performance for fluoride was transferred from the electrical and electronic component manufacturing (phase I) lime and settle mean performance. Commenters urged the Agency to transfer treatability performance values from the inorganic chemical industry instead. We disagree. The Agency believes the electronics data base more closely reflects the treatability of fluoride in nonferrous metals manufacturing wastewaters because of the type of fluoride present. The fluoride present in inorganic chemicals manufacturing (hydrofluoric acid production) exists as a complex fluoride mineral containing silicates and other compounds that complicate removal by lime precipitation. In nonferrous metals manufacturing and electronics, the fluoride disassociates in water to fluoride ion, which can be readily removed from solution by lime as calcium fluoride.

However, examination of the elecrtronics data has led the Agency to conclude that the raw concentrations of fluoride in nonferrous metals manufacturing wastewaters more closely resemble the higher concentrations found in electrical and electronics phase II rather than phase I (49 FR 55690, December 14, 1983.). Therefore, the Agency believes it is appropriate to use the mean performance and daily maximum variability developed for electronics phase II to establish treatment effectiveness for fluoride removal by line and settle treatment.

b. Filtration. EPA established the pollutant concentrations achievable with lime precipitation, sedimentation, and polishing filtration with data from three plants with the technology in-

place: one nonferrous metals manufacturing plant and two porcelain enameling plants whose wastewater is similar (as determined by statistical analysis for homogeneity) to wastewater generated by nonferrous metals manufacturing plants. In generating long-term average standards, EPA applied variability factors from the combined metals data base because the combined data base provided a better statistical basis for computing variability than the data from the three plants sampled. The use of lime and settle combined data base variability factors is probably a conservative assumption because filtration is a less variable technology than lime and settle, since it is less operator-dependent. (In fact, no commenter questioned this use of CMDB variability factors.)

For pollutants for which there were no data relating to filtration effectiveness from these three plants, long-term concentrations were developed assuming that removal by filtration would remove 33 percent more pollutants than lime precipitation and sedimentation. This assumption was based upon a comparison of removals of several pollutants by lime precipitation, sedimentation, and filtration which showed 33 percent incremental removal attributable to filtration.

EPA selected this approach because of the extensive long-term data available from these three plants. We believe that the use of polishing filtration data from porcelain enameling plants is justified because porcelain enameling was included in the combined metals data base. Since we have determined that lime precipitation and sedimentation will produce identical results on both nonferrous metals manufacturing and porcelain enameling wastewater, it is reasonable for the Agency to assume that polishing filters treating these identical intermediate waste streams will produce an identical final effluent. (In those nonferrous subcategories where sulfide precipitation is the technology basis as well as lime and settle treatment, the influent being filtered would have the same level of pollutants as CMDB influent being filtered. This is because sulfide precipitation following lime and settle treatment is projected to achieve the CMDB treatability levels for these subcategories.)

The proposed treatment performance for fluoride was transferred from the electrical and electronic component manufacturing (phase I) lime and settle mean performance plus a one-third incremental removal by filtration. However, review of the electronics data has convinced the Agency that no substantial additional removal of fluoride will occur from polishing filtration. This is consistent with the fact that the long-term lime and settle performance being used closely approaches the solubility of calcium fluoride in water. The final regulation thus assumes no incremental removal of fluoride from filtration.

c. Ammonia Steam Stripping. This technology is used routinely to reduce ammonia levels. To evaluate treatment effectiveness, EPA (through its contractor) collected chemical analysis data of raw waste (treatment influent) and treated waste (treatment effluent) from one plant in the iron and steel category. These data are the data base for determining the effectiveness of ammonia steam stripping technology in this category and are contained within the administrative record supporting this regulation. We believe this treatment performance can be transferred to nonferrous subcategories because the technology is solubility related and these nonferrous subcategories do not contain interfering agents that would reduce ammonia removals.

An arithmetic mean of the treatment effluent data produced an ammonia long-term mean value of 32.2 mg/l. The one-day maximum, 10-day, and 30-day average concentrations attainable by ammonia steam stripping were calculated using the long-term mean of the 32.2 mg/l and the variability factors that express an overall pooled variance estimate developed from the combined metals data base. This produced ammonia concentrations of 133.3, 58.6, and 52.1 mg/l ammonia for the one-day maximum, 10-day, and 30-day averages, respectively.

The Agency has verified the proposed steam stripping performance values using steam stripping data collected at a zirconium-hafnium plant, a plant in the nonferrous category (phase II), which has raw ammonia levels as high as any in the nonferrous phase I subcategories. Data collected by the plant represent almost two years of daily operations, and support the long-term mean used to establish treatment effectiveness.

Several comments were received stating that ammonia steam stripping performance data transferred from the iron and steel category are not appropriate for the nonferrous metals manufacturing category. Many of the commenters believe plugging of the column due to precipitates will adversely affect their ability to achieve the promulgated steam stripping performance values. In developing compliance costs, the Agency designed the steam stripping module to allow for a weekly acid cleaning to reduce plugging problems. Through Section 308 information requests, the Agency attempted to gather data at plants which stated they could not achieve the proposed limits. However, very little data were submitted to support their claims or document column performance. Therefore, the Agency has retained the proposed performance, which has been validated with steam stripping data from a zirconium-hafnium facility.

Commenters in the secondary aluminum subcategory claim stripped ammonia will have to be disposed of as corrosive hazardous waste. The Agency does not agree with the commenters because ammonia has an intrinsic value. The ammonia can be either sold or given away to be used as a process chemical. In the columbiumtantalum and tungsten subcategories, where ammonia also would be steam stripped, it does not even need to be given away, because ammonia is a process chemical and may be reused as a precipitating agent.

d. Flow Reduction. Flow reduction is a significant part of the overall pollutant reduction technology. Because of this, the Agency is promulgating mass-based limitations and standards which take into account the significant pollutant removal achieved by flow reduction model technology. Mass-based limits ensure reduction of the total quantity of pollutant discharge. The mass-based limitations and standards established for this category are derived as the product of the regulatory flow and the overall treatment effectiveness. The regulatory flows are based on flow data, normalized to production, supplied by the industry.

Certain other limitations—notably those for cyanide in the primary aluminum subcategory and total phenols in the secondary aluminum subcategory—are based on additional technologies, namely cyanide precipitation and activated carbon absorbtion. These technologies are discussed in sections dealing with these specific subcategories.

C. Technology Basis for Final Regulations

A brief summary of the technology basis for the regulation is presented below. The proposed technology basis is presented in the "Preamble to the Proposed Nonferrous Metals Manufacturing Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards" (48 FR 7032 (February 17, 1983)) and the

Development Document for Effluent Limitations Guidelines and Standards for the Nonferrous Metals Manufacturing Point Source Category.

BPT: BPT limitations already are promulgated for the primary aluminum, secondary aluminum, primary copper smelting, primary electrolytic copper refining, secondary copper, primary zinc, and metallurgical acid plant subcategories. With the exception of the primary lead subcategory, we did not propose to alter these existing limitations. (See 48 FR at 7053.) (We are making a small technical change to these regulations, by rewriting those sections referring to fundmentally different factors variances, to cross-reference applicable regulations instead of having an extended discussion. These changes do not reopen promulgated BPT regulations for purposes of review.) We did propose BPT in those subcategories not previously addressed, namely primary columbium-tantalum, primary tungsten, secondary silver, and secondary lead. We also proposed that lead and zinc metallurgical acid plants be subject to existing limits already applicable to copper acid plants (see 48 FR at 7053). We are now promulgating these BPT limitations as final regulations. These BPT mass limitations are based on end-of-pipe treatment consisting of lime precipitation and settling, and, where necessary, preliminary treatment consisting of ammonia steam stripping. For each subcategory, it is our judgment that the benefits of effluent reduction justify the associated costs. The promulgated BPT limitations and technology basis for each subcategory are discussed in detail below.

Primary Lead

EPA proposed BPT mass limitations for the primary lead subcategory to allow a discharge to prevent dissolved solids from accumulating in slag granulation water circuits. The technology basis for the promulgated BPT limitations is lime and settle; this is the same as the technology basis for the proposed limitations. This technology is demonstrated at two plants in the subcategory.

The Agency has revised one regulatory flow allowance used to develop the proposed BPT mass limitations for the primary lead subcategory. New flow and production data for dross reverberatory slag granulation wastewater were submitted by one plant. The data, which showed the plant had reduced its reported dcp flow, were used to revise the proposed discharge allowance. The Agency has also considered four additional waste streams identified in comments to the proposal. Data solicited by the Agency after proposal were used to determine a BPT flow allowance for materials handling wet air pollution control. This wastewater source is due to compliance with OSHA standards which limit fugitive lead emissions. An additional four building blocks were added for the wastewater sources generated due to industrial hygiene requirements. Based on information and data gathered at two integrated secondary lead and battery manufacturing plants (which have lead concentrations similar to what one would realistically expect to find in the analogous primary lead waste waters), the Agency has determined that floor washing, employee hand wash, respirator wash, and employee uniform laundering generate wastewaters sufficiently contaminated with lead to warrant treatment. We are not providing a discharge allowance for one of these wastewater sources (floor washing) because this operation can use recycled treatment plant effluent. The basis of these flow allowances is presented in Section IX of the primary lead supplemental development document.

Commenters argued that the CMDB treatability values are inappropriate for primary lead plants, and submitted long-term treatment performance data from two primary lead plants operating BPT equivalent (i.e., lime and settle) treatment systems. The performance data submitted to the Agency demonstrated that primary lead wastewaters comprising the combined metals data base. The Agency conducted a statistical analysis on the performance data and studied the design and operating characteristics of the treatment systems from which the data were obtained. The Agency has determined that the performance data from one of the plants are representative of the treatment system and has used treatment effectiveness concentrations obtained from the data to calculate the primary lead BPT mass limitations. Treatment performance from the other plant was not used due to the lack of equalization before lime and settle treatment.

We are eliminating the allowance for net precipitation and catastrophic storms as we did in primary electrolytic copper refining when it was revised in 1980. As explained previously we do not believe this allowance is necessary because of the relatively small surface area impoundments that would be used to comply with these limitations. We do not believe any costs will result from this change. Plants using impoundments for other purposes, such as stormwater collection, may need to receive net precipitation allowances from permit authorities on a case-by-case basis.

The pollutants selected for specific BPT limitation are lead, zinc, TSS, and pH. These pollutants were selected because they are present in the largest quantities in the raw wastewater.

Because the technology installed at several plants is more extensive than BPT, implementation of the promulgated BPT limitations will not remove any additional toxic metals or TSS over estimated current discharge on a total subcategory basis. However, there will be removals at individual plants. Removals from raw wastewater are an estimated 3,900 kg/yr of toxic metals and 261,000 kg/yr of TSS. We project a capital cost of $211,000 and an annual cost of $56,000 for achieving the proposed BPT limitations. One of the three direct discharges does not currently have installed BPT technology.

Primary Tungsten

We are promulgating BPT limitations for the primary tungsten subcategory based on lime precipitation and sedimentation technology to remove metals and solids and to control pH, and ammonia steam stripping to remove ammonia. The end-of-pipe treatment technology basis for BPT limitations being promulgated is the same as that for the proposed limitations. Ammonia steam stripping is practiced at three plants (one of four direct dischargers) and lime precipitation and sedimentation technology is in place at four of 10 plants (three of four direct dischargers).

In the proposed limitations, the toxic pollutants selected for control were lead, selenium, and zinc. Analytical data gathered since proposal at a primary tungsten plant have demonstrated that selenium is not a toxic pollutant found on a subcategory-wide basis. Therefore, we have eliminated selenium as a control parameter, and are selecting the following pollutants for limitation at BPT: lead, zinc, ammonia, TSS, and pH.

The Agency has chosen not to regulate toxic organic pollutant parameters on a subcategory-wide basis for the primary tungsten subcategory. Primary tungsten plants may use an organic solvent in a liquid-liquid ion exchange process to extract tungsten from digested concentrates. In the pollutant reduction removals calculated prior to proposal, it was estimated that the subcategory generates 70 kg/yr toxic organic pollutants. The Agency believes the toxic organic pollutants in the primary tungsten subcategory are present only in trace amounts and thus

are not regulated on a subcategory-wide basis. However, it is possible that toxic organic pollutants may be present in larger concentrations at an individual plant than the Agency's sampling data indicate. Therefore, the permitting or control authority should check for the presence of toxic organic pollutants on a case-by-case basis and determine the need for treatment. Section VII of the General Development Document provides information of the treatability of these pollutants using activated carbon adsorption.

Additional data gathered by the Agency through engineering site visits, data collection portfolios, and Section 308 requests, were used to revise the flow allowances proposed for the primary tungsten subcategory. Besides recalculating the existing flow allowances, two additional wastewater sources were provided discharge allowances: APT coversion to oxides water of formation and tungsten powder acid leach and wash wasterwater.

Implementation of BPT limitations will not remove any toxic metals from current discharge rates; however, it will remove 141,000 kg/yr of ammonia and 6,260 kg/yr of TSS over estimated current discharge. Removals from raw wastewater are an estimated 4,800 kg/yr of toxic metals, 141,000 kg/yr of ammonia, and 50,300 kg/yr of TSS. Although we have developed BPT limitations and costs assuming that wastewater will be centrally treated with ammonia stripping followed by lime, settle, and filter treatment for metals, it is possible that several plants could achieve more stringent limits and save compliance costs by removing metals from tungsten acid rinse and acid leach wet air pollution control and then combining these waste streams with any other process streams for ammonia removal. By not assuming that waste streams will be mixed in a central treatment system until after metals are removed, individual permits may be able to eliminate allowances for metals in the six waste streams not containing metals and also eliminate the cost of lime, settle, and filter technology for those six processes. We project $642,000 in capital costs ands $637,000 in annual costs for achieving the promulgated BPT. These costs represent wastewater treatment equipment not in place.

Primary Columbium-Tantalum

We are promulgating BPT limitations for the primary columbium-tantalum subcategory based on lime precipitation and sedimentation to control toxic metals, TSS, pH and fluoride, and preliminary treatment with steam stripping to reduce ammonia concentrations. The end-of-pipe treatment technology bais for the BPT limitations being promulgated is the same as that for the proposed limitations. Lime and settle technology is currently demonstrated by all three primary columbium-tantalum direct dischargers. Ammonia steam stripping is practiced by two of the plants. The pollutants specifically regulated at BPT are lead, zinc, ammonia, fluoride, TSS, and pH.

The Agency has chosen not to regulate toxic organic pollutant parameters on a subcategory-wide basis for the primary columbium-tantalum subcategory. Primary columbium-tantalum plants may use an organic solvent in a liquid-liquid ion exchange process to extract columbium-tantalum from digested concentrates. In the pollutant reduction removals calculated prior to proposal, it was estimated that the subcategory generates 170 kg/yr toxic organic pollutants. The Agency believes the toxic organic pollutants in the primary columbium-tantalum subcategory are present only in trace amounts and thus are not regulated on a subcategory-wide basis. However, it is possible toxic organic pollutants may be present in larger concentrations at an individual plant than the Agency sampling data indicate. Therefore, the permitting or control authority should check for the presence of toxic organic pollutants on a case-by-case basis and determine if they require treatment.

In light of comments received, the Agency reexamined the regulatory flows proposed for the primary columbium-tantalum subcategory. The production normalizing parameter for concentrate digestion wet air pollution control, solvent extraction raffinate, solvent extraction raffinate wet air pollution control, and precipitation and filtration of metal salts has been changed from the product of each operation to the mass of concentrate produced at each plant. This change will account for the difference in columbium and tantalum metal values for the different raw materials processed. In addition, the Agency is providing new mass limitations for precipitation and filtration wet air pollution control, tantalum fluoride salt drying, and tantalum powder wash wastewater. Along with the addition of these waste streams, the Agency has also reevaluated the appropriate flow allowances for calcining of columbium-tantalum oxides wet air pollution control, reduction of tantalum salt to metal air pollution control, and reduction of tantalum salt wastewaters. Recalculation of regulatory flows for these waste streams was based on data obtained from the data collection portfolios and Section 308 information requests. A complete discussion of the flow allowances is presented in Section IX of the primary columbium-tantalum supplemental development document.

BPT will result in the removal of an estimated 17,900 kg/yr of toxic pollutants, 594,000 kg/yr of conventional pollutants, 226 kg/yr of flouride, and 88,000 kg/yr of ammonia from current discharge levels. The estimated capital investment cost of BPT is $680,000 and the estimated annual cost is $777,000. These costs represent wastewater treatment equipment not currently in place.

Secondary Silver

EPA is promulgating BPT limitations for the secondary silver subcategory based on lime precipitation and sedimentation to remove toxic metals, control pH, and remove TSS and preliminary treatment with steam stripping to reduce ammonia concentrations. The end-of-pipe treatment technology basis for the BPT limitations being promulgated is the same as that for the proposed limitations. Lime and settle treatment technology is currently in place at five direct discharging facilities. No comments were submitted pertaining to the achievability of the proposed ammonia limitation at secondary silver plants. The pollutants specifically regulated at BPT are copper, zinc, ammonia, TSS, and pH. Specific effluent mass limitations have been developed for each of these pollutants.

The Agency has collected data on secondary precious metals facilities through data collection portfolios (dcp) so that it may propose mass limitations for the secondary precious metals subcategory (in nonferrous metals manufacturing phase II). Many of the plants in the subcategory overlap with the secondary silver subcategory. Review of these dcp's, and the dcp's specifically collected for the secondary silver subcategory, has led the Agency to revise the regulatory flows. Accordingly, the wastewater streams from film stripping and precipitation and filtration of film stripping wet air pollution control have been combined into one building block. Leaching wet air pollution control and precipitation of nonphotographic solutions wet air pollution control wastewater sources have also been combined into one building block. In addition, the mass limitations proposed for casting contact cooling water and casting wet air pollution control have been eliminated.

Analytical data collected at a secondary precious metals plant demonstrate casting contact cooling water is not sufficiently contaminated to warrant treatment. Casting wet air pollution control limitations have been eliminated because the Agency believes this limitation is duplicated by the furnace wet air pollution control limitations (these operations are identical). A flow allowance is not provided for floor and equipment washdown based on reuse of recycled treatment effluent as facility washdown water. In developing compliance cost estimates, the Agency sized treatment equipment to allow for this flow.

Cyanide was not chosen as a regulated pollutant parameter on a subcategory-wide basis for the secondary silver mass limitations. However, secondary silver plants process plating solutions, which may contain cyanide, to recover silver contained in the solution. Cyanide is present due to its use as a process chemical in plating operations. The permitting authority should check for the presence of cyanide in this waste stream and develop discharge limitations if necessary. A discharge allowance can be developed by locating the flow allowance for precipitation and filtration of nonphotographic solutions at BPT and BAT in Sections IX and X, respectively, of the secondary silver supplemental development document. Treatment performance for cyanide precipitation is presented in Section VII of the General Development Document. The discharge allowance (or mass limitation) is the product of the flow allowance and the treatment performance.

The BPT effluent limitations should remove estimated 409 kg/yr of toxic pollutants, 664,000 kg/yr of ammonia, and 7,320 kg/yr of TSS from current discharge levels. The estimated capital investment cost of BPT is $110,000 and the estimated annual cost is $211,000. These costs represent wastewater treatment equipment not currently in place.

Secondary Lead

EPA is promulgating BPT limitations for the secondary lead subcategory based on lime precipitation and sedimentation to remove toxic metals and TSS, and to control pH. The end-of-pipe treatment technology basis for the BPT limitations being promulgated is the same as that for the proposed limitations. This treatment currently is in place at 24 of 50 plants. The pollutants and pollutant parameters controlled at BPT are antimony, arsenic, lead, zinc, TSS, and pH.

In light of the comments received on the proposed flow allowances, the Agency reviewed existing flow and production information from data collection portfolios and solicited additional information through Section 308 requests. The Agency also performed engineering site visits at two integrated secondary lead and battery manufacturing plants. These additional data have been used by the Agency to develop flow allowances for five waste streams not considered at proposal. Three of these waste streams—handwash, respirator wash, and laundries—result from occupational hygiene needs. Flow allowances have also been developed for truck washing and for laboratories. The Agency also considered whether to grant allowances to two other wastestreams, from facility washdown and battery case classification, but determined not to because treated effluent can be used as makeup water for these two operations. Compliance costs include the larger size equipment needed to accommodate these streams. Lastly, kettle wet air pollution control, a building block not allocated a discharge allowance at proposal, is now provided a discharge allowance based on data gathered through Section 308 requests indicating that a periodic discharge is needed. A complete discussion of the flow allowances provided for the secondary lead subcategory is presented in Section IX of the secondary lead supplemental development document.

BPT will result in the removal of an estimated 5,940 kg of toxic pollutants and 53,310 kg of conventional pollutants per year from current discharge levels. The estimated capital investment cost of BPT is $1.6 million and the estimated annual cost is $684,000. These costs represent wastewater treatment equipment not currently in place.

In the proposed limitations, ammonia was given a discharge allowance of zero to prevent the discharge of kettle scrubber liquor. Data gathered through Section 308 requests have shown that those plants previously thought to be recycling kettle scrubber liquor 100 percent do actually have a periodic discharge. Ammonia in secondary lead wastewaters is the result of its use as a wastewater treatment chemical. It is the Agency's understanding that ammonia is used because it reduces the amount of sludge generated and produces a sludge more amenable for reuse as a raw material than lime sludges. Effluent data from a secondary lead plant were found to have ammonia in its treated effluent at an average concentration of 6,500 mg/l showing that ammonia can be present in treatable concentrations. In developing plant-by-plant costs, the Agency has examined the costs of substituting neutralization with caustic for neutralization with ammonia. These costs are justified by the reduction in ammonia discharges. In addition, neutralization with caustic will still produce a sludge acceptable for recycling. Therefore, the zero discharge requirement for ammonia as proposed is included in the promulgated regulation.

BAT: The general end-of-pipe technology basis for the promulgated BAT mass limitations is based on the model BPT technology plus in-process flow reduction and multimedia filtration following lime and settle treatment. Sulfide precipitation is also included as the technology basis for the primary lead, primary zinc, and metallurgical acid plant subcategories, and for one primary copper plant. Preliminary treatment technology includes ammonia steam stripping and cyanide precipitation were required. In the secondary aluminum subcategory, activated carbon perliminary treatment was promulgated for the control of phenols resulting from delacquering operations. Catastrophic storm allowances for rainfall on surface impoundments are provided for two subcategories. As explained in Section VI below, we find that the costs of achieving limitations based on these model technologies are economically achievable for each subcategory.

The complexity and cost of analyses for toxic pollutants found in the nonferrous metals manufacturing category wastewaters has prompted EPA to develop an alternative method of controlling toxic pollutants. Instead of establishing specific effluent limitations for each of the toxic metals found in the category's raw wastewaters above treatable concentrations, the Agency is establishing effluent limitations for certain toxic metals as "indicator" pollutants. The data available to EPA show that control of the selected "indicator" pollutants will result in the substantial removal of other toxic pollutants found in the wastewaters but not specifically limited. By establishing specific limitations and standards for only the "indicator" pollutants, the Agency will reduce the difficulty, cost, and delays of pollutant monitoring and analyses that would result if pollutant limitations were established for each toxic pollutant. However, permit writers are free to write limits for indicated pollutants, in addition to the guideline limitations on indicator pollutants, in appropriate situations such as when indicated pollutants are present at a

particular plant in higher concentrations than indicator pollutants. (Permit writers may consult the development documents for a list of all pollutants present in order to determine whether such additional limitations are necessary.)

The selected technology basis and regulated pollutant parameters are discussed below for each subcategory.

Primary Aluminum

a. Technology Basis. EPA is promulgating BAT mass limitations for the primary aluminum subcategory based on end-of-pipe lime precipitation, sedimentation, and multimedia filtration. Preliminary treatment of cyanide is based on cyanide precipitation. In-process flow reduction through recycle is also included. This technology basis differs from the technology basis we proposed in that effluent limitations based on at-the-source requirements for toxic organics using activated carbon have been eliminated. This is because we have determined that these organics are effectively removed by centralized lime, settle, and filter treatment.

b. *Flow Reduction.* In response to the proposed primary aluminum mass limitations, the Agency received numerous comments on the proposed flow allowances for the subcategory. The Agency evaluated these comments carefully and solicited additional information through section 308 information requests. With the exception of potline wet air pollution and continuous rod casting contact cooling water, the flow allowances were revised to reflect comments and new data. A complete discussion regarding the flow allowances used to calculate the promulgated mass limitations is presented in Section X of the primary aluminum supplemental development document. Based on the comments received, the Agency has expanded the definition of anode contact cooling water and anode paste wet air pollution control. Anode contact cooling water has been expanded to include the cooling of briquettes used as anodes in Soderberg plants. Anode paste plant wet air pollution control has been expanded to cover wet scrubbers used to control air pollution emissions during cathode paste mixing. Commenters demonstrated to the Agency that these operations, as expanded, are very similar to the processes for which the original flow allowances were provided.

The anode bake plant wet air pollution control flow allowance has been revised to account for the differences in furnace types and scrubber types, which were shown to affect water usage for this operation. Briefly, separate flow allowances have been promulgated for open and closed top anode bake furnaces, for tunnel kilns, and for the different scrubber types used for closed top furnaces. A complete discussion of the promulgated flow allowances for this operation is presented in Section X of the primary aluminum supplemental development document. The Agency also performed this type of analysis for potline scrubbing, but there was no apparent correlation between cell technology, scrubber type, and production normalized water usage. We thus are not providing separate flow allowances, varying by cell and scrubber types, for this unit operation.

The Agency is providing an additional flow allowance for potline SO_2 wet air pollution control. Wet scrubbers are needed to control potline sulfur emissions. The flow allowance is developed from flow and production information solicited from two plants that operate this type of scrubber. In addition, the Agency has revised the zero discharge requirement for degassing wet air pollution control. Product quality constraints and extensive retrofit costs of installing alternate in-line fluxing methods dictates a scrubber allowance so that furnace fluxing practices can continue.

Data gathered through Section 308 requests indicate that the Agency originally overstated the flow allowance required for cathode reprocessing wastewaters. Plants operating potline wet scrubbers and cathode reprocessing commingle the two streams together to recover the cryolite as fluoride. Discharge from cryolite recovery is then returned to the potline circuit and used as scrubber liquor. Thus, the bleed from cathode reprocessing is accomplished with the potline scrubber bleed. Since there is no independent discharge from cathode reprocessing, the flow allowance provided is for the potline scrubber bleed. (Plants with cathode reprocessing were included in determining the potline scrubber flow allowances.) A cathode reprocessing flow allowance is provided in the regulation, but it only applies to those plants operating dry potline scrubbers (and so not using wet scrubber bleed as makeup for cathode reprocessing). The Agency has also changed the production normalizing parameter for cathode reprocessing from aluminum produced to cryolite recovered. In this way, a plant may obtain spent potliners from another facility (a situation that sometimes occurs) and still be able to comply with the promulgated mass limitations.

c. *Toxic Pollutants to be Limited and Treatment Effectiveness.* The Agency received numerous comments requesting that antimony not be limited. Based on the analytical data gathered before proposal and during the pilot-scale treatment performance work, the Agency has identified antimony as a pollutant that occurs frequently above treatable concentrations in certain waste streams. Therefore, the mass discharge of antimony is limited in the promulgated guidelines.

Treatment performance data gathered during the pilot-scale study demonstrated the plants operating cathode reprocessing operations and using the wastewater as makeup for potline scrubber liquor cannot achieve the performance values proposed for antimony, nickel, and fluoride. The Agency believes this is due to the matrix differences resulting from cathode reprocessing. The cathode reprocessing wastewater, and subsequently the potline scrubber liquor, contain dissolved solids levels in the 5 to 6 percent range. Therefore, the Agency is promulgating separate mass limitations for those primary aluminum plants that operate cathode reprocessing and commingle resulting wastewater with potline scrubber liquor. However, to receive these alternate limitations for antimony, nickel, and fluoride (cyanide does not vary) the plant may not dilute potline scrubber liquor blowdown or cathode reprocessing wastewater with any process or nonprocess wastewater source. If the potline scrubber blowdown is diluted with other wastewaters, the Agency believes the complexity of the matrix decreases and thus the concentrations of the combined metals data base (as well as the transferred antimony and flouride concentrations) can be achieved. In fact, our statistical analysis of untreated wastewater data shows primary aluminum wastewater to be significantly less contaminated than wastewater from the plants in the combined metals data base.

The variability factors used to determine the mass limitations for the alternate potline scrubber blowdown and cathode reprocessing are transferred from the combined metals data base. The CMDB contains more data points than the pilot-scale study and thus is a better source for determining variability for lime and settle treatment. Commenters to the November 4, 1983 notice did not challenge this use of the CMDB variability factors.

The Agency's pilot-scale treatment performance studies revealed that the

performance limits for cyanide precipitation are not transferable from coil coating to primary aluminum wastewater. We believe that the cathode reprocessing operations, the only primary aluminum unit operation to generate cyanide, discharge much higher concentrations of cyanide than observed in coil coating and impair treatment by also discharging extremely high dissolved solids concentrations (5 to 6 percent) that interfere with precipitation chemistry. We therefore are adopting the treatment effectiveness for cyanide achieved from the Agency's pilot study on these wastewaters. This mean also was shown, in data submitted by a primary aluminum facility, to be achievable by ion exchange technology applied to cyanide-contaminated groundwater. In developing variability factors for cyanide precipitation technology, we will continue to use the mean variability from the combined metals data base because only two data points were generated by the treatability study. Commenters to the November 4, 1983 notice did not question this use of the CMDB variability factors.

In the November notice the Agency indicated that it might promulgate a limit for cyanide which need to be monitored after preliminary treatment and before treatment in the lime, settle, filter, and discharge to receiving waters. (We refer to this type of requirement as an "at-the-source" limit.) An at-the-source limit would be appropriate if there were a risk that cyanide could be diluted to below levels detectable at the end of the pipe as a result of mixing with wastewaters that do not contain cyanide. We do not think this is very likely to occur because the waste streams containing cyanide-cathode reprocessing wastewater and potline scrubber wastewater—have very high flows. These streams would have to be diluted at roughly a 100 to 1 ratio for cyanide to the undetected, an unlikely result. Permit writers should investigate, however, whether this degree of dilution might occur at an individual plant (for example, if stormwater is being centrally treated), in which case they should require monitoring at the source to ensure treatment and removal of cyanide.

The final regulation thus is written so that only the potline wet scrubber and cathode reprocessing building blocks receive a cyanide mass limitation. This effectively precludes dilution because it does not make economic sense for a plant to treat its entire flow when it can pretreat these cyanide-containing streams. (The Agency thus developed compliance costs based on cyanide preliminary treatment.) In addition, as explained above, a mass allowance is provided for cathode reprocessing only if this operation is not conducted in conjunction with potline wet scrubbing. Where cathode reprocessing is operated along with wet potline scrubbing, an allowance is provided only for the potline scrubber because only a single flow is associated with both operations.

Many commenters questioned whether activated carbon technology was needed to control toxic organic pollutants, arguing that these pollutants are treatable with lime, settle, and filter technology. The Agency has performed pilot-scale work on potline scrubber blowdown and cathode reprocessing wastewater at a primary aluminum facility since proposal. Analytical data gathered during the study indicate that the toxic organic pollutants present in primary aluminum wastewaters are controllable through lime, settle, and multimedia filtration treatment technology. The toxic organics, present as polynuclear aromatic hydrocarbons, are only silghtly soluble in water, and thus are treatable using sedimentation and filtration techniques. Removals by this technology exceed 99 percent of all toxic organics present. In addition, the most toxic of the polynuclear aromatic hydrocarbon—including the carcinogen benzo(a)pyrene—are removed to the limit of quantification by this technology. For these reasons, we do not believe it is warranted to establish more stringent effluent limitations based on activated carbon to remove the small amounts of these less toxic polynuclear aromatic hydrocarbons remaining after application of lime, settle, and filtration technology.

We also proposed at-the-source limitation for toxic organic pollutants. Such limitations are no longer appropriate because toxic organics would not be pretreated, but rather are removed by centralized lime, settle, and filter treatment.

d. *Compliance Costs and Pollutant Removal Estimates.* We estimate that implementation of the promulgated BAT limitations will result in the removal of 13,000 kg/yr of toxic metals, 60,000 kg/yr of cyanide, 1,605,000 kg/yr of fluoride, 75,700 kg/yr of toxic organics, and 667,000 kg/yr of aluminum over estimated current discharge. The final BAT effluent mass limitations will remove 6,300 kg/yr of toxic metals, 990 kg/yr of toxic organics, and 4,300 kg/yr of aluminum over the intermediate BAT option considered, which lacks filtration. Both options are economically achievable and filtration as an end-of-pipe treatment technology is demonstrated at one primary aluminum facility. We believe that the incremental removal justifies selection of filtration as part of BAT model technology. The estimated cost of compliance is $16 million for capital investments (1982 dollars) and annual costs of $7.1 million. These cost represent treatment not already in place.

Secondary Aluminum

EPA is promulgating BAT effluent limitations for the secondary aluminum subcategory based on end-of-pipe lime, sedimentation, and filtration technology. This is the same technology basis as that proposed. Flow reduction is also included in the technology basis through reuse and recycle of casting contact cooling water. One additional treatment step applies to plants discharging wet scrubber water from delacquering furnace operations (an operation that removes paint and other surface coating from aluminum scrap). The Agency received comments requesting a flow allowance for delacquering wet air pollution control operations, and a flow allowance is necessary. Data solicited by the Agency through Section 308 requests demonstrated the presence of 4-AAP phenols in this wastewater source at treatable concentrations. The Agency has examined the costs and pollutant removal associated with the activated carbon to reduce the mass of phenols currently discharged. The Agency has determined that this technology is economically achievable and demonstrated in the iron and steel (cokemaking) category as a phenols removal technology. The treatment performance used for activated carbon to develop mass limitations for phenol is based on the attainable quantification limit of 0.010 mg/l. (See Section VII of the General Development Document.) The Agency believes this value is achievable, when adequate quantities of carbon are used. For cost estimation purposes, we used a carbon loading rate of 1.46 pounds per thousand gallons. This rate is obtained from several sources including the Agency's pilot-scale study at a primary aluminum plant, experimental work performed by the Agency's Industrial Environmental Research Laboratory, and the technical literature. Although this is a rough estimate of the cost, it has allowed the Agency to evaluate the economic impacts, and determine that activated carbon pretreatment for delacquering scrubber blowdown is economically achievable.

The Agency is promulgating at-the-source requirements—i.e., requiring that compliance be demonstrated and

monitoring conducted—for phenol because of the possibility of significant dilution. (See generally 48 FR at 7056, explaining the rationale for at-the-source requirements in more detail.) The plants known to currently operate delacquering scrubbers are principally primary aluminum and aluminum forming plants, which generate much larger volumes of process wastewater than the delacquering operations. The pollutants specifically regulated at BAT are those proposed—lead, zinc, aluminum, ammonia—plus phenol.

In response to comments and the lack of any demonstrated zero dischargers, the Agency is promulgating a flow allowance for ingot conveyor casting. However, this allowance is only intended for those plants that do not operate chlorine demagging operations. Those plants which have demagging will not receive an ingot conveyor casting allowance based on the demonstrated 100 percent reuse of the ingot conveyor casting water in demagging air scrubbing operations.

The flow allowances for direct chill casting and demagging wet air pollution control were evaluated and adjusted based on comments received questioning the accuracy of the calculated allowances at proposal. A complete discussion of the flow allowances is provided in Section X of the secondary aluminum supplemental development document.

Implementation of the promulgated BAT limitations will remove an estimated 615 kg/yr of toxic metals, 526 kg/yr of phenols, 90,000 kg/yr of aluminum over estimated current discharge estimates. The final BAT effluent mass limitations will remove 8.2 kg/yr of toxic metals and 36 kg/yr of aluminum over the intermediate BAT option considered, which lacks filtration. Both options are economically achievable. We believe that these incremental—justifies selection of filtration removals—which include removal of an estimated 1.5 kg/yr cadmium as part of BAT model technology. Filtration likewise serves as a safeguard if lime and settle treatment is not operated properly. We also believe that the selection of filters is an appropriate balance to our elimination of previously promulgated no discharge BAT requirements for ingot conveyor casting and dross washing. Providing this allowance for these operations is only justified when the Agency can assure that most of the pollutants contained in these discharges will be removed by treatment. Implementation of the promulgated BAT limitations is expected to result in a capital cost of $1.1 million and an annual cost of $382,000.

Primary Copper Smelting

The Agency is promulgating the proposed BAT in this subcategory to conform BAT to promulgated BPT. The promulgated BPT (a 1980 regulation) is zero discharge, subject to an unlimited discharge allowance for stormwater from a 10-year, 24-hour storm falling on a cooling impoundment. BAT limitations promulgated in 1975 included the same allowance for plants with cooling impoundments (except the storm event is the 25-year, 24-hour storm), and an additional allowance for discharge of net precipitation falling on the impoundment. We are promulgating limitations to eliminate this latter allowance, for the same reasons we eliminated it at BPT. See 45 FR 44926, July 2, 1980. There are no costs associated with this requirement since the discharge allowance already is eliminated at BPT and the change from 10-year to 25-year design storms was required by the 1975 regulation.

Primary Copper Electrolytic Refining

EPA is promulgating BAT effluent limitations based on in-process flow reduction and end-of-pipe treatment technology consisting of lime and settle treatment followed by multimedia filtration. Filtration is not demonstrated in this subcategory, but it is transferred from the primary aluminum, secondary copper, primary zinc, primary lead, secondary lead, and secondary silver subcategories. This was one of the alternatives initially proposed. Our reevaluation of compliance costs and economic achievability indicate that filters are economically achievable, allaying the concerns we expressed at the time of proposal.

The pollutant parameters proposed for limitation were copper, lead, and nickel. We are substituting arsenic for lead as a pollutant parameter. Arsenic is present in spent electrolyte, a building block for which a discharge allowance has been added since proposal. In fact, it is second to copper in mass generated and discharged by this subcategory. Therefore, the promulgated regulation limits three pollutants shown to be present in the largest quantities: copper, nickel, and arsenic.

We have also added arsenic limitations to the other unit operations to allow for central treatment with copper acid plant wastewaters without forcing plants to meet the mass limitations by reducing arsenic concentrations to a level lower than the treatment performance (see Section IX, *supra*).

The proposed flow allowance for spent electrolyte required zero discharge of wastewater pollutants based on 100 percent reuse following electrowinning and nickel sulfate removal. It was demonstrated to the Agency that differences in raw materials affect a plant's ability to operate a nickel sulfate recovery system and subsequently reuse the black acid as electrolyte. Low concentrations of nickel in anode copper dramatically affect nickel sulfate recovery systems and electrolytic refining. To operate a nickel sulfate recovery system at a plant that has low levels of nickel, blowdown of spent electrolyte would have to be decreased so that the nickel values increased. However, this would concentrate other impurities which are detrimental to the electrolytic process. Therefore, the Agency has provided a discharge allowance for spent electrolyte to control nickel concentrations and other contaminants in the electrolytic circuit.

Extensive effluent data submitted to the Agency by an integrated copper refiner and smelter have indicated that the proposed arsenic mass limitations based on lime and settle treatment, may not be achievable for this plant. The Agency believes that the larger arsenic values in the plant's ore contribute significant quantities of arsenic to the treatment system. Arsenic concentrations in excess of 100 mg/l are common at this plant, making the combined metals data base inappropriate. The Agency believes that the mass limitations as proposed for the primary electrolytic copper refining subcategory and metallurgical acid plant subcategory are achievable for this plant by adding sulfide precipitation to the model treatment technology. The Agency thus has determined that the combination of sulfide precipitation, lime and settle, and multimedia filtration will achieve the mass limitations promulgated and has included this technology in its compliance cost estimates for this one plant.

We estimate that the promulgated BAT will remove 17,900 kg/yr of toxic metals over current discharge estimates. The final BAT effluent mass limitations will remove 770 kg/yr of toxic metals over the intermediate option considered, which lacks filtration. Both options are economically achievable. We believe that the incremental removal justifies selection of filtration as part of BAT model technology. Implementation of the promulgated BAT limitations is expected to result in a capital cost of $275,000 and an annual cost of $111,000. We are not including any cost for

elimination of the catastrophics form and net precipitation allowances based on its elimination from BPT in 1980.

Secondary Copper

EPA is amending the promulgated BAT in this subcategory to eliminate the discharge allowance for net precipitation on impoundments. We do not believe this change results in any costs because plants will not have a significant flow from the relatively small surface area ponds used in this subcategory. Alternatively, plants can eliminate the need for ponds by use of cooling towers. This alternative was included in 1975 when we promulgated BPT and BAT for this subcategory. Our proposal to eliminate the net precipitation allowance and assume no compliance costs did not result in any public comments.

Primary Lead

The Agency has amended the proposed BAT technology basis for primary lead plants operating acid plants to include sulfide precipitation. The technology basis thus consists of in-process flow reduction through recycle and end-of-pipe lime and settle, sulfide precipitation (followed by sedimentation), and multimedia filtration technology. Extensive treatment performance data submitted to the Agency from a plant in this subcategory suggest that the proposed BAT mass limitations may not be achievable. The principal reason for not being able to attain the filtration performance data is the inability to achieve the combined metals data lime and settle values. However, the Agency believes the addition of sulfide precipitation, in conjunction with multimedia filtration, will achieve the treatment performance values as proposed wastewaters. (Sulfide precipitation technology is discussed fully in Section VII of the General Development Document.) Sulfide precipitation is currently demonstrated at a primary molybdenum plant with a metallurgical acid plant, and at a cadmium plant in the primary zinc subcategory. For those plants only generating wastewater to meet industrial hygiene requirements, the technology basis does not include sulfide precipitation since these waste streams are not so contaminated as to require the additional treatment.

The pollutant parameters limited specifically are lead and zinc. These two pollutants were found in the greatest quantities in the raw wastewater.

In the final rule, we have moved the proposed flow allowances for the granulating system from blast furnace slag granulation to dross furnaced speiss granulation. The Agency made this change so that the plant achieving zero discharge of blast furnace slag granulation would not receive an allowance they do not need, and yet still provide an allowance for the plant that has demonstrated the need for a granulating allowance. The methodology and the basis for revisions of flow allowances discussed for BPT are also applicable for BAT.

We estimate that the promulgated BAT limitations will remove 387 kg/yr of toxic metals over current discharge estimates. The final BAT effluent mass limitations will remove 160 kg/yr of toxic metals over the intermediate BAT option considered, which lacks filtration. Both options are economically achievable. We believe that the incremental removal justifies selection of filtration as part of BAT model technology. In addition, filtration as an end-of-pipe treatment technology is demonstrated by one facility in the primary lead subcategory. Estimated capital cost for achieving the promulgated BAT is $215,000, and the annualized cost is $77,000.

Primary Zinc

The Agency has amended the proposed BAT technology basis for the primary zinc subcategory to include sulfide precipitation. The complete technology basis thus consists of in-process flow reduction through recycle and end-of-pipe lime and settle, sulfide precipitation (followed by sedimentation), and multimedia filtration technology. Extensive treatment performance data submitted to the Agency by a plant in the subcategory demonstrate that the proposed BAT mass limitations may not be achievable. The principal reason for not being able to attain the filtration performance data is the inability to achieve the combined metals data lime and settle values. However, the Agency believes for the reasons given in Section V.B above that the addition of sulfide precipitation, in conjunction with multimedia filtration, will achieve the treatment performance values as proposed. Sulfide precipitation is currently demonstrated at a primary molybdenum plant with a metallurgical acid plant, and at a cadmium plant in the primary zinc subcategory.

We used data and information submitted through comments and solicited through Section 308 requests, as well as information obtained in an engineering site visit to a primary zinc plant, to revise the flow allowances for this subcategory. In the proposed mass limitations, a flow allowance was provided for leaching of zinc concentrates. We have withdrawn this allowance and promulgated flow allowances for preleach and electrolyte bleed in its place. The Agency believes these revised flow allowances more accurately reflect operating practices at electrolytic zinc plants. The Agency has also revised the flow allowance for anode and cathode wash water based on an engineering site visit. The flow allowances are discussed in detail in Section X of the primary zinc supplemental development document.

The pollutants specifically limited under BAT are cadmium, copper, lead, and zinc. These toxic metals are present in the largest quantities in raw wastewaters.

We estimate that application of the BAT effluent mass limitations will result in the removal of an estimated 3,540 kg/yr of toxic pollutants above the estimated current discharge rate. The final BAT effluent mass limitations will remove 1,260 kg/yr of toxic metals over the intermediate BAT option considered, which lacks filtration. Both options are economically achievable. We believe that the incremental removal justifies selection of filtration as part of BAT model technology. In addition, filtration is demonstrated at one primary zinc facility. The estimated capital investment cost of the promulgated BAT is $457,000 and the estimated annualized cost is $154,000.

Metallurgical Acid Plants

The Agency has amended the proposed technology basis for one copper acid plant and for all acid plants associated with zinc and lead smelting to include sulfide precipitation. The complete technology basis for this subcategory thus consists of in-process flow reduction through recycle and end-of-pipe lime and settle, sulfide precipitation (followed by sedimentation), and multimedia filtration technology. Extensive treatment performance data submitted to the Agency by copper, lead, and zinc acid plants demonstrate that the proposed BAT mass limitations are not achievable largely due to inability to achieve the combined metals data lime and settle values. However, for the reasons already explained, the Agency believes that addition of sulfide precipitation, in conjunction with multimedia filtration, will achieve the treatment performance values as proposed. Sulfide precipitation is currently demonstrated at a primary molybdenum plant with a metallurgical acid plant, and at a cadmium plant in the primary zinc subcategory.

The flow allowance proposed for the metallurgical acid plants subcategory has remained unchanged. The pollutants specifically limited under BAT are arsenic, cadmium, copper, lead, and zinc, the toxic metals present in the largest quantities in acid plant raw wastewaters.

Application of the BAT mass limitations will result in the removal of 14,700 kg/yr of toxic pollutants above estimated current discharge rates. The final BAT effluent mass limitations will remove 7,590 kg/yr of toxic metals over the intermediate BAT option considered, which lacks filtration. Both options are economically achievable. We believe that incremental removal justifies selection of filtration as part of BAT model technology. In addition, filtration is demonstrated at two metallurgical acid plant facilities. The estimated capital investment cost of BAT is $2.9 million and the annualized cost is $1.0 million.

Primary Tungsten

We are promulgating BAT limitations for this subcategory based on ammonia steam stripping, lime precipitation and sedimentation, in-process flow reduction, and multimedia filtration. Flow reductions are based on 90 percent recycle of scrubber effluent. The end-of-pipe and pretreatment technology basis for BAT limitations being promulgated is the same as that for the proposed limitations. In addition, the treatment performance concentrations, upon which the mass limitations are based, are equal to values used to calculate the proposed mass limitations. Ammonia steam stripping is demonstrated at three primary tungsten facilities. Filtration is not demonstrated within the subcategory; however, it is demonstrated in six phase I subcategories at 23 plants.

Revision of the proposed flow allowances is consistent with the changes made for the promulgated BPT limitations. The difference between the promulgated BTP and BAT flow allowances are due to flow reduction of scrubber liquors at BAT. Sections IX and X of the primary tungsten supplemental development document present the methodology and data used to calcuate the BAT flow allowances.

The pollutants specifically limited under BAT are lead, zinc, and ammonia. These pollutants were selected because they were present in the largest quantities in the raw wastewater.

Implementation of the promulgated BAT limitations will remove annually an estimated 5,140 kg of toxic pollutants, which is 318 kg of toxic metals over the estimated BPT discharge. Ammonia steam stripping is estimated to remove 2,280 kg/yr of ammonia over estimated BPT discharges and 144,000 kg/yr of the ammonia generated. The Agency estimates there will be no additional removal of toxic metals at BAT over current discharge estimates as was discussed in the description of the BPT technology basis. Although we have developed BAT limitations and costs assuming that wastewater will be centrally treated with ammonia stripping followed by lime, settle, and filter treatment for metals, it is possible that several plants could achieve more stringent limits and save compliance costs by removing metals first from tungsten acid rinse and acid leach wet air pollution control and then combining these streams with any other process streams for ammonia removals. By not assuming that waste streams will be mixed in a central treatment system until after metals are removed, individual permits may be able to eliminate allowances for metals in the six waste streams not containing metals and also eliminate the cost of lime, settle, and filter technology for those six processes. Estimated capital cost for achieving BAT is $773,000, and annualized cost is $684,000.

Primary Columbium-Tantalum

For BAT, EPA is promulgating mass limitations based on lime precipitation and sedimentation with ammonia steam stripping with additional reduction in pollutant discharge achieved through in-process wastewater flow reduction and the use of filtration as an effluent polishing step. The end-of-pipe and pretreatment technology basis for BAT limitations being promulgated is the same as that for the proposed limitations. Ammonia steam stripping is currently demonstrated at two columbium-tantalum facilities. Filtration is not demonstrated within this subcategory, but is transferred from six nonferrous metals subcategories where it is demonstrated in 23 plants. With the exception of limits for fluoride, the treatment performance concentrations upon which the mass limitations are based are equal to the values used to calculate the proposed mass limitations. The mass limitations for fluoride have been revised for the same reasons as in the primary aluminum subcategory.

Revision of the proposed flow allowances is consistent with the changes made for the promulgated BPT limitations. The differences between the promulgated BPT and BAT flow allowances are due to flow reduction of scrubber liquors at BAT. Sections IX and X of the primary columbium-tantalum supplemental development document present the methodology and data used to calculate the BAT flow allowances.

The pollutants specifically limited under BAT are lead, zinc, ammonia, and fluoride. These pollutants were present in the largest quantities in columbium-tantalum raw wastewater.

We estimate that application of BAT will remove 61,400 kg of toxic metals and 1,920,000 kg of nonconventional pollutants annually over current discharge rates. BAT will result in the estimated removal of 283 kg/yr of toxic pollutants and 1,980 kg/yr of nonconventional pollutants over the estimated BPT discharge. The final BAT effluent mass limitations will remove 57 kg/yr of toxic metals over the intermediate BAT option considered, which lacks filtration. Both options are economically achievable. We believe that the incremental removal justifies selection of filtration as part of BAT model technology. The estimated capital investment cost of BAT is $830,000 and the estimated annual cost is $825,000.

Secondary Silver

EPA is promulgating BAT effluent mass limitations based on lime precipitation and sedimentation and ammonia steam stripping with additional reduction in pollutant discharge with the use of filtration as an effluent polishing step. The end-of-pipe and pretreatment technology basis for BAT limitations being promulgated is the same as one of the alternatives proposed. We expressed concerns at proposal about this option's economic achievability, but after revising the compliance costs and the economic analysis, we have determined that filtration as an end-of-pipe treatment technology is economically achievable. There also were no comments claiming this option was not economically achievable. The treatment performance concentrations upon which the mass limitations are based are equal to values used to calculate the proposed mass limitations. Filtration is currently demonstrated at 11 secondary silver plants.

Revision of the proposed flow allowances is consistent with the changes made for the promulgated BPT limitations. Sections IX and X of the secondary silver supplemental development document present the methodology and data used to calculate the BAT flow allowances.

The pollutants specifically limited under BAT are copper, zinc, and ammonia. We have selected copper, zinc, and ammonia because they are

present in the largest quantities in secondary silver raw wastewater.

Cyanide was not chosen as a regulated pollutant parameter on a subcategory-wide basis in the secondary silver mass limitations. However, secondary silver plants process plating solutions, which may contain cyanide, to recover silver contained in the solution. Cyanide is present due to its use as a process chemical in plating operations. The permitting authority should check for the presence of cyanide in this waste stream and develop discharge limitations if necessary. A discharge allowance can be developed by locating the flow allowance for precipitation and filtration of nonphotographic solutions at BPT and BAT in Sections IX and X, respectively, of the secondary silver supplemental development document. Treatment performance for cyanide precipitation is presented in Section VII of the General Development Document. The discharge allowance (or mass limitation) is the product of the flow allowance and the treatment performance.

We estimate that application of the promulgated BAT would remove 31,000 kg of toxic metals and 664,154 kg of ammonia annually compared to current discharge rates. The BAT effluent mass limitations will remove 132 kg of toxic pollutants per year above the estimated BPT discharge. We believe that incremental removal justifies selection of filtration as part of BAT model technology. In addition, filtration is demonstrated at 11 secondary silver facilities. The estimated capital investment cost of BAT is $278,000 and the annualized cost is $276,000.

Secondary Lead

For BAT, EPA is promulgating effluent mass limitations based on lime precipitation and sedimentation with additional reduction in pollutant discharge achieved through in-process wastewater flow reduction and the use of filtration as an effluent polishing step. Wastewater flow reduction is based on recycle of smelter scrubber water, casting contact cooling water, facility washdown, kettle scrubber water, and battery case separation wastewater. The end-of-pipe treatment technology basis for BAT limitations being promulgated is the same as one of proposed limitations. We expressed concerns at proposal about this option's economic achievability, but after revising the compliance costs and the economic analysis, we have determined that filtration as an end-of-pipe technology is economically achievable. The Agency has revised the compliance costs and economic analysis. Results of the analysis indicate filtration as an end-of-pipe polishing step is economically achievable. The treatment performance concentrations upon which the mass limitations are based are equal to values used to calculate the proposed mass limitations.

Revision of the proposed flow allowances is consistent with the changes made for the promulgated BPT limitations. Sections IX and X of the secondary lead supplemental development document present the methodology and data used to calculate the BAT flow allowances.

The pollutants specifically limited under BAT are antimony, arsenic, lead, zinc, and ammonia. These pollutants were selected since they were present in the largest quantities in raw wastewater. Ammonia is not given a discharge allowance as discussed previously under BPT.

Implementation of the promulgated BAT would remove 25,700 kg/yr of the toxic metals present in the raw waste. The promulgated BAT effluent mass limitations will result in the estimated removal of 350 kg/yr of toxic pollutants above the estimated BPT discharge. No significant incremental removal occurs at the intermediate option. We believe that incremental removal over BPT justifies selection of filtration as part of BAT model technology. In addition, filtration is demonstrated at seven secondary lead plants. The estimated capital investment cost of BAT is $1.86 million and the estimated annual cost is $0.7 million.

NSPS: EPA is promulgating NSPS for the nonferrous metals manufacturing category based on flow reduction and end-of-pipe treatment which consists of lime precipitation, settling, and filtration. Also included in the technology basis, where necessary, is preliminary treatment consisting of oil skimming, ammonia steam stripping, cyanide precipitation, sulfide precipitation and activated carbon adsorption. For each subcategory, this model technology represents the best demonstrated technology. We have evaluated the costs associated with NSPS in each subcategory where NSPS is more stringent than BAT and find that these costs will not pose a barrier to entry by new sources in any of these subcategories.

In developing NSPS, the Agency considered the amount of water used per unit production for each wastewater stream. Many of the new source flow allowances promulgated are equivalent to the BAT allowances. However, in some instances new source performance standards are based on additional flow reduction based on the use of dry scrubbing and in-process changes that reduce water consumption requirements. The promulgated NSPS for each subcategory is discussed below.

Primary Aluminum

EPA proposed NSPS for the primary aluminum subcategory based on the proposed BAT plus additional flow reduction through dry potline scrubbing and elimination of potroom scrubbing. Although this technology is demonstrated, information submitted through comments and gathered by Section 308 requests indicates that two possible problems for new sources could be created by the proposed NSPS, one with respect to continued utilization of certain cell technologies, the other regarding ability to produce certain high purity alloys.

Dry potline scrubbing and elimination of potroom scrubbing for new sources would effectively require center-worked prebake or horizontal stud Soderberg cell technology. This is because the other major cell technologies, the side-worked prebake and vertical Soderberg cell, must use wet scrubbers to control fluoride emissions due to hooding constraints. EPA's NSPS for new "green field" primary aluminum sources are based on these facilities using center-worked prebake and horizontal stud Soderberg cells, or achieving the effluent limitations that are associated with the use of prebake cells. This is an environmentally more acceptable process (particularly in terms of net effluent reductions) because fluoride emissions can be fully contained without the use of wet scrubbers while capturing and returning the fluoride to the manufacturing process. See Senate Committee on Public Works, *A Legislative History of the Clean Water Act*, 93d Cong. 1st Sess., Vol. 1 at 172 (new source performance standards are to reflect "levels of pollution control which are available through the use of improved production processes").

An issue arises, however, as to whether major expansions of capacity at existing Soderberg plants are to be classified as new sources or as major modifications subject to BAT. Dry scrubbing on vertical Soderberg potline or potroom emissions may not be feasible, as a practical matter. However, use of horizontal stud Soderberg technology with dry potline and no potroom scrubbing is demonstrated. Therefore, construction of new sources or major expansions do not receive a discharge allowance for potline or potroom scrubbing.

Commenters raised an issue regarding application of proposed NSPS to all new sources. They argued that plants using dry scrubbing will need to use recycled alumina from dry scrubbing as raw material. Certain high purity alloys, however, cannot be made with recycled alumina (due primarily to iron contamination) but require virgin ore. The argument is that new prebake sources producing high purity alloys would thus be at a competitive disadvantage if they must install dry scrubbing technology because of a requirement to use more virgin alumina per ton of product.

The Agency believes this problem to be hypothetical and unlikely to occur in actuality. Prebake plants with dry scrubbing can avoid contamination of these alloys by segregating production of metal produced from virgin ore from metal produced from alumina recycled from dry scrubbers. Although this may allow only a relatively small (10 to 20) percentage of a plant's production to be dedicated to certain high purity alloys, we are unaware of any plant that devotes large percentages of its production capacity to these specific alloys. Thus, all existing plants that produce these high purity alloys and have dry scrubbers appear to be operating without competitive constraint. We therefore do not believe that new sources will suffer adverse competitive impact as a result of a dry scrubbing requirement. If a prospective new source is able to demonstrate that: (1) It will dedicate too much capacity to high purity alloys to utilize all of its recyclable alumina; (2) it is unable to market its excess recyclable alumina; and (3) the costs of purchasing excess virgin ore and reprocessing alumina through the Bayer process are so high as to pose a barrier to entry, the Agency will entertain rulemaking application to amend NSPS. Since no demonstration has been made, and the possibility appears very remote, we are not altering the proposed NSPS.

Our promulgated NSPS will eliminate discharge of toxic organic and metals associated with potline and potroom scrubber discharge, but will not require any significantly different cost of compliance for new or existing sources.

In the proposed limitations for BAT and NSPS, degassing wet air pollution control was not given a discharge allowance based on alternate in-line fluxing and filtering techniques, which reduce chlorine fuming and eliminate the need for wet scrubbers. Comments received stating that the retrofit costs of installing alternate in-line fluxing to replace furnace degassing were quite extensive. Commenters also stated that specifications cannot be met for certain alloys using in-line fluxing and filtering technology alone.

The Agency contacted each facility known to use alternate in-line fluxing and filtering methods was contacted through Section 308 authority to determine if any of the alloys mentioned in the comments are currently manufactured or capable of being manufactured with alternate in-line fluxing and filtering. Five plants reported they were either manufacturing or capable of manufacturing at least four of the 10 alloys identified. Collectively, it appears all 10 alloys can be manufactured using alternate in-line fluxing and filtering techniques without furnace fluxing. As described previously, a BAT discharge for this operation is provided because of the extensive retrofit costs required to install in-line fluxing and filtering. New sources, on the other hand, will not incur these costs. Therefore, degassing wet air pollution is not provided a discharge allowance for new sources. This technology is readily available to all facilities in the subcategory and will not pose a barrier to entry.

Secondary Aluminum

With the exception of dross washing, we are promulgating NSPS for the secondary aluminum subcategory equivalent to the BAT technology. Dross washing is not provided a discharge allowance in the NSPS due to the demonstration of dry milling in the subcategory. In the 1974 development document for secondary aluminum, it is stated that 17 of the 23 plants process residues (drosses) practice dry milling to eliminate wastewater. Impact mills, grinders, and screening operations are used to remove the metallic aluminum values from the nonmetallic values. Dry milling is not required for existing sources due to the extensive retrofits of installing mills, grinders, and screening operations. New sources, however, have the ability to install the best equipment without the costs of major retrofits. Therefore, dry milling is considered appropriate for new sources. For the remaining waste streams, the Agency believes that BAT, as promulgated, is the best demonstrated technology. Additional flow reduction and more stringent treatment technologies are not demonstrated or readily transferable to the secondary aluminum subcategory.

Primary Copper Smelting

EPA is promulgating NSPS for the primary copper smelting subcategory as zero discharge without a catastrophic storm discharge allowance. New smelting facilities can be constructed using cooling towers to cool and recirculate casting contact cooling water and slag granulation wastewater, so that large surface area cooling impoundments are unnecessary. Thus, the allowance for the catastrophic precipitation discharge allowed at BAT is eliminated based on the availability of demonstrated cooling tower technology. The costs associated with constructing and operating a cooling tower system are not significantly greater than those for cooling impoundments and as such, the Agency does not believe that the promulgated NSPS will constitute a barrier for entry of new facilities. As a result of this modification, the discharge of toxic metals during months of net precipitation will be eliminated.

Primary Electrolytic Copper Refining

EPA is promulgating NSPS for this subcategory equal to BAT. The Agency believes that BAT as promulgated is the best demonstrated technology. Additional flow reduction and more stringent treatment technologies are not demonstrated or readily transferable to the primary electrolytic copper refining subcategory.

Secondary Copper

EPA is promulgating NSPS for the secondary copper subcategory equal to zero discharge. We thus are eliminating the allowance for catastrophic stormwater discharge provided at BAT. New sources can be constructed using demonstrated cooling tower technology. The cost of constructing and operating a cooling tower system is not significantly greater than of a cooling impoundment, and as such, we believe that NSPS does not constitute a barrier to entry for new plants.

Primary Lead

We are promulgating NSPS that prohibits the discharge of all process wastewater from primary lead smelting, except for these industrial hygiene streams provided an allowance at BAT and for which an allowance remains necessary. Zero discharge of all other streams can be achieved by the demonstrated complete recycle and reuse of slag granulation wastewater or through slag dumping. In addition to the flow reductions included in BAT, we believe new plants can be designed to eliminate discharge from the dross reverberatory furnace slag granulation process at no significant additional cost by 100 percent recycle of this waste stream. Elimination of the materials handling wet air pollution control waste

stream is based on dry scrubbing to control fugitive lead emissions during materials handling. Therefore, we believe NSPS does not present any barrier to entry for new plants, since no retrofit costs are associated with dry scrubbing.

Comments were received asking that NSPS for the primary lead subcategory be held in reserve because new sources would be built using hydrometallurgical processes instead of the conventional pyrometallurgical processes. The Agency believes that the effluent reductions achievable by pyrometallurgical sources represent Best Demonstrated Technology. New hydrometallurgical processes should therefore have to meet limitations associated with this technology. In fact, there are no existing hydrometallurgical plants and it is not at all clear if there will be any new sources using this process. If such a (hypothetical) facility could demonstrate that it could not achieve better effluent reductions than pyrometallurgical sources, the Agency will consider amending NSPS. However, no such demonstration has been made.

Primary Zinc

EPA is promulgating NSPS for the primary zinc subcategory equal to BAT. The Agency believes that BAT as promulgated is the best demonstrated technology. Additional flow reduction and more stringent treatment technologies are not demonstrated or readily transferable to the primary zinc subcategory.

Metallurgical Acid Plants

EPA is promulgating NSPS for the metallurgical acid plants subcategory equal to BAT. The Agency believes that BAT as promulgated is the best demonstrated technology. Additional flow reduction and more stringent treatment technologies are not demonstrated or readily transferable to the metallurgical acid plants subcategory.

Primary Columbium-Tantalum

EPA is promulgating that NSPS for the primary columbium-tantalum subcategory equal to BAT. The Agency believes that BAT as promulgated is the best demonstrated technology. Additional flow reduction and more stringent treatment technologies are not demonstrated or readily transferable to the columbium-tantalum subcategory.

Primary Tungsten

We are promulgating NSPS equal to BAT. The Agency believes that BAT as promulgated is the best demonstrated technology. Additional flow reduction and more stringent treatment technologies are not demonstrated or readily transferable to the primary tungsten subcategory.

Secondary Silver

EPA is promulgating NSPS for the secondary silver subcategory equal to BAT. The Agency believes that BAT as promulgated is the best demonstrated technology. Additional flow reduction and more stringent treatment technologies are not demonstrated or readily transferable to the secondary silver subcategory.

Secondary Lead

EPA is promulgating NSPS for the secondary lead subcategory equal to the technology basis of BAT, but we are requiring additional flow reduction over BAT levels by using dry scrubbing to control emissions from kettle refining. Existing wet scrubbers are used to control emissions and prevent baghouse fires caused by sparking when sawdust and phosphorus are applied to the surface of the metal while in the kettle. Dry scrubbers can be used for this purpose if spark arrestors and settling chambers are installed to trap sparks. According to the Secondary Lead Association, this is a demonstrated and viable technology option. Dry scrubbing is not required at BAT because of the extensive retrofit costs of switching from wet to dry scrubbing. This NSPS requirement will not present any barrier to entry of new plants. NSPS will reduce the discharge of toxic metals from new secondary lead plants.

PSES: Section 307(b) of the Act requires EPA to promulgate pretreatment standards for existing sources (PSES) to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with the operation of POTW. These standards must be achieved within three years of promulgation. The legislative history of the 1977 Act indicates that pretreatment standards are to be technology based, generally analogous to BAT for direct dischargers. (Conference Report 95–830 at 87; *Reprinted in* Comm. on Environmental and Public Works, 95th Cong. 2d Sess., *A Legislative History of the Clean Water Act of 1977*, Vol. 3 at 272.)

Before promulgating pretreatment standards, the Agency examined whether the pollutants discharged by the industry pass through the POTW or interfere with the POTW operation or its chosen sludge disposal practices. In determining whether pollutants pass through a well-operated POTW, achieving secondary treatment, the Agency compares the percentage of a pollutant removed by POTW with the percentage removed by direct dischargers applying the best available technology economically achievable. A pollutant is deemed to pass through the POTW when the average percentage removed nationwide by well-operated POTW meeting secondary treatment requirements, is less than the percentage removed by direct dischargers complying with BAT effluent limitations guidelines for that pollutant. (See generally, 46 FR 9415–16 (January 28, 1981).)

EPA is promulgating PSES based on the application of technology equivalent to BAT, which consists of end-of-pipe treatment comprised of lime precipitation and settling followed by multi media filtration. Sulfide precipitation is also part of the model technology in two subcategories. Preliminary treatment for the control of cyanide, ammonia, and phenolics, where needed, is also a part of the model technology. In each case, we find that PSES is necessary to prevent pollutant pass-through. We find, in addition, that promulgated PSES is economically achievable for each subcategory.

The pass-through analysis performed by the Agency at proposal has been revised based on the revised pollutant removal estimates. In addition, the Agency has established removal rates of arsenic, antimony, and fluoride in well-operated POTW. At proposal, the Agency assumed that these pollutants were not effectively controlled by a POTW and that they would pass through. Data obtained from the 40-plant POTW study (the Agency's standard source for POTW removal efficiencies), show that arsenic and antimony will be reduced by a well-operated POTW by 65 and 60 percent, respectively. Limited data available to the Agency indicate complete pass through of fluoride occurs under most normal POTW operating conditions. For the remaining pollutants, the average percentage removed nationwide by well-operated POTW meeting secondary treatment requirements has remained unchanged since proposal. A discussion of pollutant pass-through for each subcategory is presented in subsequent paragraphs.

The PSES set forth in this final rule are expressed in terms of mass per unit of production rather than as concentration standards. Regulation on the basis of concentration is not appropriate for this category because flow reduction is a significant part of the model technology for pretreatment. Mass-based standards are necessary to assure that the effluent reduction

benefits associated with this flow reduction are obtained. (See 48 FR at 7051 and the supplemental development documents for a fuller explanation.) Although we proposed alternative mass-based and concentration-based PSES for two subcategories, concentration-based PSES are no longer appropriate because, in each of these subcategories, we have revised the flow allowances since proposal and the flow reductions now specified justify mass-based PSES.

Primary Aluminum

We are not promulgating pretreatment standards for existing sources for the primary aluminum smelting subcategory since there are no existing indirect dischargers.

Secondary Aluminum

We are promulgating PSES equal to BAT for this subcategory. It is necessary to adopt PSES to prevent pass-through of lead, zinc, phenol, and ammonia. (We are not regulating aluminum at PSES because it does not pass through or interfere with POTW operation. See 48 FR at 7064.) The toxic pollutants are removed by well-operated POTW on an average of 53 percent (lead—49 percent, zinc—65 percent, phenol—96 percent, and ammonia—0 percent), while BAT technology removes approximately 98 percent of each pollutant. With respect to ammonia, most POTW in the United States are not designed for nitrification. Hence, aside from incidental removal, most if not all of the ammonia introduced into POTW from secondary aluminum operations will pass through into receiving waters without treatment.

The technology basis for PSES thus is lime precipitation and sedimentation, ammonia steam stripping, wastewater flow reduction and filtration, with phenols preliminary treatment by activated carbon where necessary. Monitoring and compliance for the phenols limitation is to be conducted and demonstrated at-the-source, for the same reasons as for direct dischargers. See also 46 FR at 9442 (January 28, 1981) (dilution by pretreaters prohibited as substitute for treatment). Flow reduction for the selected technology option over current discharge rates represents a 75 percent reduction in flow. The achievable concentrations used to develop the mass limitations for PSES are identical to those used to develop the BAT limitations.

Implementation of the promulgated PSES limitations would remove an estimated 11,300 kg/yr of toxic pollutants, 96 kg/yr of ammonia, and 212 kg/yr of phenol, over estimated current discharge. Removals over estimated raw discharge are approximately 11,300 kg/yr of toxic pollutants 212 kg/yr of phenol and 96 kg/yr of ammonia. The final PSES mass limitations will remove 12 kg/yr of toxic metals over the intermediate PSES option considered, which lacks filtration. Both options are economically achievable, and both prevent pass-through. We therefore are selecting PSES equal to BAT. The estimated capital cost for achieving PSES is $2.2 million, and the annual cost of $0.8 million.

The Agency proposed alternative concentration-based standards in this subcategory because flow reduction was not an integral part of the model treatment technology. However, with the addition of ingot conveyor casting based on 90 percent recycle for plants without demagging wet scrubbers and 100 percent casting water reuse for those plants operating demagging scrubbers, the Agency is promulgating mass-based standards to assure that the effluent reduction benefits associated with the flow reduction are achieved.

Primary Copper Smelting

We are not promulgating pretreatment standards for existing sources for the primary copper smelting subcategory since there are no existing indirect dischargers.

Primary Electrolytic Copper Refining

We are not promulgating pretreatment standards for existing sources for the primary copper electrolytic refining subcategory because there are no existing indirect dischargers.

Secondary Copper

EPA promulgated PSES for the secondary copper subcategory on December 15, 1976 (41 FR 48650). The 1976 PSES allow a continuous discharge of process wastewater subject to specific limitations based on treatment with lime precipitation and sedimentation. BPT and BAT for this subcategory, promulgated in 1975, are also based on lime precipitation and sedimentation; however, they also include cooling towers and holding tanks for the purpose of achieving no discharge of process wastewater. We therefore proposed that PSES be amended to be zero discharge so as to be equivalent to promulgated regulations for direct dischargers. PSES also is necessary to prevent pass-through of copper, lead, nickel, and zinc based on our comparison of BAT (100 percent removal) with well-operated POTW removals (copper—58 percent, lead—48 percent, nickel—19 percent, and zinc—65 percent).

Comments received by the Agency claimed that 100 percent recycle was not feasible because of product quality constraints. We know of no reason this should be true (especially since direct dischargers already are operating under this requirement). The Agency also solicited additional information on this point through a Section 308 request; however, no data were submitted to substantiate the commenters' claim. The data submitted by the commenter, however, indicate that the casting referred to in the original comments is continuous rod casting. Continuous copper rod casting is principally a copper forming or foundry operation because the copper is formed immediately after casting. Casting of products at copper forming facilities will be regulated under the Metal Molding and Casting (foundries) Point Source Category where continuous rod casting will receive a discharge allowance.

Implementation of the PSES would remove an estimated 9,400 kg/yr of toxic pollutants over estimated current discharge. Removals over estimated raw discharge are approximately 9,500 kg/yr of toxic pollutants. The estimated capital cost for achieving the promulgated PSES is $654,000, and the annual cost is $160,000. At proposal, the Agency did not anticipate any compliance costs because the 1976 PSES appeared to require technology that would enable facilities to achieve zero discharge (as well as achieve the 1976 promulgated PSES). However, this treatment equipment is not uniformly in place. Therefore, the costs shown above represent treatment not in place that is required to achieve zero discharge.

Primary Lead

We did not propose pretreatment standards for existing sources for the primary lead subcategory because there were no existing indirect dischargers at proposal. However, with the addition of flow allowances for wastewaters generated due to occupational hygiene needs, three plants previously considered as zero discharge operations now have discharges. Specifically, these wastewater sources are employee handwash, respirator wash, laundering of employee uniforms, and facility washdown. Therefore, the Agency is promulgating PSES standards for this subcategory equivalent to BAT technology to prevent the pass-through of arsenic, cadmium, lead, and zinc. It is feasible and less expensive for these three plants to segregate this wastewater and recycle it to slag or speiss granulation, which is currently zero discharge at these plants. These flows are a small percentage (less than 5 percent) of the process waters, and

therefore, their addition will have a negligible effect on the water balance. Therefore, our compliance costs estimates are based on segregation and recycle (or evaporation) rather than treatment. The toxic pollutants are removed by well-operated POTW on an average of 52 percent (cadmium—38 percent, copper—58 percent, lead—48 percent, arsenic—65 percent), while we estimate PSES will remove 100 percent.

Implementation of the promulgated PSES limitations will remove an estimated 117 kg/yr of toxic pollutants over estimated current discharge. Removals over estimated raw discharge are approximately 117 kg/yr of toxic pollutants. Capital cost for achieving PSES is $38,000, and annual cost is $5,000. These costs represent the cost of segregating these waste streams.

Primary Zinc

We did not propose pretreatment standards for the primary zinc subcategory. We now are promulgating PSES equal to BAT because we have learned that one primary zinc plant previously thought to be a zero discharger is actually an indirect discharger. Promulgation of PSES for primary zinc will prevent the pass through of cadmium and zinc. Cadmium and zinc are removed by a well-operated POTW at an average rate of 52 percent (cadmium—38 percent, zinc—65 percent), while the BAT technology removes approximately 84 percent. The BAT limitations also limit copper and lead. However, as shown in the supplemental development document, the Agency has determined that these pollutants will not pass through, so they are not limited at PSES for this subcategory.

Implementation of the PSES limitations would remove an estimated 207 kg/yr of toxic pollutants over estimated current discharge. Removals over estimated raw discharge are approximately 685,000 kg/yr of toxic pollutants. The final PSES effluent mass limitations will remove 650 kg/yr of toxic metals over the intermediate PSES option considered, which lacks filtration. Both options are economically achievable and both prevent pass-through. We therefore are selecting the BAT-equivalent option. (Filtration as an end-of-pipe treatment technology also is currently demonstrated by one plant in the subcategory.) The estimated capital cost for achieving PSES is $122,000, and the annual cost is $38,000.

Metallurgical Acid Plants

We are promulgating PSES equal to BAT for this subcategory. Promulgation of PSES for the metallurgical acid plant subcategory will prevent pass-through of cadmium and zinc. These pollutants are removed by POTW on an average of 52 percent (cadmium—38 percent, zinc—65 percent), while the BAT technology removes an estimated 84 percent.

We estimate that the final PSES limitations will remove 330 kg/yr toxic pollutants over the intermediate option, which lacks filtration. Since both options are economically achievable and both prevent pass-through, we are promulgating PSES equal to BAT. Implementation of the promulgated PSES will result in an estimated capital cost of $161,000 and annual cost of $55,000.

We did not propose PSES for metallurgical acid plants even though there is one existing indirect discharging metallurgical acid plant. At proposal, it was estimated that this plant currently discharged less pollutants than would be allowed under PSES because its wastewater discharge rate was much less than that allowed. The revised removal estimates, however, indicate that the PSES technology will remove 367 kg/yr of toxic metals over current discharge estimates.

Primary Tungsten

We are promulgating PSES equal to BAT for this subcategory. It is necessary to promulgate PSES to prevent pass-through of lead, zinc, and ammonia. These toxic pollutants are removed by a well-operated POTW at an average of 40 percent (lead—48 percent, zinc—65 percent, and ammonia—0 percent), while BAT technology removes approximately 78 percent. The technology basis for PSES thus is lime precipitation and sedimentation, ammonia steam stripping, wastewater flow reduction and filtration. Flow reduction for the selected technology represents a 68 percent reduction in flow over current discharge rates.

Implementation of the promulgated PSES limitations would remove annually an estimated 339 kg of toxic pollutants over estimated current discharge, and an estimated 63,000 kg of ammonia. Removals over estimated raw discharge are approximately 3,400 kg of toxic pollutants and 63,320 kg of ammonia. The final PSES effluent mass limitations will remove 91 kg/yr of toxic metals over the intermediate PSES option considered, which lacks filtration. Both options are economically achievable, and pass-through occurs at both options. We believe the incremental removal justifies selection of filtration as part of PSES model technology as does the need to base PSES on BAT-equivalent technology. The estimated capital cost for achieving PSES is $568,000, and annual cost is $308,000.

Primary Columbium-Tantalum

We are promulgating PSES equal to BAT for this subcategory. It is necessary to promulgate PSES to prevent pass-through of lead, zinc, fluoride, and ammonia. These toxic pollutants are removed by well-operated POTW at an average of 28 percent (lead—48 percent, zinc—65 percent, fluoride—0 percent, and ammonia—0 percent), while BAT technology removes approximately 99.7 percent. The technology basis for PSES thus is lime precipitation and sedimentation, ammonia steam stripping, wastewater flow reduction and filtration. Flow reduction for the selected technology represents an 80 percent reduction in flow over current discharge rates.

Implementation of the promulgated PSES limitations would remove an estimated 18,330 kg/yr of toxic pollutants over estimated current discharge, an estimated 290,466 kg/yr of ammonia, and an estimated 111,200 kg/yr of fluoride. Removals over estimated raw discharge are approximately 18,590 kg/yr of toxic pollutants, 290,460 kg/yr of ammonia, and 400,175 kg/yr of fluoride. The final PSES effluent mass limitations will remove 57 kg/yr of toxic metals over the intermediate PSES option considered, which lacks filtration. Both options are economically achievable and both prevent pass-through. We thus are selecting PSES equal to BAT. The estimated capital cost for achieving PSES is $1.0 million, and annual cost is $0.5 million.

Secondary Silver

We are promulgating PSES equal to BAT for this subcategory to prevent pass-through of copper, zinc, and ammonia. These toxic pollutants are removed by 65 percent in a well-operated POTW on an average of 49 percent (copper—58 percent, zinc—65 percent, and ammonia—0 percent), while BAT technology removes approximately 97 percent. The technology basis for PSES is lime precipitation and sedimentation, ammonia steam stripping, wastewater flow reduction and filtration. Flow reduction for the selected technology represents a 23 percent reduction in flow over current discharge rates.

Cyanide has not been chosen as a regulated pollutant parameter on a subcategory-wide basis for secondary silver. However, these plants process plating solutions, which may contain cyanide, to recover silver contained in the solution. Cyanide is present due to

its use as a process chemical in plating solutions. The control authority should check for the presence of cyanide in this waste stream and develop discharge limitations if necessary. This issue is discussed in greater detail in the BPT discussion for secondary silver.

Implementation of the promulgated PSES limitations would remove an estimated 1,971 kg/yr of toxic pollutants over estimated current discharge, and an estimated 42,900 kg/yr of ammonia. Removals over estimated raw discharge are approximately 4,259 kg of toxic pollutants and 42,900 kg of ammonia. The final PSES effluent mass limitations will remove 13 kg/yr of toxic metals over the intermediate PSES option considered, which does not include filtration. Both options are economically achievable, and both prevent pass-through. Filtration is currently demonstrated by eight indirect discharging secondary silver plants. We therefore are promulgating PSES equal to BAT. The estimated capital cost for achieving PSES is $630,000, and the annual cost is $317,000.

Secondary Lead

We are promulgating PSES equal to BAT for this subcategory. It is necessary to promulgate PSES to prevent pass-through of antimony, arsenic, lead, zinc, and ammonia. These pollutants are removed by well-operated POTW at an average of 48 percent (antimony—60 percent, arsenic—65 percent, lead—48 percent, zinc—65 percent, and ammonia—0 percent), while BAT technology removes approximately 80 percent. A zero discharge limitation for ammonia is being promulgated as discussed under BPT earlier. The technology basis for PSES thus is lime precipitation and sedimentation, wastewater flow reduction and filtration. Flow reduction for the selected technology represents a 38 percent reduction in flow over current discharge rates.

Implementation of the promulgated PSES limitations would remove annually an estimated 15,531 kg of toxic pollutants over estimated current discharge. Removals over estimated raw discharge are approximately 46,500 kg of toxic pollutants. The final PSES effluent mass limitations will remove 620 kg/yr of toxic metals over the intermediate PSES option considered, which lacks filtration. Both options are economically achieveable and both prevent pass-through. Filtration is currently demonstrated by five indirect discharging secondary lead plants. We therefore are adopting PSES equal to BAT. The estimated capital cost for achieving PSES is $4.3 million, and the annual cost is $1.5 million.

PSNS: EPA is promulgating PSNS based on end-of-pipe treatment and in-process controls equivalent to that used as the basis for PSNS. The flow allowances for NSPS are also the same as those for NSPS. As discussed under PSES, pass-through of the regulated pollutants will occur without adequate pretreatment and, therefore, pretreatment standards are required. We are promulgating mass-based PSNS for all subcategories to assure that the effluent reduction benefits associated with flow reduction technologies are obtained in new plant designs. For each subcategory, we find that the effluent reduction benefits achieved reflect those achievable with the best demonstrated technology, and that the costs of achieving these reductions will not pose a barrier to entry for new sources. The promulgated PSNS limitations for each subcategory are discussed below.

Primary Aluminum

The technology basis for promulgated PSNS is identical to NSPS. We are promulgating limitations for benzo(a)pyrene, cyanide, nickel, and fluoride to prevent pass-through. Nickel is removed by a well-operated POTW at a rate of 19 percent while the POTW removal of cyanide is 56 percent. Limitations for antimony have not been established because it was shown that a well-operated POTW removes 60 percent and the Agency estimates the model BAT treatment technology will remove 55 percent. Fluoride is limited for PSNS because it passes through POTW. Pass-through data are not available for benzo(a)pyrene; however, pass-through data for five other polynuclear aromatic hydrocarbons do not exceed 83 percent, while BAT technology removes approximately 99 percent.

Secondary Aluminum

The technology basis for the promulgated PSNS is identical to NSPS, PSES, and BAT. The same pollutants pass through as at PSES, for the same reasons. We know of no demonstrated technology that is better than PSES technology because the only other flow reduction technology available is neither demonstrated nor clearly transferable to this subcategory. Because PSNS does not increase costs compared to PSES or BAT, we do not believe PSNS will prevent entry of new plants.

Primary Copper Smelting

The technology basis for promulgated PSNS is identical to NSPS, which is zero discharge of all process wastewater, with no allowance for catastrophic stormwater discharge. We do not believe there are any incremental costs associated with PSNS. Consequently, we do not believe that PSNS will prevent entry of new plants. PSNS will prevent the pass-through of copper, arsenic, and nickel. A well-operated POTW will remove these pollutants on an average of 47 percent (copper—58 percent, arsenic—65 percent, and nickel—19 percent). PSNS technology in comparison will remove 100 percent of these toxic pollutants.

Primary Copper Electrolytic Refining

The technology basis for promulgated PSNS is identical to BAT and NSPS. We know of no economically feasible, demonstrated technology that is better than BAT. All process wastewater discharge is eliminated at BAT except casting contact cooling water and spent electrolyte. Casting contact cooling water blowdown is minimized through the use of 90 percent recycle in a cooling tower circuit. PSNS prevents the pass-through of copper, arsenic, and nickel, which are the regulated pollutants. A well-operated POTW will only remove these pollutants at an average of 47 percent (copper—58 percent, arsenic—65 percent, and nickel—19 percent). The model BAT technology was shown to remove 92 percent of these metals. Because PSNS does not increase costs compared to PSES or BAT, we do not believe PSNS will prevent the entry of new plants.

Secondary Copper

The technology basis for promulgated PSNS is identical to NSPS, PSES, and BAT, which is zero discharge of all process wastewater (including no allowance for catastrophic stormwater discharges). PSNS is necessary to prevent pass-through of copper, lead, nickel, and zinc based on our comparison of BAT (100 percent removal) with well-operated POTW removals (copper—59 percent, lead—48 percent, nickel—19 percent, and zinc—65 percent). Because PSNS does not increase costs compared to PSES or BAT, we do not believe that PSNS will prevent the entry of new plants.

Primary Lead

The technology basis for promulgated PSNS is identical to NSPS. We know of no demonstrated technology that provides better pollutant removal than PSNS technology. PSNS prevents the pass-through of lead and zinc. A well-operated POTW removes these pollutants on an average of 57 percent (lead—48 percent and zinc—65 percent).

NSPS technology will remove in excess of 80 percent of these two toxic metals. The Agency believes the elimination of the process wastewater sources can be accomplished without additional cost beyond BAT-equivalent costs. Therefore, we believe that PSNS will not prevent the entry of new plants.

Primary Zinc

The technology basis for PSNS is identical to NSPS, BAT, and PSES. The same pollutants pass through as at PSES, for the same reasons. We know of no demonstrated technology that provides better pollutant removal than NSPS and BAT technology. The NSPS and BAT flow allowances are based on minimization of process wastewater wherever possible through the use of cooling towers to recycle contact cooling water and sedimentation basins for wet scrubbing wastewater.

Metallurgical Acid Plants

The technology basis for PSNS is identical to NSPS, PSES, and BAT. PSNS prevents the pass-through of arsenic, cadmium, copper, lead, and zinc, which are the regulated pollutants. We know of no demonstrated technology that provides better pollutant removal than PSES technology. The acid plant blowdown allowance at PSES is based on 90 percent recycle. Because PSNS does not include any additional costs compared to NSPS and BAT, we do not believe it will prevent entry of new plants.

Primary Tungsten

The technology basis for promulgated PSNS is identical to NSPS, PSES, and BAT. The same pollutants pass through as at PSES, for the same reasons. We know of no economically feasible, demonstrated technology that is better than PSES technology. The PSES flow allowances are based on minimization of process wastewater wherever possible through the use of sedimentation basins for wet scrubbing wastewater. Because PSNS does not include any additional costs compared to NSPS and PSES, we do not believe it will prevent entry of new plants.

Primary Columbium-Tantalum

The technology basis for promulgated PSNS is identical to NSPS, PSES, and BAT. The same pollutants pass through as at PSES, for the same reasons. We know of no economically feasible, demonstrated technology that is better than PSES technology. The PSES flow allowances are based on minimization of process wastewater wherever possible through the use of lime precipitation and sedimentation to remove fluoride for wet scrubbing wastewater. Because PSNS does not include any additional costs compared to NSPS and PSES, we do not believe it will prevent entry of new plants.

Secondary Silver

The technology basis for promulgated PSNS is identical to NSPS, PSES, and BAT. The same pollutants pass through as at PSES, for the same reasons. We know of no demonstrated technology that is better than PSES technology. The PSES flow allowances are based on minimization of process wastewater wherever possible through the use of sedimentation basins for wet scrubbing wastewater. Because PSNS does not include any additional costs compared to NSPS and PSES, we do not believe it will prevent the entry of new plants.

Secondary Lead

The technology basis for promulgated PSNS is identical to NSPS. The same pollutants pass through as at PSES, for the same reasons. We know of no demonstrated technology that is better than NSPS technology. The PSNS flow allowances are based on minimization of process wastewater wherever possible through the use of cooling towers to recycle contact cooling water and sedimentation basins for wet scrubbing wastewater. Dry scrubbing is also included for kettle air pollution control for the reasons provided in NSPS. Because PSNS does not include any additional costs compared to NSPS, we do not believe it will prevent the entry of new plants.

VI. Economic Considerations

A. Compliance Costing Methodology

The Agency has, to some extent, revised its cost estimation methodology for the nonferrous metals manufacturing category between proposal and promulgation of this final rule. These revisions have reflected a more detailed engineering analysis of each plant so that estimated costs better represent the actual cost to each plant for compliance with the regulations contained herein. This means of estimating costs is very similar to that used at proposal, except that costs are evaluated for each individual plant so as to account for actual treatment in place and for regulatory flows. These changes respond to comments that the Agency had failed to account properly for compliance costs at individual plants.

First, we developed a computer model that, using production and flow data that are specific to each plant, performs material balances for the plant's wastewater treatment processes. These material balances form the basis for design of each process in the system. The resulting designs are then used as input to a cost estimation routine that calculates investment as well as operation and maintenance (O&M) costs for each component in the treatment system. The model then adds 37.5 percent system capital costs for engineering, contingency, and contractor's fees to arrive at the total investment cost. Annual costs for the plant to comply with this regulation are determined as the sum of the O&M costs, monitoring costs, taxes, and amortized investment cost. In response to comments, the design data base used in the model relies more heavily on actual practice in this category than did the data base used for proposal. Similarly, the cost data base is more up-to-date and relies more heavily on actual equipment vendor quotes than the data base used for proposal.

Other changes in methodology also affect the total compliance cost estimates for this category. First, at proposal, the Agency retained costs for equipment already installed by a plant (i.e., treatment-in-place). For promulgation, the Agency has revised this procedure to include capital costs for only those processes that a plant has not yet installed; the annual costs (without depreciation or interest) for each process are included regardless of whether or not this process has been installed. (The only exception is when equipment is in place and is required by the existing regulation. In this situation annual costs already were assessed when the existing regulation was promulgated.) This revision more properly accounts for the costs that would be incurred by the plant to achieve the limitations set forth in this rule.

Second, the procedure for calculating flows to the treatment system has been revised. For each regulatory option and waste water source, the Agency has established a flow allowance. At proposal, the actual flow reported by a plant for each of these sources was used as the basis for cost estimation, regardless of the relationship of each flow to the corresponding regulatory flow from that source. At promulgation, the actual wastewater flow each production operation is compared to the corresponding regulatory flow for that operation and the lower of the two is selected as the basis for cost estimation (i.e., treatment equipment size, amount of treatment chemicals needed, etc.). This procedure eliminates the overestimation of end-of-pipe treatment system costs for plants that do not

currently achieve the regulatory flow allowances. (Costs for installation and operation of equipment necessary to achieve these flow reductions are, of course, included.)

Third, several cost and design assumptions differ between the two methodologies. Among the most significant of these, all made in response to comment, are the following: (1) the dollar base has changed from 4th quarter 1976 to March of 1982; (2) the amortization includes changes in interest rate and recovery period; and (3) no excess capacity was included at proposal while 20 percent excess is used for promulgation.

B. General Cost Assumptions for the Nonferrous Metals Manufacturing Phase I Category

The following general assumptions apply to cost estimation in all subcategories:

(1) Unless otherwise specified, all wastewater treatment sludges are considered to be nonhazardous.

(2) Costs for segregation of wastewaters not included in this regulation (e.g., noncontact cooling water) or for routing regulated waste streams not currently treated to the treatment system are estimated on the basis of purchase and installation of 500 feet of 4-inch piping (with valves, pipe racks, and elbows) for each stream. Where a common stormwater-process wastewater system appeared to be used at the plant the segreagation costs were estimated on the basis of 500 feet of 4-inch piping (with valves, pipe racks, and elbows). Stormwater is segregated by including costs for installation of 300 feet of 2-foot diameter underground concrete pipe to route stormwater around the treatment system.

(3) Monitoring costs are calculated using a frequency that is a function of flow for each plant and a sampling and analysis cost of $120 per sample.

(4) Where a plant has wastewater sources from two nonferrous phase I subcategories (e.g., metallurgical acid plant blowdown and primary zinc plant wastewater), the costs are normally apportioned between subcategories on a flow-weighted basis, since hydraulic flow is the primary determinant for equipment size and cost. At a specific plant, however, no incremental costs are incurred by a subcategory for flow reduction, if the waste streams associated with that subcategory do no undergo flow reduction. Thus is only the acid plant blowdown from a combined zinc and metallurgical acid plant undergoes flow reduction, all incremental costs are assigned to the metallurgical acid plant subcategory, and the compliance costs estimated for the primary zinc subcategory remain the same. Where waste streams from both subcategories undergo flow reduction, a new flow ratio is calculated to apportion costs. (This in essence is only a bookkeeping exercise of how to allot this cost; the total cost calculated remains the same.)

(5) In most cases, where a plant has wastewater sources from the nonferrous phase I category and a category other than nonferrous manufacturing (for example, aluminum forming) we calculated the costs of segregating these different wastewaters. (The only exception, described below, is for three secondary lead operations occurring at battery manufacturing plants where we estimated costs for combined treatment.) This means of cost estimation accounts for the possibility that respective regulations for each category are based on different technologies (and may control different pollutants). (We assumed the costs of segregation even if combined treatment, in practice, is a less costly means of compliance. This is one of a number of areas (described more fully below) where the Agency was knowingly conservative in estimating compliance costs.)

The cost estimation methodology for each subcategory is discussed in greater detail in the following paragraphs.

Primary Aluminium

Costs are estimated for three treatment options in the primary aluminuim subcategory: preliminary treatment consisting of cyanide precipitation and oil skimming, flow reduction, lime, and settle; preliminary treatment, flow reduction, lime, settle, and multimedia filtration; and preliminary treatment, flow reduction, lime, settle, multimedia filtration, and activated carbon adsorption. Six major assumptions were made in estimating plant compliance costs for each treatment option:

(1) Compliance costs for oil/water separation, flow reduction via cooling towers, and lime and settle are necessary to meet the previously promulgated BPT regulation for certain waste streams. These costs are not included in the current compliance costs if the treatment is in place and of sufficient capacity. If additional capacity is required to treat waste streams not considered in the promulgated BPT regulation, the cost for this capacity is included in the compliance cost estimate.

(2) In our consideration of activated carbon adsorption as an end-of-pipe technology, each plant is analyzed to determine whether separate or combined treatment of the organic-bearing and organic-free waste streams is economically justified. The least costly configuration is then used to estimate compliance costs.

(3) Sludge generated by lime and settle treatment is assumed to be a hazardous waste when polynuclear aromatics are removed.

(4) Cyanide precipitation is included as a preliminary treatment step on cyanide-bearing wastewaters only. These waters originate only in cathode reprocessing facilities used by four plants. We included hazardous waste disposal costs for the sludges generated by cyanide precipitation.

(5) Capital and annual costs for plants discharging in both the primary and secondary aluminum subcategories are based on a combined treatment system and were apportioned to each subcategory on a flow-weighted basis.

(6) Capital and annual costs for plants discharging in both the primary aluminum subcategory and the aluminum forming category are based on separate treatment systems since the respective regulations are based on different technologies and control different pollutants. Segregation costs are included to separate the wastewaters.

Secondary Aluminum

Costs are estimated for two treatment options in the secondary aluminum subcategory: preliminary treatment consisting of oil skimming, flow reduction, lime, and settle; and oil skimming, flow reduction, lime, settle, and multimedia filtration. Activated carbon adsorption is included as a preliminary treatment step for delacquering wet air pollution control. Six major assumptions were made in estimating the compliance costs for these options:

(1) Annual costs (except for amortized investment) for lime and settle treatment are incurred to comply with the promulgated BPT regulation. These costs are not included in the current regulation if lime and settle treatment is in place.

(2) Chemical precipitation costs are based on lime addition except for plants that currently utilize sodium hydroxide or soda ash. In these cases, sodium hydroxide addition is assumed for cost estimation.

(3) Activated carbon adsorption is included as a preliminary treatment step for delacquering scrubber blowdown to control phenolics. Analytical data supplied to the Agency indicate TSS concentrations are small enough not to

cause plugging, so pretreatment prior to entering the column is unncessary.

(4) Ammonia steam stripping is included as a preliminary treatment step for waste streams that contain ammonia. Since the stream requirements for such treatment may exceed the excess steam generation capacity of a given plant, a steam generation unit is included in the costs.

(5) The ingot conveyor casting contact cooling water is routed to the demagging scrubbing operation (if this operation was present), and the costs of this routing are included. When demagging is not practiced at the plant, compliance costs are based on 90 percent recycle through cooling towers.

(6) Capital and annual costs for plants discharging in both the secondary and primary aluminum subcategories are based on a combined treatment system and are apportioned to each subcategory on a flow-weighted basis.

Primary Copper Electrolytic Refining

Costs are estimated for two treatment options: flow reduction with lime and settle, and flow reduction with lime and settle and multimedia filtration. Costs for sulfide precipitation and filter treatment were also determined for one primary copper plant which discharges acid plant blowdown and copper refinery wastewater. However, the costs associated with sulfide precipitation on the total flow were attributed entirely to the metallurgical acid plant subcategory because the refinery wastewater contributes only a small fraction of the combined discharge. Three major assumptions made in estimating the costs of treatment options for plants in the primary copper subcategory are detailed below:

(1) Zero discharge of the anode and cathode rinse waste stream is accomplished via in-plant process modifications. As such, no compliance costs are attributable to this regulation.

(2) Because the compliance costs only represent incremental costs that primary copper refineries may be expected to incur in complying with this regulation, operation and maintenance costs for in-place treatment used to comply with the previously promulgated BPT regulation for this subcategory are not included in a plant's total cost of compliance for this regulation.

(3) Capital and annual costs for the plant discharging wastewater in both the primary copper and metallurgical acid plant subcategories are attributed to each subcategory on a flow-weighted basis.

(4) No cost is included for direct discharges to comply with elimination of net precipitation allowances for primary copper plants. This requirement was included in modified BPT limitations promulgated in 1980.

Secondary Copper

Costs for direct dischargers are estimated for two treatment options: lime and settle; and flow reduction with lime and settle to achieve 100 percent recycle of all treated water in the plant. Major assumptions made in estimating the costs of treatment options for plants in the secondary copper subcategory are detailed below:

(1) Monitoring costs are not included for 100 percent recycle since the option is zero discharge.

(2) Where equipment of sufficient treatment capacity is in place, annual costs are not included since these were incurred by the existing PSES regulation. However, costs for cooling towers, which were not included under promulgated PSES are included for this regulation.

(3) No cost is included for direct dischargers to comply with elimination of net precipitation allowances.

Primary Lead

Costs are estimated for two treatment options: flow reduction, lime and settle; and flow reduction, lime, settle, and multimedia filtration. Costs for sulfide precipitation and settle treatment are also estimated for those primary lead plants which reported a discharge of acid plant blowdown. However, the costs associated with sulfide precipitation are attributed to the metallurgical acid plant subcategory because the lead smelter contributes only a small portion of the total discharge. Four major assumptions made in estimating the costs of treatment options for plants in the primary lead subcategory are detailed below:

(1) Regulatory flow allowances were developed for three waste streams attributable to industrial hygiene requirements: handwash, respirator wash water, and laundering of uniforms. These discharges are routed to lime and settle treatment along with other process waste streams (and the treatment system size is increased to accommodate this increased flow) unless the data indicated that a plant does not discharge process wastewater. In the latter case, it is assumed the plant can combine industrial hygiene waste streams with process wastewaters and still achieve zero discharge. This assumption is based on the fact that industrial hygiene wastewaters are a small percentage of the overall plant water use. Regulatory flows of industrial hygiene and other waste streams were used for cost estimation if a plant's actual discharge flow was unknown.

(2) Recycle of treated water for use as plant washdown water is accomplished via a 1,000 gallon tank, recycle piping, and a pump.

(3) Because the compliance costs only represent incremental costs that primary lead plants may be expected to incur in complying with this regulation, operation and maintenance costs for in-place treatment used to comply with the promulgated BPT regulation for this subcategory are not included in a plant's total cost of compliance for this regulation. However, a flow-weighted fraction of the annual cost was retained to represent treatment of the industrial hygiene and washdown flows, which are not covered by the promulgated BPT regulation.

(4) Capital and annual costs for plants discharging wastewater in both the primary lead and matallurgical acid subcategories are attributed to each subcategory on a flow-weighted basis. The entire cost for washdown recycle is attributed to the primary lead subcategory.

(5) No cost is included for direct dischargers to comply with elimination of net precipitation allowances.

Primary Zinc

Costs are estimated for two treatment options: flow reduction, lime, and settle; and flow reduction, lime, settle, sulfide precipitation and settle, and multimedia filtration. Four major assumptions made in estimating the costs of treatment options for plants in the primary zinc subcategory are detailed below:

(1) Zero discharge of the leaching scrubber water is accomplished by 100 percent recycle through a holding tank.

(2) Sludge generated by the sulfide precipitation and settle process is considered hazardous waste for disposal purposes.

(3) Because the compliance costs need only represent incremental costs which primary zinc plants may be expected to incur in complying with this regulation, annual costs for in-place treatment used to comply with the promulgated BPT regulation for this subcategory are not included in a plant's total cost of compliance for this regulation.

(4) Capital and annual costs for plants discharging wastewater in both the primary zinc and metallrgical acid subcategories are attributed to each subcategory on a flow-weighted basis.

Metallurgical Acid Subcategory

Costs were estimated for two treatment options: flow reduction, lime, and settle; flow reduction, lime, and

settle followed by sulfide precipitation, settle, and multimedia filtration. Sulfide and filter is used at one primary copper plant prior to lime, settle and filter treatment. Four major assumptions made in estimating the costs of treatment options for plants in the metallurgical acid subcategory are detailed below:

(1) Flow reduction of the acid plant blowdown is accomplished using cooling towers.

(2) Sludge generated by the sulfide precipitation and sedimentation (or filter) process is considered hazardous waste for disposal purposes.

(3) Because the compliance costs represent incremental costs an acid plant may be expected to incur in complying with this regulation, annual costs for in-place treatment used to comply with promulgated BPT regulations in the primary zinc and primary lead subcategories are also not included in this regulation.

(4) The cost of treating acid plant blowdown from acid plants in the primary copper, primary zinc, and primary lead subcategories is determined by flow-weighting appropriate costs. The entire cost of cooling towers for flow reduction of the acid plant blowdown is attributed to the metallurgical acid subcategory. Costs for sulfide precipitation and settle (or filter) are attributed to the metallurgical acid subcategory for primary lead plants. Sulfide precipitation costs are apportioned between the primary zinc or primary copper refining and metallurgical acid subcategories on a flow-weighted basis.

Primary Tungsten

Costs are estimated for three treatment options: lime and settle; flow reduction with lime and settle; and flow reduction with lime and settle and final effluent polishing with multimedia filtration. Ammonia steam stripping is included for preliminary treatment of ammonia-laden streams. Five major assumptions are made in cost estimation for this subcategory:

(1) For ammonia steam stripping, the design value for pH is 11.5 and the design effluent concentration of ammonia is 32.0 mg/l.

(2) Ammonia steam stripping steam requirements may exceed the excess steam generation capacity at any given plant. Therefore, a steam generation unit is included in the steam stripping costs.

(3) The lime dosage to the ammonia steam stripping process is based on the influent pH and the concentration of ammonia.

(4) Costs for plants discharging less than 50 gallons per week of total flow are based on contract hauling of the entire discharge.

(5) Costs for ammonia removal for streams of less than 50 liters per hour (none of which are air pollution control streams) are estimated based on aeration and agitation in the chemical precipitation batch tank. Cost included a ventilation hood.

Primary Columbium-Tantalum

Costs are estimated for three treatment options in the primary columbium-tantalum subcategory: lime, and settle; flow reduction, lime, and settle; and flow reduction, lime settle, and multimedia filtration. Ammonia steam stripping is included for preliminary treatment of ammonia-laden wastewater. Four major assumptions were made in estimating the compliance costs for these options and are presented below:

(1) Several plants utilized sodium hydroxide addition for wastewater treatment. This type of treatment is not considered to be equivalent to lime addition due to the need to remove fluoride in the wastewater as calcium fluoride. We therefore included compliance costs for treating with lime for these plants.

(2) Ammonia steam stripping steam requirements may exceed the excess steam generation capacity at any given plant. Therefore, a steam generation unit is included in the steam stripping costs.

(3) Due to the large volume of wastewater treatment sludge generated by some plants in this subcategory, the costs of developing and maintaining nonhazardous sludge disposal sites are used instead of the normal contract hauling.

(4) We included the cost of segregation and treatment for one plant that currently commingles its wastewater and gangue. These costs eliminate any conceivable need for sludge disposal as a radioactive waste.

Secondary Silver

Costs are estimated for three treatment options: lime and settle; flow reduction, lime, and settle; and flow reduction, lime, settle, and multimedia filtration. Preliminary treatment with steam stripping is included for ammonia-laden streams. Four major assumptions made in estimating the costs of treatment options for plants in the secondary silver subcategory are detailed below:

(1) Since 23 of the plants whose compliance costs are estimated overlap with other nonferrous manufacturing subcategories or categories, costs are apportioned to each subcategory on a flow-weighted basis.

(2) Although a discharge allowance for floor wash is not necessary, a flow of 1 liter of floor wash per troy ounce is used for cost estimation purposes for each plant on the basis of total production of all precious metals (including silver) that results in precipitation and filtration wastewater. Since acceptable floor wash water may be obtained from recycling treated wastewater, costs are estimated for a holding tank after chemical precipitation and settling to recycle water for floor wash use under all options.

(3) Sodium hydroxide addition was used throughout the secondary silver subcategory in estimating costs for chemical precipitation since it is likely that most plants will recycle treatment plant sludges for additional metal recovery.

(4) When a plant reported recycle of treatment plant sludges, capital and annual costs for sludge handling (vacuum filtration and contract hauling) are not included. Where the sludge disposal method is reported as contract hauling, or is unknown, contract hauling costs are included assuming nonhazardous disposal.

Secondary Lead

Costs are estimated for three treatment options: lime and settle; lime, settle, and flow reduction; and lime, settle, and flow reduction followed by multimedia filtration. Five major assumptions made in estimating the costs of treatment options for plants in the secondary lead subcategory are detailed below:

(1) For plants having existing treatment of insufficient capacity, the required capital costs are based on providing the incremental capacity needed and annual costs are based on operation of a single system at the expanded capacity.

(2) Information available to the Agency is not detailed enough to determine if all industrial hygiene waste streams, truck wash and floor wash, are present at each plant. Therefore, where we had no information on these wastewater sources, we assume all of these are present at the regulatory flow rate. Although a discharge allowance for floor wash is not necessary, we are including extra treatment capacity to accommodate this need. Acceptable floor wash water may be obtained from recycling treated wastewater. Therefore, costs are included for a holding tank after chemical precipitation and settling to recycle water for floor wash use under all options.

(3) Lime addition is used in most cases throughout the secondary lead

subcategory in estimating costs for chemical precipitation. However, if a plant currently uses ammonia, soda ash, or caustic as the chemical precipitant, the costs are based on caustic addition.

(4) Annual costs for contract hauling are not included when sludge from existing treatment is recycled either to a smelter or back to a process. If a plant has a lagoon for sedimentation and sludge storage, the investment costs for sedimentation and vacuum filtration are not included since these technologies would probably not be installed to comply with the effluent limitations. However, operation and maintenance costs for these technologies (and contract hauling) were included as an estimate of the cost likely to be incurred by the plant to ultimately dispose of the sludge. All sludges produced through wastewater treatment are considered to be nonhazardous in estimating costs. However, our cost for solid waste disposal is equivalent to hazardous waste disposal. In addition, we performed a sensitivity analysis in which sludge disposal costs were doubled without an increase in plant closures.

(5) Compliance costs for three plants that are integrated with battery manufacturing operations are estimated only for multimedia filtration of the amount of wastewater associated with secondary lead operations. The treatment configuration costed assumes filtration of an amount of wastewater equal to the secondary lead flow, following centralized lime and settle treatment of combined flows. We adopted this method of costing because the plants are battry manfacturing plants, and the wastewater from the manufacturing operations is very large in comparison to the secondary lead wastewater flow. Therefore, all other compliance costs will be attributed to the battery manufacturing regulation.

C. Specific Instance of Conservative Costing

In developing compliance costs, we made several assumptions that are conservative and may lead to some overestimation of compliance costs in certain subcategories. Each of these assumptions is discussed below.

(1) In the four subcategories where BPT or PSES have not been previously promulgated, the annual costs for each treatment step in each option were always retained even though a plant may be currently operating part or all of the treatment steps. We believe this assumption is conservative because a facility will continue to operate and incur annual costs of its treatment system regardless of this regulation because of NPDES permits or municipal pretreatment requirements.

(2) In those instances where sludge is disposed of on site, stored in a lagoon, or disposal practices are unknown, we included annual costs for vaccum filtration and contract hauling. This assumption is conservative because these plants will not experience sludge disposal costs as high as we have assumed. This regulation does not prescribe sludge disposal practices and, therefore it is unlikely that current disposal practices will change for most subcategories. Since contract hauling is in general more expensive than onsite disposal, we believe our costs are higher than most plants will actually experience.

(3) Many of the plants in the nonferrous metals manufacturing category are integrated facilities. For these plants, we costed segregation of wastewater and developed compliance costs only for nonferrous metals manufacturing wastewaters. We believe this procedure may result in overestimation of costs because this approach does not consider the economies of scale of combined treatment.

Overall wastewater treatment costs are likely to be reduced when co-treatable wastewaters are combined for treatment rather than treating them separately.

(4) Hazardous waste disposal was costed for wastewater treatment sludges generated from the treatment of polynuclear aromatic hydrocarbons and cyanide in primary aluminum, in addition to all sludges generated from sulfide precipitation and sedimentation. This is a conservative assumption because wastewater treatment sludges at primary smelters and refiners are currently exempted from RCRA by administrative interpretation of statute.

(5) For the secondary lead subcategory, each plant recovering lead from scrap batteries was assumed to generate handwash, respirator wash, laundering of uniforms, truck wash, and facility washdown. Data (dcp) available to the Agency do not indicate the presence of these flows at most plants. Therefore, we include costs for additional treatment capacity for these waste streams based on our assumption that these flows are not currently treated (unless specific plant data indicated otherwise). This assumption does not consider that these waste streams are generated in response to OSHA standards promulgated after our Section 308 data were received. It is quite likely that, where these discharges are necessary, plants have accommodated these discharges by expanding treatment capacity, identifying recycle opportunities, or reducing flow from other operations. Therefore, our costs for expanding treatment capacity are probably unnecessary.

(6) In the secondary silver subcategory, each facility with precipitation and filtration wastewaters also is assumed to have floor wash based on our conclusion that efficient operation of secondary silver recovery includes recapture of silver from small plants. Although data (dcp) available to the Agency do not indicate the presence of floor wash at most plants, additional capacity is included in the costs for this waste stream. This approach probably includes costs for many plants that do not have this wastewater source and other plants that accommodate the discharge in existing treatment.

Caustic is used instead of lime to develop compliance costs for hydroxide precipitation in the secondary silver subcategory so that wastewater treatment sludges can be recycled. This assumption is conservative because not every plant in the subcategory will generate sludges that contain enough precious metal value to warrant recycle. Lime will probably be used at many plants due to the cost difference between lime and caustic.

(7) Combined treatment for all primary tungsten plants is included in our costs based on preliminary treatment with ammonia steam stripping followed by lime, settle, and filter treatment. Several of the waste streams that contain ammonia at treatable concentrations do not contain toxic metals. Therefore, using lime and settle treatment on all wastewaters is conservative because not all streams need this treatment. Individual plants could reduce treatment costs by treating those streams that need lime and settle treatment first, and then combine this effluent with all other wastewaters requiring ammonia steam stripping.

(8) We believe segregation costs for non-scope wastewaters at many plants may be overstated. New piping and installation costs are developed for each regulated process waste stream present when it appears a combined sewer is used to convey wastewater to treatment. We believe this assumption is conservative because a plant will not necessarily abandon its current sewer system and install piping for waste streams covered by this regulation. In many cases, other practices such as storm drainage diversion or eliminating nonprocess discharge sources may be less expensive.

In one specific instance, we developed compliance costs for a primary columbium-tantalum facility that we believe the plant may not incur. Wastewater treatment capital costs are included for this plant so that wastewater treatment sludge can be segregated from undigested gangue, which plant comments claim is a low-level radioactive waste. The plant presently uses a sedimentation pond to store wastewater treatment sludges and reportedly cannot dispose of them because of their radioactivity. If wastewater treatment sludges are separated from undigested gangue, the Agency believes the treatment sludges are nonhazardous and can be disposed of using conventional methods. (Even if contaminated, no federal regulations apply to land disposal of low level radioactive wastes.) However, this plant may find it less expensive to switch raw material sources or take other action to eliminate these costs.

(9) We assumed presence of all industrial hygiene streams at primary and secondary lead facilities in costing treatment equipment size, even though these streams are not uniformly present.

D. Analyses and Reports

The economic impact assessment is presented in *Economic Impact Analysis of Effluent Limitations and Standards for the Nonferrous Metals Manufacturing Industry, Phase I,* EPA 440/2–84–004. This document details the investment and annual compliance costs for the industry as a whole and for each metal covered by the regulation. The report assesses the impact of effluent control costs in terms of production cost changes, price changes, plant closures, employment effects, and balance of trade effects. These impacts are presented for each regulatory option. Compliance costs are based on engineering estimates of the capital and operating costs for the effluent control systems described earlier in this preamble. Costs are incremental above the effluent control equipment already installed. Operating and maintenance costs are included where there is treatment-in-place that is not required by an existing regulation. Operating and maintenance costs where treatment-in-place is mandated by existing regulations were not included in the compliance costs. Cost estimates include such associated costs as solid waste disposal.

EPA has also conducted an analysis of the incremental removal cost per pound equivalent for each of the technology-based options. Pound equivalents are calculated by multiplying the number of pounds of a pollutant by a weighting factor for that pollutant. The weighting factor is equal to the water quality criterion for a standard pollutant (copper) divided by the water quality criterion for the pollutant being evaluated. The use of pound equivalents gives relatively more weight to removal of the more toxic pollutants. Thus, for a given expenditure, the cost per pound equivalent would be lower when a highly toxic pollutant is removed than if a less toxic pollutant is removed. The results of this analysis are presented in "Cost-Effectiveness Analysis of Effluent Limitations and Standards for the Nonferrous Metals Manufacturing Industry, Phase I." This analysis is included in the record of this rulemaking.

E. Costs and Impacts

EPA has identified 148 manufacturing facilities that will incur costs to comply with this regulation; 65 are direct dischargers and 83 are indirect dischargers. There are also 152 facilities in this industry that do not discharge wastewater. Total investment requirements for existing dischargers are estimated to be $34 million, and total annual costs are $15 million, including depreciation and interest. These costs are expressed in 1982 dollars. The major economic impacts associated with these costs are two potential plant closures, five production line closures, and an employment loss of 62. These impacts are projected for the secondary silver subcategory. The potential production loss associated with these closures represents an insignificant portion of total production capacity for that subcategory. The changes to production costs and prices are expected to be small in all subcategories, ranging from less than 1 to 1.5 percent. Balance of trade effects are not significant. The Agency concludes, therefore, that the regulation is economically achievable.

In order to measure the potential economic effects, EPA divided the industry into 10 separate metal groups. For purposes of the economic analysis, primary copper smelters, refiners, and acid plants at the same site are treated as one economic subcategory because they are a single economic entity. Similarly, primary lead smelters and associated acid plants are one economic subcategory, and primary zinc smelters and associated acid plants are one economic subcategory.

The methodological approach used in the economic analysis at proposal was the focus of many public comments. Commenters argued that major assumptions from that report were incorrect, and that the conclusions of the analysis were invalid due to a flawed methology. In addition, many public comments claimed the report did not reflect accurate financial conditions. In response to these comments, the Agency revised the economic impact analysis. Much of the financial information for various metals was updated to account for the recent economic recession. Further, in response to comments, the revised analysis does not rely on the assumptions used in the proposal report, and instead includes many of the assumptions urged by the commenters.

The methodology in the revised analysis first uses a screening analysis to identify plants that will not incur substantial compliance costs. This approach has two major differences from proposal. First, as explained above, compliance cost estimates are generated on a plant-specific basis, which accounts for treatment-in-place and for regulatory flows. Second, we revised the perspective of the screening analysis to identify plants that will not have a significant impact, as opposed to identifying plants that will incur high impacts. The screening analysis is based on a comparison of a plant's annual compliance costs to its estimated revenues. The threshold value for the screen was lowered from 5 percent to 1 percent to correspond to the change in perspective and in response to comments.

For the plants that had screening analysis results greater than 1 percent, we conducted a plant closure analysis. This part of the analysis is based on the same conceptual framework as referenced in the proposed report (see also 48 FR 7069 explaining how plant closure analysis is conducted), but the specific tests have been revised to correspond to the more current financial information. As at proposal, we used two plant closure tests: a net present value test and a liquidity test. The net present value part of the analysis focuses on long-term profitability; the viability of the plant is judged by a comparison of its cash flows to its liquidation value. The liquidity test addresses short-term viability and focuses on affordability during the first few years of compliance.

The Agency's assumptions at proposal concerning projected prices were the source of many comments, and the issue of price pass-through was closely related. In the revised analysis, projected prices are based on an average of prices over the last five years, which takes into account the depressed prices of the early 1980's, includes a complete business cycle for most metals, and reflects the expected

and ongoing economic recovery. With respect to price pass-through, the revised closure analysis is based on the assumption of zero pass-through; that is, plants are assumed to absorb all of the compliance cost. This assumption is conservative in that the analysis is based on the most extreme situation: the entire increase to production cost is assumed to affect the plant's profit situation. The extreme was chosen to avoid overlooking potential impacts and is responsive to comments.

We also calculated other economic impacts as part of the analysis, even though they were not specifically included in the plant closure tests. These impacts included changes to cost of production, increase in price (based on an assumption of full pass-through, even though the opposite assumption was used for the plant closure tests), changes to return on investment, and comparison of compliance investment costs to average annual capital expenditures.

As part of revising the analysis, we made an effort to update information on financial conditions in order to base the impacts on more accurate projections. We consolidated the economic subcategories into groups of metal processes (e.g., manufacturing primary metals or reclamation of precious metals) and collected financial information for these processes on an economic group basis. These procedures and their limitations are described in detail in the report. The major assumption underlying the use of these economic groups is that an individual plant will have characteristics similar to its group. In some cases, as a check on this assumption, we conducted sensitivity analyses to assess the impact of these assumptions on the report's conclusions.

In the preamble to the proposed rules, the Agency identified three subcategories in which changing market structure required a re-evaluation of assumptions regarding profitability. These subcategories are secondary silver, secondary lead, and primary copper.

In the secondary silver subcategory, the Agency was concerned that toll processors and their position in the silver market was not adequately characterized. The Agency solicited comments on forming a separate subcategory for toll operations. We received none. Further analysis of the tolling segment indicates that a separate subcategory is not necessary. The impacts associated with compliance costs can be assessed without making an adjustment for ownership. In the revised economic analysis, income is estimated in the same manner for all plants.

With respect to the plant closures that were projected at proposal, the Agency solicited comments on establishing different limitations for small producers. While we did not receive any comments on this issue, the Agency has specifically addressed the effects on small plants in the revised economic analysis. The results again project a small number of plant and production line closures. These results are not considered to be substantial, and the regulation is considered to be economically achievable for both small and large plants.

For the secondary lead subcategory, the Agency was concerned about market shifts, and we solicited comments on prices, profitability, and capacity. Industry's comments addressed each of these parameters. We have considered the information in these comments and incorporated it, where possible, in the revised economic analysis. This included, for example, industry and plant-specific information as well as descriptions of types of plants. Further, several plants participated in a data-gathering effort that included case studies. Thus, the economic conditions of the industry during recent years have been incorporated in the analysis. Many of these concerns were also addressed by performing sensitivity analyses, which varied the assumptions on compliance costs, prices, and group financial data. Hence, the Agency's concerns at proposal have been addressed in this final rulemaking.

Market shifts and falling prices in the copper refining segment were also of concern to the Agency for their effect on properly assessing the economic impact of effluent guideline costs. Through additional data gathering efforts and industry's comments, we believe we have adequately assessed conditions in this industry segment. The revised economic analysis is based on economic conditions that incorporate the recent recession and its low copper prices.

BPT. New or amended BPT limitations are being promulgated for five subcategories: primary lead, secondary lead, secondary silver, primary tungsten, and primary columbium-tantalum. In these subcategories, 25 direct dischargers are expected to incur compliance costs. Investment costs are estimated to be $3.3 million, and total annualized costs are $2.4 million. Price changes for these subcatetories are small, ranging from less than one-tenth to 1 percent. One potential plant closure in the secondary silver subcategory is associated with these costs; it represents a very small portion of the subcategory's production.

BAT. New or amended BAT limitations are being promulgated for all subcategories except primary copper smelting and secondary copper with 65 plants expected to incur compliance costs. Total investment costs are $24.8 million and total annualized costs are $11.4 million. The price increases associated with these costs are small, ranging from less than one-tenth to 1.4 percent. There are no additional plant closures beyond the one identified at the BPT-level of costs.

PSES. New or amended pretreatment standards are being promulgated for primary lead, primary zinc, secondary aluminum, secondary copper, secondary lead, secondary silver, primary columbium-tantalum, and primary tungsten. Total investment costs for 83 indirect dischargers are $9.7 million, and total annualized costs are estimated to be $3.7 million. The price increases associated with PSES costs are small—less than 1 percent in all subcategories. In the secondary silver subcategory, the compliance costs are projected to result in one plant closure and five production line closures. In the case of the projected line closures, secondary silver production represents a limited portion of the facilities' total production capacity. Most of these plants produce a variety of metals; in some cases, the facility's production consists primarily of other nonferrous metals—those covered by the Phase II portion of this category and outside the scope of this regulation. The one facility identified as a plant closure does conduct secondary silver recovery as a major portion of the total metals production at the facility. Nevertheless, since the plant represents a very small amount of total secondary silver production we believe that PSES is economically achievable for the subcategory as a whole.

NSPS/PSNS. New source limitations are being promulgated for all subcategories. The technology basis for NSPS and PSNS is the same as for BAT with the exception of additional flow reductions in some subcategories. The additional flow reductions are based on reduced or zero discharge of certain waste streams. For some phases of processing, the equipment can be either water-using or non-water-using. The flow reductions can be achieved at a new facility by means of the non-water-using equipment. There is no incremental cost associated with these additional flow reductions, and therefore, new plants will not be operating at a cost disadvantage relative to existing manufacturers. The

regulations for new sources are not expected to discourage entry into the industry or result in any differential economic impacts to new sources.

F. Regulatory Flexibility Analysis

Pub. L. 96–354 requires that EPA prepare a Regulatory Flexibility Analysis for regulations that have a significant impact on a substantial number of small entities. This analysis may be conducted in conjunction with or as part of other Agency analyses. A small business analysis is included in the economic impact analysis for this regulation.

For each metal group, small entities were defined on the plant level, using number of employees as the variable to divide each subcategory by size. The actual number of employees used to define small varies by subcategory. Using these definitions, the regulation affects 36 small plants, which is 24 percent of all plants incurring costs. We evaluated potential impacts on small business from the standpoint of projected closures, annual costs compared to revenues, and increases in costs of production. We also performed additional economic sensitivity analyses for those subcategories that contain the most small businesses. In all cases, we found that this regulation will not result in a significant adverse impact on a substantial number of small businesses. While this conclusion obviates the need for a formal Regulatory Flexibility Analysis, the small business analysis included in the report is extensive and supports the conclusion that the regulation is economically achievable.

G. Executive Order 12291

Executive Order 12291 requires EPA and other agencies to perform regulatory impact analyses of major regulations. Major rules impose an annual cost to the economy of $100 million or more or meet other economic impact criteria. The regulation for nonferous metals manufacturing, Phase I is not a major rule. The costs expected to be incurred by this industry will be significantly less than $100 million. Therefore, a formal Regulatory Impact Analysis is not required. This final rulemaking satisfies the requirements of the Executive Order for a non-major rule. The Agency's regulatory strategy considered both the cost and the economic impacts of the regulation.

H. SBA Loans

The Agency is continuing to encourage small plants to use Small Business Administration (SBA) financing as needed for pollution control equipment. The three basic programs are: (1) The Pollution Control Bond Program, (2) the Section 503 Program, and (3) the Regular Business Loan Program. Eligibility for SBA programs varies by industry. Generally, a company must be independently owned, not dominant in its field, the employee size ranges from 250 to 1,500 employees (dependent upon industry), and annual sales revenue ranges from $275,000 to $22 million (varies by industry).

For further information and specifics on the Pollution Control Bond Program, contact: U.S. Small Business Administration, Office of Pollution Control Financing, 4040 North Fairfax Drive, Rosslyn, Virginia 22203, (703) 235–2902.

The Section 503 Program, as amended in July 1980, allows long-term loans to small and medium sized businesses. These loans are made by SBA approved local development companies. These companies are authorized to issue Government-backed debentures that are bought by the Federal Financing Bank, an arm of the U.S. Treasury.

Through SBA's Regular Business Loan Program, loans are made available by commercial banks and are guaranteed by SBA. This program has interest rates equivalent to market rates.

For additional information on the Regular Business Loan and Section 503 Programs contact your district or local SBA office. The coordinator at EPA headquarters is Ms. Frances Desselle who may be reached at (202) 382–5373.

VII. Nonwater Quality Environmental Impacts

Eliminating or reducing one form of pollution may cause other environmental problems. Sections 304(b) and 306 of the Act require EPA to consider the nonwater quality environmental impacts (including energy requirements) of certain regulations. In compliance with these provisions, we considered the effect of this regulation on air pollution, solid waste generation, water scarcity, and energy consumption. this regulation was circulated to and reviewed by EPA personnel responsible for nonwater quality programs. While it is difficult to balance pollution problems against each other and against energy use, we believe that this regulation will best serve often competing national goals.

The following nonwater quality environmental impacts (including energy requirements) are associated with the final regulation. The Administrator has determined that the impacts identified below are justified by the benefits associated with compliance with the limitations and standards.

A. Air Pollution

Imposition of BPT, BAT, and PSES will not create any substantial air pollution problems because the wastewater treatment technologies required to meet these limitations and standards do not cause air pollution. The promulgated technology basis for the control of ammonia is steam stripping. The Agency chose steam stripping over air stripping because air stripping simply transfers the ammonia from one media to another.

The technology basis for NSPS and PSNS in a few instances requires scrubbing and dry slag dumping. The Agency does not anticipate these technologies causing any air quality problems. A few commenters stated that dry slag dumping would increase ambient levels of lead creating industrial hygiene and air pollution problems. It is the Agency's belief that new sources can properly hood and ventilate dry slag dumping areas and control lead emissions through dry means such as cyclones and baghouses. Furthermore, the efficiency of baghouses is well documented, and their use instead of wet scrubbers will not add to industrial hygiene or air quality problems.

B. Solid Waste

EPA estimates that BPT will contribute an additional 22,000 kkg (24,000 tons) per year of solid wastes over that which is currently being generated by the nonferrous metals manufacturing category. BAT and PSES will increase these wastes by approximately 675,000 kkg (770,000 tons) per year beyond BPT levels. These sludges will necessarily contain additional quantities (and concentrations) of toxic metal pollutants.

If these wastes are identified as hazardous, they will come within the scope of RCRA's "cradle to grave" hazardous waste management program, requiring regulation from the point of generation to point of final disposition. EPA's generator standards require generators of hazardous wastes to meet containerization, labeling, recordkeeping, and reporting requirements. In addition, if nonferrous metals manufacturers dispose of hazardous wastes offsite, they would have to prepare a manifest which would track the movement of the wastes from the generator's premises to a permitted off-site treatment, storage, or disposal facility. See 40 CFR 262.20 (45 FR 33142 (May 19, 1980)). The transporter regulations require transporters of

hazardous wastes to comply with the manifest system to assure that the wastes are delivered to a permitted facility. See 40 CFR 263.20 (45 FR 33151 (May 19, 1980)), as amended at (45 FR 86973 (December 31, 1980)). Finally, RCRA regulations establish standards for hazardous waste treatment, storage, and disposal facilities allowed to receive such wastes. See 40 CFR Parts 264 and 265.

Wastes which are not hazardous must be disposed of in a manner that will not violate the open dumping prohibition of section 4005 of RCRA. The Agency has calculated as part of the costs for wastewater treatment the cost of hauling and disposing of additional wastes generated as a result of these reqirements. For more details, see Section VIII of the technical development document.

The Agency considered the solid wastes that would be generated at nonferrous metals manufacturing plants by the suggested treatment technologies and believes in most instances that they are not hazardous under section 3001 of the Resource Conservation and Recovery Act (RCRA). This judgment is made based on the recommended technology of lime precipitation. By the addition of a small excess of lime during treatment (for which we added compliance costs), the potential for leaching toxic metals is reduced, since metal hydroxides are relatively impervious to acidic and neutral leaching media. Similar sludges, specifically toxic metal bearing sludges generated by other industries such as the iron and steel industry, passed the EP toxicity test by a substantial margin and have been delisted (i.e., no longer are specifically listed as hazardous) as a result. See, e.g., 45 FR 78544 (November 25, 1980); 46 FR 40154 (August 6, 1981); and 47 FR 52668 (November 22, 1982); and 40 CFR 261.24. A discussion of sludge characteristics for each subcategory is provided below.

Primary Aluminum. Pilot-scale work performed by the Agency since proposal demonstrated that toxic polynuclear aromatic hydrocarbon pollutants found in primary aluminum wastewaters are removable using lime, settle, and filter technology. As a result, the Agency believes lime sludge from this subcategory will be toxic due to presence of these organic contaminants. In addition, sludges generated during cyanide precipitation are expected to be hazardous under RCRA. Consequently, in developing plant-by-plant compliance costs for the primary aluminum subcategory, the Agency considered the sludges generated as hazardous. The costs of hazardous waste disposal were considered in the economic analysis, and they were determined to be economically achievable. (This is a conservative assumption since these sludges are presently subject to a statutory and regulatory exemption from hazardous waste status.)

Secondary Aluminum. Sludge generation in the secondary aluminum subcategory is due to the precipitation of metal hydroxides and carbonates using lime. If a small excess of lime is added during treatment, the Agency does not believe these sludges would be identified as hazardous under RCRA. Disposal of spent carbon is costed as hazardous waste and is determined to be economically achievable.

Primary Copper Electrolytic Refining. The technology basis for one plant in the primary copper electrolytic refining subcategory includes separate sulfide precipitaiton for the control of arsenic. Disposal of sulfide cake from the filter press was costed as hazardous waste and were determined to be economically achieveable.

Secondary Copper. Sludge generation in the secondary copper subcategory is due to the precipitation of metal hydroxides and carbonates using lime. If a small excess of lime is added during treatment, the Agency does not believe these sludges would be identified as hazardous under RCRA.

Primary Lead. The technology basis for the primary lead subcategory includes sulfide precipitation for those plants that operate metallurgical acid plants. The Agency believes sludge generated through sulfide precipitation (followed by sedimentation) will be classified as hazardous under RCRA. The costs of hazardous waste disposal were considered in the economic analysis for this subcategory (even though the waste is now exempt), and they were determined to be economically achievable.

Primary Zinc. The technology basis for the primary zinc subcategory includes sulfide precipitation for the control of zinc, cadmium, and other toxic metals. These sludges differ from primary copper because sulfide precipitation solids are removed in a separate clarifier and not in the filter, where they are backwashed into the lime and settle clarifier. The Agency believes sludge generated through sulfide precipitation (followed by sedimentation) will be classified as hazardous under RCRA. The costs of hazardous waste disposal were considered in the economic analysis for this subcategory (even though the waste is now exempt), and they were determined to be economically achievable.

Metallurgical Acid Plants. The technology basis for the metallurgical acid plants subcategory includes sulfide precipitation for the control of various toxic metals. The Agency believes sludge generated through sulfide precipitation (followed by sedimentation) will be classified as hazardous under RCRA. The costs of hazardous waste disposal were considered in the economic analysis for this subcategory (in spite of the current statutory and regulation exemption), and they were determined to be economically achievable.

Primary Tungsten. Sludge generation in the primary tungsten subcategory is due to the precipitation of metal hydroxides and carbonates using lime. If a small excess of lime is added during treatment, the Agency does not believe these sludges would be identified as hazardous under RCRA.

Primary Columbium-Tantalum. Sludge generation in the primary columbium-tantalum subcategory is due to the precipitation of metal hydroxides and carbonates along with calcium fluoride using lime. If a small excess of lime is added during treatment, the Agency does not believe these sludges would be identified as hazardous under RCRA.

The Agency received comments stating that wastewater treatment sludges generated in the primary columbium-tantalum subcategory would have to be disposed of as low level radioactive waste. There are no RCRA regulations applicable to low level radioactive wastes, so the claim appears exaggerated. The Agency, therefore, requested specific data and information from the commenters so that the comments could be properly evaluated. However, no data or information were submitted to support this claim. In fact, one commenter submitted information and data showing the cost of disposal for gangue, the waste material remaining after the columbium-tantalum values are extracted from the raw material, rather than for wastewater treatment sludge. In any case, the Agency believes the disposal of gangue as a low level radioactive material is an expense of doing business and not attributable to the treatment of wastewaters.

Secondary Silver. Sludge generation in the secondary silver subcategory is due to the precipitation of metal hydroxides and carbonates using lime. If a small excess of lime is added during treatment, the Agency does not believe these sludges would be classified as hazardous under RCRA.

Secondary Lead. The Agency received several comments from the secondary lead subcategory claiming sludges generated through the use of lime as a wastewater treatment chemical were hazardous due to lead. To properly evaluate these comments, the Agency requested specific data and information from the commenters. From the material received, it appears lime sludges at two secondary lead and battery manufacturing plants will fail the EP toxicity test due to lead one-third of the time. The Agency contends these sludges would not have been classified as hazardous under RCRA if a small amount of excess lime was used during wastewater treatment. A third plant, which tests its lime sludges on a batch-by-batch basis, indicated that it disposed of its wastewater treatment sludges as a hazardous material less than 2 percent of the time, indicating that operation of the treatment system affects sludge quality.

It is also the Agency's understanding, based on comments, that one of the facilities disposing of lime sludges as a hazardous waste has entered into an agreement with a local landfill at preferential rates. The Agency contends that if this plant did not have a local disposal site to dispose of its lime sludge as hazardous, it could operate its treatment system using excess lime, which would make the sludges nonhazardous.

The Agency has recalculated the compliance costs for the secondary lead subcategory on a plant-by-plant basis. In the cost model, a contract hauling fee of $90 per ton (as nonhazardous waste) was used in estimating annual costs. The Agency solicited data on sludge disposal costs and only received information from one corporation. Data submitted by the commenter show the contract hauling costs when sludges are disposed of as hazardous wastes ranging from $90 to $110 per ton. This would indicate that the Agency's sludge disposal costs are conservative when lime sludges are disposed of as nonhazardous wastes. In addition, the Agency doubled the contract hauling costs for the secondary lead lime sludges from $90 per ton to $180 per ton and found no significant adverse economic impacts for this subcategory. In any case, we assessed the costs of disposing of these wastes as hazardous and found these costs to be economically achievable.

C. Consumptive Water Loss

Treatment and control technologies that require extensive recyling and reuse of water may require cooling mechanisms. Evaporative cooling mechanisms can cause water loss and contribute to water scarcity problems—a primary concern in arid and semi-arid regions. While this regulation assumes water reuse, the overall amount of reuse through evaporative cooling mechanisms is low and the quantity of water involved is not significant. In addition, most nonferrous plants are located east of the Mississippi where water scarcity is not a problem. We conclude that the consumptive water loss is insignificant and that the pollution reduction benefits of recycle technologies outweigh their impact on consumptive water loss.

D. Energy Requirements

EPA estimates that the achievement of BTP effluent limitations will result in a net increase in electrical energy consumption of approximately 10 million kilowatt-hours per year. The BAT effluent technology will increase energy consumption by 14 million kilowatt-hours per year over BPT. To achieve the BPT and BAT effluent limitations, a typical direct discharger will increase total energy consumption by less than 1 percent of the energy consumed for production purposes.

The Agency estimates that PSES will result in a net increase in electrical energy consumption of approximately 8 million killowatt-hours per year. To achieve PSES, a typical existing indirect discharger will increase energy consumption by less than 1 percent of the total energy consumed for production purposes.

New source performance standards for direct and indirect dischargers in the nonferrous metals manufacturing category will not significantly add to the total energy consumption of the category. This observation is based on the fact that BAT and PSES will increase energy consumption by 14 million and 8 million kilowatt-hours, respectively, and new source standards are generally equivalent to BAT and PSES.

VIII. Pollutants and Subcategories Not Regulated

The Settlement Agreement in *NRDC* v. *Train, Supra* contains provisions authorizing the exclusion from regulation in certain instances of toxic pollutants and industry subcategories. These provisions have been rewritten in a Revised Settlement Agreement which was approved by the District Court for the District of Columbia on March 9, 1979. See *NRDC* v. *Costle*, 12 ERC 1833 (D.D.C. 1979). Appendix B presents the pollutants selected for regulation.

A. Exclusion of Pollutants

The Agency has deleted the following three pollutants from the toxic pollutant list: (49) trichlorofluoromethane and (50) dichlorofluoromethane, 46 FR 79692 (January 8, 1981); and (17) bis(chloromethyl)ether, 46 FR 10723 (February 4, 1981).

Paragraph 8(a)(iii) of the Settlement Agreement allows the Administrator to exclude from regulation toxic pollutants not detectable by section 304(h) analytical methods or other-state-of-the-art methods. The toxic pollutants not detected and therefore excluded from regulation are listed in Appendix C to this notice.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants detected in amounts to small too be effectively reduced by technologies known to the Administrator. Appendix D to this notice lists the toxic pollutants in each subcategory which were detected in the effluent in amounts at or below the nominal limit of analytical quantification, which are too small to be effectively reduced by technologies known to the Administrator and which, therefore, are excluded from regulation.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants present in amounts too small to be effectively reduced by technologies known to the Administrator. Appendix E lists those toxic pollutants which are not treatable using technologies considered applicable to the category.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants detectable in the effluent from only a small number of sources within the subcategory because they are uniquely related to those sources. Appendix F to this notice lists for each subcategory the toxic pollutants which were detected in the effluents of only a small number of plants, are uniquely related to those plants, and are not related to the manufacturing processes under study.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants which will be effectively controlled by the technologies upon which are based other effluent limitations and guidelines, or pretreatment standards. Appendix G lists those toxic pollutants which will be effectively controlled by other regulated pollutants in the BAT limitations and NSPS, PSES, and PSNS, even though they are not specifically regulated.

Paragraph 8(a)(iii) also allows the Administrator to exclude from

regulation toxic pollutants detected but only in trace amounts and not likely to cause toxic effects. Appendix H to this notice lists for each subcategory the toxic pollutants which were detected in trace amounts.

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation toxic pollutants detected solely as a result of their presence in the intake waters. Appendix I lists those pollutants excluded under this provision.

B. Exclusion of Subcategories

Additionally, Paragraph 8(a)(iv) of the Settlement Agreement authorizes the exclusion of subcategories in which the amount and toxicity of each pollutant in the discharge do not justify developing national regulations. The Agency has excluded the following subcategories from regulation based on the provisions of Paragraph 8(a)(iv) of the Settlement Agreement:

1. Primary Arsenic,
2. Primary Antimony,
3. Primary Barium,
4. Primary Bismuth,
5. Secondary Cadmium,
6. Primary Calcium,
7. Secondary Molybdenum,
8. Secondary Tantalum,
9. Primary Tin,
10. Secondary Babbitt, and
11. Secondary Beryllium.

Data gathered in conjunction with developing mass limitations for the second phase of the nonferrous metals manufacturing category indicate that secondary molybdenum, secondary tantalum, and primary tin generate wastewaters that are directly or indirectly discharged to navigable waterways. Therefore, the Agency is reconsidering whether to establish national regulations for these three subcategories as part of its phase II study.

IX. Public Participation and Response to Major Comments

Industry, government, individual citizens, and environmental groups have participated during the development of these effluent limitation guidelines and standards. Following the publication of the proposed rule on February 17, 1983 in the **Federal Register**, we provided the development document and the economic impact analysis supporting the proposed rule to industry, government agencies, and the public sector. The public record supporting this regulation was available for public use on April 6, 1983. The comment period ended on May 27, 1983. A permit writers' workshop open to the public was held on the nonferrous metals manufacturing rulemaking in Denver, Colorado on May 20, 1983. On April 27, 1983 in Washington, D.C., a public hearing was held on the proposed pretreatment standards at which four people presented testimony. Notices of data availability and a request for comment on data obtained after proposal were published in the **Federal Register** on November 4, 1983 and November 21, 1983 with the comment periods ending on November 25, 1983, and December 21, 1983.

Since proposal, 58 commenters submitted approximately 1,600 individual comments on the proposed regulation. We considered all comment carefully and made appropriate changes in the regulation whenever data and information supported those changes. Seven of the major issues raised by the comments are addressed in this section of the preamble. Othe major comments are discussed briefly in Section V, control treatment options and technology basis for final regulations. All comments received and our detailed responses to these comments are included in a document entitled *Response to Public Comments, Proposed Nonferrous Metals Manufacturing Effluent Limitations and Standards* which has been placed in the public record for this regulation. The following is a discussion of the Agency's responses to the principal comments.

1. Permit Writer Guidance for Handling Non-Regulated Wastewater Sources

Comment: Numerous comments were received claiming the Agency failed to include flow and discharge allowances for significant wastewater sources. The commenters' position is that flow and discharge allowances should be established for such general wastewater sources as boiler blowdown, noncontact cooling water, and contaminated groundwater seepage, in addition to other subcategory-specific wastewater sources.

Other commenters requested the Agency to list site-specific wastewater sources as a separate subpart of the final regulation. The commenters believe this will obligate the permit writers to consider these wastewater sources when writing a permit. If the site-specific wastewater sources are not listed in the regulation, the commenters contend that permit writer may write the permit for only those wastewater sources given flow allowances on a national basis.

Response: The Agency has carefully reviewed all of the comments requesting additional flow allowances for streams previously considered. In several cases, the Agency has agreed with the commenters and added flow allowances where they are appropriate. Each of the flow allowances added on a subcategory-specific basis is discussed in Section V of this preamble under BPT and BAT. For those waste streams not given flow allowances, the Agency does not believe they warrant treatment on a national basis because they are generally not contaminated or occur at only one or two plants. It is the Agency's belief that such wastewater sources as noncontact cooling and boiler blowdown ordinarily do not contain significant quantities of toxic pollutants to warrant treatment or on a national basis. However, the permit writer should be aware that in some instances wastewater sources such as these may be contaminated with toxic pollutants. In such instances, it is up to the permit writer to adjust the plant's permit to take this type of wastewater source into account.

The Agency has decided not to include a regulatory listing of site-specific wastewater sources. Although commenters have provided the Agency with many of the site-specific wastewater sources, the Agency believes that this list may not be conclusive for each subcategory because not every facility in the category has informed the Agency of its site-specific waste streams, and new streams undoubtedly may arise or be discovered. Therefore, to avoid missing a site-specific waste stream, the Agency will continue to list these wastewater sources in the Development Document and instruct the permit writer that there may be other site-specific wastewater sources.

To account for site-specific wastewater sources, the permit writer must quantify the discharge rate of the waste stream. The mass allowance provided for the waste stream is then obtained form the product of the discharge rate and treatment performance of the technology basis of the promulgated regulation. For example, if the permit writer determines that contaminated ground water seepage requires treatment, he must determine the flowrate of contaminated water to be treated. He then can determine the appropriate treatment technology basis by referring to Section V of today's notice. Treatment effectiveness values are presented in Section VII of the General Development Document. The product of the discharge rate and treatment performance is then the allowed mass discharge. This quantity can then be added to the other building blocks (i.e., mass discharge for the

regulated streams) to determine total allowed mass discharge.

2. Stormwater and Other Non-Scope Flows

Comment: Numerous comments were received claiming that the Agency had failed to include flow and discharge allowances for stormwater and other wastewater sources such as noncontact cooling, boiler blowdown, contaminated groundwater, and so on. In addition, many of the commenters felt that the Agency understated the cost of compliance for the proposed regulation because the costs of treating contaminated stormwater and site-specific wastewater sources were not taken into account.

Response: The Agency believes the development of stormwater and other site-specific wastewater source mass limitations are inappropriate on a national basis because the volume of waste water is not constant from plant to plant and is not production related. Because of this, mass limitations on a national basis cannot be developed due to the variability of wastewater flow from plant to plant. Therefore, the Agency believes site-specific wastewater is best handled on a case-by-case basis in the NPDES permitting process. This is the Agency's consistent approach to this issue, reflected not only in other categorical effluent limitations guidelines and standards (e.g., aluminum forming category), but in general implementing regulations for these limitations and standards as well (see 40 CFR 401.11(q), definition of process wastewater).

Since the Agency did not propose (and is not promulgating) mass limitations for stormwater and other site-specific waste water sources, the cost of treating these wastewaters was not considered. In developing plant-by-plant costs for the nonferrous metals manufacturing category, the Agency provided segregation costs to route site-specific wastewater around the treatment system. Segregation of stormwater and other wastewaters for the purposes of costing does not mean the Agency believes these wastewaters are uncontaminated. On the contrary, the Agency recognizes that stormwater may be a significant source of pollutants and require treatment. We also recognize that central treatment of contaminated stormwater and process wastewater may be appropriate in some situations. For the reasons stated above, contaminated nonprocess wastewater will be handled by the permit writer on a case-by-case basis. We recommend that permit writers consider whether all stormwater requires treatment or if only certain parts of the flow (such as drainage from specific areas) or time periods (such as capturing only the initial drainage) need treatment. (See also the response to issue 1 above.)

3. Limitations and Standards for pH

Comment: Several commenters have expressed concern that the limits for pH and metals are incompatible. Optimum operating pH in lime and settle treatment may be different for each of the various metals regulated. Therefore, if the system is operated to maximize the removal of all regulated pollutants, individual metals will not be removed to the same extent as when the system is operated for removal of a single metal. The commenters express concern that the performance data used by the Agency to establish toxic metals limits have not been documented as actually occurring at a single pH resulting in simultaneous reduction of the pollutants to the proposed limits.

In addition, commenters contend that the pH range of control should be 3 units as opposed to the 2.5 range proposed because of the difficulties of maintaining pH within such a narrow range. Therefore, they recommend the limits be changed to 7 to 10 (rather than 7.5 to 10 as proposed). Some commenters state that since most industries have a lower pH limit of 6.0 and because some facilities do not employ lime and settle technology, the pH limits should be changed to 6 to 10 or handled on a case-by-case basis.

Response: The Agency proposed the pH range of 7.5 to 10 because it is within this range that the majority of toxic metals reach minimum solubility. Since the proposed limitations were derived from actual preformance data at plants operating the model technology (which operate their treatment systems within the range set forth as indicative of proper operation), we believe the limits are achievable using the recommended technology. However, comments and sampling data from the aluminum forming category show that the optimum pH level for aluminum removal is lower than for the regulated toxic metals. To facilitate meeting the aluminum limits at BPT and BAT, we have broadened the pH range from 7.5 to 10 to 7 to 10. The Agency does not believe the operation of primary or secondary aluminum treatment systems at the optimum pH for aluminum removal will affect the attainability of the nickel, antimony, lead, or zinc mass limitations. In the data gathered at aluminum forming plants, the Agency noted the removal performance for nickel and chromium were not serverely affected when the treatment systems were operated at pH 7 to 8. In fact, the performance values for nickle were being achieved. The Agency believes this observation is due to the coprecipitation of these metals with aluminum. The Agency anticipates this same phenomenon will occur with antimony, lead, zinc, and nickel. Lowering of the pH range will also aid in fluoride removal which has a minimum solubility as calcium fluoride between pH 7 and 8.

The Agency thus agrees with the commenters that the proposed 2.5 pH range is too narrow and has promulgated a pH range of 7 to 10. The Agency does not believe a pH range of 6 to 10 is appropriate for the nonferrous metals manufacturing category pH requirement. This pH range is established to ensure optimum metals removal; a pH of 6 is outside this range.

4. Achievability of 90 Percent Recycle

Comment: Several comments were received questioning the Agency's selection of 90 percent recycle as the basis in developing flow allowances for casting contact cooling water and wet scrubber blowdown. The commenters believe 90 percent recycle may not be achievable for these waste streams at all plants. In addition, the commenters stated plants with larger production normalized flows for a specific operation will be able to achieve a higher degree of recycle than plants with smaller production normalized flows.

Response: In determining the flow allowances, the Agency examined the production normalized flows for each operation. From the data set for each operation, a normalized flow allowance was developed based on existing preformance. In most cases, the normalized flow is not based on recycle with the exception of those instances where recycle is widely demonstrated for a production operation, as it is for wet scrubbing operations. Plants that were found to use an excessive amount of water on a production normalized basis when compared to other plants were not included in developing the flow allowance. The BAT flow allowance based on recycle was then calculated by reducing the normalized flow by a factor of 10 require 90 percent recycle.

The Agency would like to point out that the regulations do not require each plant to achieve 90 percent recycle to meet these promulgated mass allowances. For example, in some cases, a plant may only need to recycle 50 percent or less if it can reduce the volume of water used in the process to match the lowest water use observed in the subcategory.

The Agency realizes that the flow rates for wet scrubber streams may not be possible without pretreatment to remove the material that has been scrubbed. In developing compliance costs, the Agency carefully examined current methods of recycle and pretreatment for each wet scrubbing operation. Costs for in-process flow reduction were than developed based on the demonstrated recycling methods. In many instances, we developed costs for pretreatment consisting of holding and settling tanks to remove suspended solids, while in other (more unusual) instances we developed costs for lime and settle treatment used to achieve recycle of the scrubber liquor.

5. Mass-Based Limitations and Standards.

Comment: Several commenters oppose mass-based limitations and standards and recommend that, as it did for other industries, the Agency should establish concentration-based limits instead. It is contended that production normalized flows, necessary for mass-based limits, have not and cannot be properly established and that the standards should therefore be based on concentration. In addition, mass-based limits make compliance determinations unnecessarily complex, if not impossible.

For pretreatment standards, commenters contend that mass-based limits are especially inappropriate as most POTW sewer ordinances are concentration-based and as compliance determinations will depend on industry supplied data.

Response: Mass-based limitations and standards are the norm, not an exception. The Clean Water Act was premised on the notion that pollutant discharge to navigable waters be eliminated by pollutant removal, not by dilution. *Senate Comm. on Public Works, 93d Congress, 1st Sess.* A legislative history of this same philosophy is reflected in the Agency's regulations. See 40 CFR 122.45(f) stating that NPDES permits should be mass-based wherever possible, and 48 FR at 9442 (January 28, 1981) stating that Control Authorities may impose mass limitations to prevent dilution as a substitute for treatment.

The Agency accordingly is promulgating mass-based limitations and standards for this category. In addition to implementing the general policy of the Act, mass limitations and standards are necessary in order to ensure implementation of the effluent reduction benefits associated with flow reduction which is an integral part of the model treatment technology. In developing the nonferrous metals manufacturing regulation, the Agency examined the sources and amounts of water used in the various manufacturing operations. EPA found that for all process operations a significant number of plants used more water than the process required, and further, that for a number of processes, water was being recycled by many plants in the category. Accordingly, flow reduction was incorporated as an integral part of the model treatment technology for nonferrous metals manufacturing. Mass-based limitations are necessary for this category to adequately control the total discharge of pollutants.

The production normalized flows that were used in calculating the mass-based limitations are fully discussed in the Response to Public Comments Document and in the Proposed and Final Development Document supporting this regulation. The Agency believes that these flows were properly established and that they provide an adequate basis for the determination of mass-based limitations.

These limitations are not very difficult to enforce because most companies keep records of production in terms of mass. The permit writer or control authority establishes production levels once, on a case-by-case basis. The Agency has already established the relationship between wastewater discharge and production (by means of production normalizing parameters expressed in the regulation), as well as the effluent concentrations achievable. These production levels require modification only when substantial changes in production occur. The other two parameters, regulatory flow and treatment effectiveness concentration, will not change.

In general, to determine limits for integrated plants that are required to comply with both a categorical pretreatment standard expressed only in mass-based limits and another categorical pretreatment standard expressed only in concentration-based limits, the concentration limit is converted to a mass limit. This is accomplished by multiplying the concentration limit by the appropriate flow of the stream to which the limit applies. Guidance on how to apply the combined waste stream formula is provided in the General Pretreatment Regulations (40 CFR Part 403.6(e)).

6. Flow Allowances for Industrial Hygiene Practices

Comment: Several comments were received stating that EPA had failed to consider wastewater flow generated in the secondary lead subcategory by respirator wash, uniform laundering, hand washing, showers, and facility washdown. The commenters point out that these practices are frequently used to reduce airborne lead and maintain blood levels within current OSHA limits.

Response: After proposal, the Agency conducted two engineering site visits at integrated secondary lead and battery manufacturing plants. Analytical data were collected from respirator wash, uniform laundering, hand washing, and facility washdown. Lead was found in each of the samples with concentrations as high as 20 mg/1. The analytical data demonstrate that these wastewater sources contain lead and other toxic metals at treatable concentrations. An allowance was provided for truck and pallet washing for similar reasons. Therefore, the Agency has established flow allowances and mass allowances for these sources of wastewater.

The Agency disagrees with the commenters that discharge allowances are justified for employee showers and facility washdown. We believe that shower discharges will not contain sufficient lead to justify treatment with process wastewater discharges because most lead dusts will be collected on protective clothing and respirators. Therefore, we have not included any costs for routing these discharges through the process wastewater treatment system. A discharge allowance was not provided for facility washdown because the Agency believes floor washing can be accomplished with recycled effluent following lime and settle treatment. However, we did include costs for treating and recycling these discharges.

The Agency has promulgated these same mass limitations for the primary lead subcategory, as well as for the secondary lead subcategory. The Agency believes the primary lead subcategory generates similar waste streams to achieve OSHA standards. The methodology used to develop the flow allowances for these two subcategories is present in Section IX of the secondary lead supplemental development document and Section X of the primary lead supplemental development document.

Comments were also received from the primary zinc and primary copper subcategories stating that water balances have changed at the plants since the Agency had gathered its data as a result of industrial hygiene requirements. These commenters were asked to support their claims through section 308 data requests. However, no information was submitted to support their claims. Consequently, flow

allowances associated with industrial hygiene requirements in the primary and secondary lead subcategories have not been provided for the primary zinc and copper subcategories.

7. Mass Limitations for Integrated Facilities

Comment: Several commenters stated that the Agency did not consider the impact of the regulation on plants that centrally treat wastewater discharges covered by more than one subcategory or category. The comments point out that the pollutants controled and the end-of-pipe treatment necessary may vary between nonferrous metals subcategories or between nonferrous metals manufacturing and other categories (such as aluminum forming). Several comments indicate that these differences could result in permits requiring treatment performance better than EPA's concentration component of the mass limits.

Response: We recognize that integrated plants may choose to treat their wastewater centrally, and problems may arise particularly where different pollutants are controlled by the applicable regulations. If the permitting or control authority does not allow appropriate allowances under best professional judgment (BPJ) for direct dischargers (or the combined waste stream formula for indirect dischargers) there is a possibility that in order to meet an end-of-pipe mass limitation, and integrated plant will have to reduce pollutant concentrations below the concentration performance contemplated in the regulation. For example, if an integrated primary aluminum plant has a mass allowance of 100 units of antimony (100 units of flow x 1 ppm of antimony) and it combines its wastewater with aluminum forming wastewater with a regulatory flow of 100 and no allowance for antimony, it would be forced to reduce antimony concentrations to 0.5 ppm in order to meet its allowance (200 units of combined flow x .5 ppm). Therefore, it is appropriate that plants combining process wastewaters to different controlled pollutants be credited with the appropriate mass allowances for the entire regulatory flow (i.e., the flow from all unit operations from the combined facilities) obtained through BPJ or the combined waste stream formula multiplied by the concentration achievable with the appropriate end-of-pipe technology. Without an allowance in each building block for all pollutants controlled by any regulation applying to the combined discharge, integrated plants would be forced to segregate discharges or achieve flow or pollutant concentration reductions not anticipated in any of the regulations. This same type of allowance is provided in the Combined Waste Streams forumula for integrated indirect dischargers. See 46 FR at 9420 (January 28, 1981).

Flow allowances for the regulated waste streams are presented in Section IX and X, while treatment performance for the various pollutants is presented in Section VII of the development documents. As an example, if the pollutant antimony is not regulated in both of the categories or subcategories, the permit writer must identify the regulatory flow allowances for the streams in the category or subcategory where antimony is not regulated along with the technology basis for the category or subcategory. Mass limitations for antimony are then calculated by multiplying the regulatory flow for each waste stream times the treatment performance for antimony.

The Agency does not believe it is necessary to consider different end-of-pipe requirements for control of the same pollutant regulated in different categories. In this situation, there is no possibility that a pollutant could be regulated to a lower concentration than intended. Under the approach outlined above, a plants' permit limitations would be the sum of all appropriate building blocks. Integrated plants will of course continue to have the flexibility of determining how they comply with our numerical limits. Thus, they may or may not treat centrally, or treat all or part of their various flows. Nothing in this regulation reduces this flexibility. For direct dischargers, developing mass limitations for regulated pollutants not common to both category or subcategory is handled procedurally as a Best Professional Judgement Decision (BPJ). For indirect dischargers, the provisions of the combined waste stream formula of the General Pretreatment Regulations are applicable.

As a final note, one commenter suggested that mass limitations were inappropriate for so-called "complex facilities" combining and co-treating refining and smelting water with water from ore mining and milling. The Agency has determined, as explained above, that refining and smelting wastewaters (and associated metallurgical acid plant wastewater) can be treated with sulfide precipitation, filter press, lime and settle, and filter technologies to achieve the promulgated limitations. This wastewater does not have to be co-treated with ore mining and milling wastewater. The Agency has evaluated the costs of segregating nonferrous and ore mining wastewaters at integrated plants and found time to be economically achievable. If such plants choose to co-treat, they should meet mass limitations developed for the combined flow. See 40 CFR 122.45(f) and 48 FR at 7048 (February 17, 1983). Nothing the Agency said in the ore mining regulation is contrary to this statement. Indeed, the Agency indicated in that rulemaking that "each (integrated) facility will be given effluent limitations that are derived from the BAT mine and mill guidelines and the smelter and refining guidelines . . ." 47 FR at 54601 (December 3, 1982.)

X. Best Management Practices

Section 304(e) of the Clean Water Act gives the Administrator discretionary authority to prescribe "best management practices" (BMP). EPA is not promulgating BMP specific to the 12 subcategories of the nonferrous metals manufacturing category discussed in today's preamble.

XI. Upset and Bypass Provisions

A recurring issue of concern has been whether industry guidelines should include provisions authorizing noncompliance with effluent limitations during periods of "upset" or "bypass." An upset, sometimes called as "excursion," is an unintentional noncompliance occurring for reasons beyond the reasonable control of the permittee. It has been argued that an upset provision in EPA's effluent limitations is necessary because such upsets will inevitably occur even in properly operated control equipment. Because technology-based limitations require only what technology can achieve, it is claimed that liability for such situations is improper. When confronted with this issue, courts have disagreed on whether an explicit upset or excursion exemption is necessary, or whether upset or excursion incidents may be handled through exercise of EPA's enforcement discretion. Compare *Marathon Oil Co.* v. *EPA*, 564 F.2d 1253 (9th Cir. 1977) with *Weyerhaeuser Co.* v. *Costle, supra*, and *Corn Refiners Association, et al.* v. *Costle*, No. 78–1069 (8th Cir., April 2, 1979). See also *American Petroleum Institute* v. *EPA*, 540 F.2d 1023 (10th Cir. 1976); *CPC International, Inc.* v. *Train*, 540 F.2d 1320 (98th Cir. 1976); *FMC Corp.* v. *Train*, 539 F.2d 973 (4th Cir. 1976).

An upset is an unintentional episode during which effluent limits are exceeded; a bypass, however, is an act of intentional noncompliance during which waste treatment facilities are circumvented in emergency situations.

We have, in the past, included bypass provisions in NPDES permits.

We determined that both upset and bypass provisions should be included in NPDES permits and have promulgated NPDES that include upset and bypass permit provisions (see 40 CFR 122.41 (m) and (n), 48 FR 14146 (April 1, 1983)). The upset provision establishes an upset as an affirmative defense to prosecution for violation of technology-based effluent limitations. The bypass provision authorizes bypassing to prevent loss of life, personal injury, or severe property damage. Consequently, although permittees in the nonferrous metals manufacturing industry will be entitled to upset and bypass provisions in NPDES permits, this final regulation does not address these issues.

XII. Variances and Modifications

Upon promulgation of this regulation, the appropriate effluent limitations must be applied in all Federal and State NPDES permits thereafter issued to direct dischargers in the nonferrous metals manufacturing category. In addition, on promulgation, the pretreatment limitations are directly applicable to any indirect dischargers.

For BPT effluent limitations, the only exception to the binding limitations is EPA's "fundamentally different factors" variance. See *E. I. duPont deNemours & Co.* v. *Train*, 430 U.S. 112 (1977); *Weyerhaueser Co.* v. *Costle, supra.* This variance recognizes factors concerning a particular discharger that are fundamentally different from the factors considered in this rulemaking. However, the economic ability of the individual operator to meet the compliance cost for BPT standards is not a consideration for granting a variance. See *National Crushed Stone Association* v. *EPA*, 449 U.S. 64 (1980). Although this variance clause was set forth in EPA's 1973 to 1976 industry regulations, it is now included in the NPDES regulations and will not be included in the nonferrous metals manufacturing category or other category regulations. See the NPDES regulations at 40 CFR Part 125 Subpart D, 45 FR 33290 et seq. (May 19, 1980) for the text and explanation of "fundamentally different factors" variance.

The BAT limitations in this regulation also are subject to EPA's "fundamentally different factors" variance. In addition, BAT limitations for nonconventional pollutants are subject to individual modifications under sections 301(c) and 301(g) of the Act. According to section 301(j)(1)(B), applications for these modifications under sections 301(c) and 301(g) must be filed within 270 days after promulgation of final effluent limitations guidelines. See 40 CFR 122.21(l)(2), 48 FR 14161 (April 1, 1983).

The economic modification section of the Act (Section 301(c)) gives the Administrator authority to modify BAT requirements for nonconventional pollutants for dischargers who file a permit application after July 1, 1978, upon a showing that such modified requirements will: (1) Represent the maximum use of technology within the economic capability of the owner or operator and (2) result in reasonable further progress toward the elimination of the discharge of pollutants. The environmental modification section (301(g)) allows the Administrator, with the concurrence of the State, to modify BAT limitations for nonconventional pollutants from any point source upon a showing by the owner or operator of such point source satisfactory to the Administrator that:

(a) Such modified requirements will result at a minimum in compliance with BPT limitations or any more stringent limitations necessary to meet water quality standards;

(b) Such modified requirements will not result in any additional requirements on any other point or nonpoint source; and

(c) Such modification will not interfere with the attainment or maintenance of that water quality which shall assure protection of public water supplies, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities, in and on the water and such modification will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity, or teratogenicity), or synergistic propensities.

Section 301(j)(1)(B) of the Act requires that application for modifications under section 301 (c) or (g) must be filed within 270 days after the promulgation of an applicable effluent guide line. Initial applications must be filed with the Regional Administrator and, in those States that participate in the NPDES Program, a copy must be sent to the Director of the State program. Initial applications to comply with 301(j) must include the name of the permittee, the permit and outfall number, the applicable effluent guideline, and whether the permittee is applying for a 301(c) or 301(g) modification or both.

Indirect dischargers subject to PSES and PSNS are eligible for credits for toxic pollutants removed by POTW. See 40 CFR 403.7, 48 FR 9404 (January 28, 1981). New sources subject to NSPS are not eligible for any other statutory or regulatory modifications. See, *E. I. duPont de Nemours & Co.* v. *Train*, supra.

Indirect dischargers subject to PSES have, in the past, been eligible for the "fundamentally different factors" variance. See 40 CFR 403.13. However, on September 20, 1983, the United States Court of Appeals for the Third Circuit held that "FDF variances for toxic pollutants are forbidden by the Act," and remanded § 403.13 to EPA *NAMF et al.* v. *EPA*, Nos. 79–2256 et al. (3rd Cir., September 20, 1983). EPA is considering the effect of that decision.

In a few cases, information which would affect these PSES may not have been available to EPA or affected parties in the course of this rulemaking. As a result it may be appropriate to issue specific categorical standards for such facilities, treating them as a separate subcategory with more, or less, stringent standards as appropriate. This will only be done if a different standard is appropriate because of unique aspects of the factors listed in section 304(b)(2)(B) of the Act: the age of equipment and facilities involved, the process employed, the engineering aspects of applying control techniquies, nonwater quality environmental impacts (including energy requirements) or the cost of required effluent reductions (but not of ability to pay that cost).

Indirect dischargers and other affected parties may petition the Administrator to examine those factors and determine whether these PSES are properly applicable in specific cases or should be revised. Such petitions must contain specific and detailed support data, documentation, and evidence indicating why the relevant factors justify a more, or less, stringent standard, and must also indicate why those factors could not have been brought to the attention of the Agency in the course of this rulemaking. The Administrator will consider such rulemaking petitions and determine whether a rulemaking should be initiated.

XIII. Implementation of Limitations and Standards

A. Relationship to NPDES Permits

The BPT/BAT limitations and NSPS in this regulation will be applied to individual nonferrous metals manufacturing plants through NPDES permits issued by EPA or approved state agencies, under section 402 of the Act.

As discussed in the preceding section of this preamble, these limitations must be applied in all Federal and State NPDES Permits except to the extent that variances and modifications are expressly authorized. Other aspects of the interaction between these limitations and NPDES permits are discussed below.

One issue that warrants consideration is the effect of this regulation on the powers of NPDES permit issuing authorities. The promulgation of this regulation does not restrict the power of any permitting authority to act in any manner consistent with law or these or any other EPA regulations, guidelines, or policy. For example, even if this regulation does not control a particular pollutant, the permit issuer may still limit such plllutant on a case-by-case basis when limitations are necessary to carry out the purposes of the Act. In addition, to the extent that state water quality standards or other provisions of State or Federal law require limitation of pollutants not covered by this regulation (or require more stringent limitations on covered pollutants), such limitations must be applied by the permit issuing authority.

A second topic that warrants discussion is the operation of EPA's NDPES enforcement program, many aspects of which were considered in developing this regulation. We emphasize that although the Clean Water Act is a strict liability statute, the initiation of enforcement proceedings by EPA is discretionary.

We have exercised and intend to exercise that discretion in a manner that recognizes and promotes good-faith compliance efforts.

B. Indirect Dischargers

For Indirect dischargers, PSES and PSNS are implemented under National Pretreatment Program procedures outlined in 40 CFR Part 403. The table below may be of assistance in resolving questions about the operation of that program. A brief explanation of some of the submissions indicated on the table follows:

A "request for category determination" is a written request, submitted by an indirect discharger or its POTW, for a determination of which categorical pretreatment standard applies to the indirect discharger. This assists the indirect discharger in knowing which PSES or PSNS limits it will be required to meet. See 40 CFR 403.6(a).

A "baseline monitoring report" is the first report an indirect discharger must file following promulgation of an applicable standard. The baseline report includes: an identification of the indirect discharge; a description of its operation; a report on the flows of regulated streams and the results of sampling analyses to determine levels of regulated pollutants in those streams; a statement of the discharger's compliance or noncompliance with the standard; and a description of any additional steps required to achieve compliance. See 40 CFR 403.12(b).

A "report on compliance" is required of each indirect discharger within 90 days following the date for compliance with an applicable categorical pretreatment standard. The report must indicate the concentration of all regulated pollutants in the facility's regulated process wastestreams; the average and maximum daily flows of the regulated streams; and a statement of whether compliance is consistently being achieved, and if not, what additional operation and maintenance or pretreatment is necessary to achieve compliance. See 40 CFR 403.12(d).

A "periodic compliance report" is a report on continuing compliance with all applicable categorical pretreatment standards. It is submitted twice per year (June and December) by indirect dischargers subject to the standards. The report shall provide the concentrations of the regulated pollutants in its discharge to the POTW; the average and maximum daily flow rates of the facility; the methods used by the indirect discharger to sample and analyze the data, and a certification that these methods conform to the methods outlined in the regulations. See 40 CFR 403.12(e).

XIV. Availability of Technical Information

The basis for this regulation is detailed in four major documents. Analytical methods are discussed in "Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants." EPA's technical conclusions are detailed in the "Development Document for Effluent Guidelines, New Source Performance Standards and Pretreatment Standards for the Nonferrous Metals Manufacturing Point Source Category." The Agency's economic analysis is presented in "Economic Impact Analysis of Effluent Limitations and Standards for the Nonferrous Metals Manufacturing Industry." A summary of the public comments received on the proposed regulation is presented in a report "Responses to Public Comments, Proposed Nonferrous Metals Manufacturing Effluent Limitations Guidelines and Standards," which is a part of the public record for this regulation. Copies of the technical and economic documents may be obtained from the National Technical Information Service, Springfield, Virginia 22161, (703) 487-4600. Additional information concerning the economic impact analysis may be obtained from Ms. Debra Maness, Economic Analysis Staff (WH-586), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460 or by calling (202) 382-5397. Technical information may be obtained by writing to Mr. James R. Berlow, Effluent Guidelines Division (WH-552), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460 or by calling (202) 382-7126.

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291. This rule does not contain any information collection requirements subject to the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq.

XV. List of Subjects in 40 CFR Part 421

Metals, Nonferrous metals manufacturing, Water pollution control, Waste treatment and disposal.

Dated: February 23, 1984.

William D. Ruckelshaus,

Administrator.

XVI. Appendices

Appendix A—Abbreviations, Acronyms, and Other Terms Used in This Notice

Act—The Clean Water Act.

Agency—The U.S. Environmental Protection Agency.

BAT—The best available technology economically achievable under section 304(b)(2)(B) of the Act.

BCT—The best conventional pollutant control technology under section 304(b)(4) of the Act.

BMPs—Best management practices under section 304(e) of the Act.

BPT—The best practicable control technology currently available under section 304(b)(1) of the Act.

Clean Water Act—The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 et seq.), as amended by the Clean Water Act of 1977 (Pub. L. 95-217).

DCP—Data collection portfolio.

Direct discharger—A facility which discharges or may discharge pollutants into waters of the United States.

Indirect discharger—A facility which discharges or may discharge pollutants into a publicly owned treatment works.

NPDES permit—A National Pollutant Discharge Elimination System permit issued under section 402 of the Act.

NSPS—New source performance standards under section 306 of the Act.

POTW—Publicly owned treatment works.

PSES—Pretreatment standards for existing sources of indirect discharges under section 307 (b) and (c) of the Act.

RCRA—Resource Conservation and Recovery Act (Pub. L. 94–580) of 1976, Amendments to Solid Waste Disposal Act.

Appendix B—Pollutants Selected for Regulation by Subcategory

(a) Subpart B—Primary Aluminum Smelting Subcategory.

73. benzo(a)pyrene
114. antimony
121. cyanide (Total)
124. nickel, aluminum, fluoride, oil and grease, TSS, pH

(b) Subpart C—Secondary Aluminum Subcategory.

122. lead
128. zinc, aluminum, ammonia (N), oil and grease, phenolics (total; by 4–AAP method), TSS, pH

(c) Subpart E—Primary Copper Electrolytic Refining Subcategory.

114. arsenic
120. copper
124. nickel, TSS, pH

(d) Subpart G—Primary Lead Subcategory.

122. lead
128. zinc, TSS, pH

(e) Subpart H—Primary Zinc Subcategory.

118. cadmium
120. copper
122. lead
128. zinc, TSS, pH

(f) Subpart I—Metallurgical Acid Plants Subcategory.

115. arsenic
118. cadmium
120. copper
122. lead
128. zinc, TSS, pH

(g) Subpart J—Primary Tungsten Subcategory.

122. lead
128. zinc, ammonia (N), TSS, pH

(h) Subpart K—Primary Columbium-Tantalum Subcategory.

122. lead
128. zinc, ammonia (N), fluoride, TSS, pH

(i) Subpart L—Secondary Silver Subcategory.

120. copper
128. zinc, ammonia (N), TSS, pH

(j) Subpart M—Secondary Lead Subcategory.

114. antimony
115. arsenic
122. lead
128. zinc, ammonia, TSS, pH

Appendix C—Toxic Pollutants Not Detected

(a) Subpart B—Primary Aluminum Smelting Subcategory

2. acrolein
3. acrylonitrile
5. benzidene
6. carbon tetrachloride (tetrachloromethane)
7. chlorobenzene
8. 1,2,4—trichlorobenzene
9. hexachlorobenzene
10. 1,2-dichloroethane
11. 1,1,1-trichlorethane
12. hexachlorethane
13. 1,1-dichloroethane
14. 1,1,2-trichloroethane
15. 1,1,2,2-tetrachloroethane
16. chloroethane
17. Deleted
18. bis(2-chloroethyl) ether
19. 2-chloroethyl vinyl ether (mixed)
21. 2,4,6-trichlorophenol
22. parachlorometa cresol
24. 2-chlorophenol
25. 1,2-dichlorobenzene
26. 1,3-dichlorobenzene
27. 1,4-dichlorobenzene
28. 3,3'-dichlorobenzidine
29. 1,1-dichloroethylene
30. 1,2-trans-dichloroethylene
31. 2,4-dichlorophenol
32. 1,2-dichloropropane
33. 1,3-dichloropropylene(1,3-dichloropropene)
34. 2,4-dimethylphenol
35. 2,4-dinitrotoluene
36. 2,6-dinitrotoluene
37. 1,2-diphenylhydrazine
38. ethylbenzene
40. 4-chlorophenyl phenyl ether
41. 4-bromophenyl phenyl ether
43. bis(2-chloroethoxy) methane
45. methyl chloride
46. methyl bromide (bromomethane)
47. bromoform (tribromomethane)
48. dichlorobromomethane
49. Deleted
50. Deleted
51. chlorodibromomethane
52. hexachlorobutadiene
53. hexachlorocyclopentadiene
56. nitrobenzene
57. 2-nitrophenol
58. 4-nitrophenol
59. 2,4-dinitrophenol
60. 4,6-dinitro-o-cresol
61. N-nitrosodimethylamine
63. N-nitrosodi-n-propylamine
64. pentachlorophenol
71. dimethyl phthalate
85. tetrachloroethylene
88. vinyl chloride (chloroethylene)
129. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

(b) Subpart C—Secondary Aluminum Subcategory.

1. acenaphthene
2. acrolein
3. acrylonitrile
5. benzidene
6. carbon tetrachloride
7. chlorobenzene
8. 1,2,4-trichlorobenzene
9. hexachlorobenzene
10. 1,2-dichloroethane
11. 1,1,1-trichlorethane
12. hexachlorethane
13. 1,1-dichloroethane
14. 1,1,2-trichloroethane
15. 1,1,2,2-tetrachloroethane
16. chloroethane
17. Deleted
18. bis(2-chloroethyl) ether
19. 2-chloroethyl vinyl ether (mixed)
20. 2-chloronaphthalene
21. 2,4,6-trichlorophenol
22. parachlorometa cresol
24. 2-chlorophenol
25. 1,2-dichlorobenzene
26. 1,3-dichlorobenzene
28. 3,3'-dichlorobenzidine
31. 2,4-dichlorophenol
32. 1,2-dichloropropane
33. 1,2-dichloropropylene(1,3-dichloropropene)
34. 2,4-dimethylphenol
35. 2,4-dinitrotoluene
36. 2,6-dinitrotoluene
37. 1,2-diphenylhydrazine
38. ethylbenzene
40. 4-chlorophenyl phenyl ether
41. 4-bromophenyl phenyl ether
42. bis(2-chloroisopropyl) ether
43. bis(2-chloroethoxy) methane
45. methyl chloride (chloromethane)
46. methyl bromide (bromomethane)
47. bromoform (tribromomethane)
49. Deleted
50. Deleted
51. chlorodibromomethane
52. hexachlorobutadiene
53. hexachlorocyclopentadiene
54. isophorone
55. naphthalene
56. nitrobenzene
57. 2-nitrophenol
58. 4-nitrophenol
59. 2,4-dinitrophenol
60. 4,6-dinitro-o-cresol
61. N-nitrosodimethylamine
62. N-nitrosodiphenylamine
63. N-nitrosodi-n-propylamine
64. pentachlorophenol
65. phenol
70. diethyl phthalate
72. benzo(a)anthracene(1,2-benzanthracene)
74. 3,4-benzofluoranthene
75. benzo(k)fluoranthene
78. anthracene(a)
79. benzo(ghi)perylene(1,12-benzoperylene)
80. fluorene
81. phenanthrene(a)
82. dibenzo(a,h)anthracene(1,2,5,6-dibenzanthracene)
83. indeno(1,2,3-cd)pyrene
86. toluene
88. vinyl chloride (chloroethylene)
89. aldrin
90. dieldrin
94. 4,4'-DDD(p,p'TDE)
95. a-endosulfan-Alpha
96. b-endosulfan-Beta
97. endosulfan sulfate
105. g-BHC-Delta
117. asbestos (fibrous)
129. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

(a) Reported together.

(c) Subpart E—Primary Copper Electrolytic Refining Subcategory.

2. acrolein
3. acrylonitrile
5. benzidene
6. carbon tetrachloride (tetrachloromethane)
7. chlorobenzene
8. 1,2,4-trichlorobenzene
9. hexachlorobenzene
10. 1,2-dichloroethane
12. hexachlorethane
13. 1,1-dichloroethane
14. 1,1,2-trichloroethane
16. chloroethane
17. Deleted
18. bis (2-chloroethyl) ether
19. 2-chloroethyl vinyl ether (mixed)
20. 2-chloronaphthalene

21. 2,4,6-trichlorophenol
22. parachlorometa cresol
24. 2-chlorophenol
25. 1,2-dichlorobenzene
26. 1,3-dichlorobenzene
27. 1,4-dichlorobenzene
28. 3,3'-dichlorobenzidine
31. 2,4-dichlorophenol
32. 1,2-dichloropropane
33. 1,2-dichloropropylene (1,3-dichloropropene)
34. 2,4-dimethylphenol
35. 2,4-dinitrotoluene
36. 2,6-dinitrotoluene
37. 1,2-diphenylhydrazine
38. ethylbenzene
40. 4-chlorophenyl phenyl ether
41. 4-bromophenyl phenyl ether
42. bis(2-chloroisopropyl) ether
43. bis(2-chloroethoxy) methane
44. methylene chloride (dichloromethane)
45. methyl chloride (chloromethane)
46. methyl bromide (bromomethane)
47. bromoform (tribromomethane)
48. dichlorobromomethane
49. Deleted
50. Deleted
51. chlorodibromomethane
52. hexachlorobutadiene
53. hexachlorocyclopentadiene
54. isophorone
56. nitrobenzene
57. 2-nitrophenol
58. 4-nitrophenol
59. 2,4-dinitrophenol
60. 4,6-dinitro-o-cresol
61. N-nitrosodimethylamine
62. N-nitrosodiphenylamine
63. N-nitrosodi-n-propylamine
64. pentachlorophenol
65. phenol
70. diethyl phthalate
72. benzo(a)anthracene (1,2-benzanthracene)
74. 3,4-benzofluoranthene
77. acenaphthylene
79. benzo(ghi)perylene (1,11-benzoperylene)
80. fluorene
82. dibenzo (a,h)anthracene (1,2,5,6-dibenzanthracene)
83. indeno (1,2,3-cd)pyrene
86. toluene
88. vinyl chloride (chloroethylene)
89. aldrin
90. dieldrin
94. 4,4'-DDD(p,p'TDE)
105. g-BHC-Delta
113. toxaphene
116. asbestos (Fibrous)
117. beryllium
118. cadmium
121. cyanide (Total)
123. mercury
127. thallium
129. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

(d) Subpart G—Primary Lead Subcategory.

1. acenaphthene
2. acrolein
3. acrylonitrile
5. benzidene
7. chlorobenzene
8. 1,2,4-trichlorobenzene
9. hexachlorobenzene
10. 1,2-dichloroethane
11. 1,1,1-trichlorethane
12. hexachlorethane
13. 1,1-dichloroethane
14. 1,1,2-trichloroethane
15. 1,1,2,2-tetrachloroethane
16. chloroethane
17. bis (chloromethyl) ether
18. bis (2-chloroethyl) ether
19. 2-chloroethyl vinyl ether (mixed)
20. 2-chloronaphthalene
21. 2,4,6-trichlorophenol
22. parachlorometa cresol
24. 2-chlorophenol
25. 1,2-dichlorobenzene
26. 1,3-dichlorobenzene
27. 1,4-dichlorobenzene
28. 3,3'-dichlorobenzidine
29. 1,1-dichloroethylene
30. 1,2-trans-dichloroethylene
31. 2,4-dichlorophenol
32. 1,2-dichloropropane
33. 1,2-dichloropropylene (1,3-dichloropropene)
34. 2,4-dimethylphenol
35. 2,4-dinitrotoluene
36. 2,6-dinitrotoluene
37. 1,2-diphenylhydrazine
38. ethylbenzene
39. fluoranthene
40. 4-chlorophenyl phenyl ether
41. 4-bromophenyl phenyl ether
42. bis(2-chloroisopropyl) ether
43. bis(2-chloroethoxy) methane
45. methyl chloride (chloromethane)
46. methyl bromide (bromomethane)
47. bromoform (tribromomethane)
48. dichlorobromomethane
49. Deleted
50. Deleted
51. chlorodibromomethane
52. hexachlorobutadiene
53. hexachlorocyclopentadiene
54. isophorone
55. naphthalene
56. nitrobenzene
57. 2-nitrophenol
58. 4-nitrophenol
59. 2,4-dinitrophenol
60. 4,6-dinitro-o-cresol
61. N-nitrosodimethylamine
62. N-nitrosodiphenylamine
63. N-nitrosodi-n-propylamine
64. pentachlorophenol
65. phenol
66. bis(2-ethylhexyl) phthalate
67. butyl benzyl phthalate
68. di-n-butyl phthalate
69. di-n-octyl phthalate
70. diethyl phthalate
71. dimethyl phthalate
72. benzo(a)anthracene (1,2-benzanthracene)
73. benzo(a)pyrene (3,4-benzopyrene
74. 3,4-benzofluoranthene
75. benzo(k)fluoranthane (11,12-benzofluoranthene)
76. chrysene
77. acenaphthylene
78. anthracene (a)
79. benzo(ghi)perylene (1,11-benzoperylene)
80. fluorene
81. phenanthrene (a)
82. dibenzo(a,h)anthracene (1,2,5,6-dibenzanthracene)
83. indeno (1,2,3-cd)pyrene
84. pyrene
85. tetrachloroethylene
86. toluene
87. trichloroethylene
88. vinyl chloride (chloroethylene)
89. aldrin
90. dieldrin
91. chlordane (technical mixture and metabolites)
92. 4,4'-DDT
93. 4,4'-DDE(p,p'DDX)
94. 4,4'-DDD(p,p'TDE)
95. a-endosulfan-Alpha
96. b-endosulfan-Beta
97. endosulfan sulfate
98. endrin
99. endrin aldehyde
100. heptachlor
101. heptachlor epoxide
102. a-BHC-Alpha
103. b-BHC-Beta
104. r-BHC (lindane)-Gamma
105. g-BHC-Delta
106. PCB–1242 (Arochlor 1242) (b)
107. PCB–1254 (Arochlor 1254) (b)
108. PCB–1221 (Arochlor 1221) (b)
109. PCB–1232 (Arochlor 1232) (c)
110. PCB–1248 (Arochlor 1248) (c)
111. PCB–1260 (Arochlor 1260) (c)
112. PCB–1016 (Arochlor 1016) (c)
113. toxaphene
121. cyanide (Total)
127. thallium
129. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

(a), (b), (c) Reported together.

(e) Subpart H—Primary Zinc Subcategory.

2. acrolein
3. acrylonitrile
5. benzidene
6. carbon tetrachloride (tetrachloromethane)
7. chlorobenzene
8. 1,2,4-trichlorobenzene
9. hexachlorobenzene
10. 1,2-dichloroethane
12. hexachlorethane
13. 1,1-dichloroethane
14. 1,1,2-trichloroethane
15. 1,1,2,2-tetrachloroethane
16. chloroethane
17. Deleted
19. 2-chloroethyl vinyl ether (mixed)
20. 2-chloronaphthalene
24. 2-chlorophenol
25. 1,2-dichlorobenzene
26. 1,3-dichlorobenzene
27. 1,4-dichlorobenzene
28. 3,3'-dichlorobenzidine
29. 1,1-dichloroethylene
30. 1,2-trans-dichloroethylene
31. 2,4-dichlorophenol
32. 1,2-dichloropropane
33. 1,2-dichloropropylene (1,3-dichloropropene)
35. 2,4-dinitrotoluene
36. 2,6-dinitrotoluene
37. 1,2-diphenylhydrazine
40. 4-chlorophenyl phenyl ether
41. 4-bromophenyl phenyl ether
42. bis(2-chloroisopropyl) ether
43. bis(2-chloroethoxy) methane
45. methyl chloride (chloromethane)
46. methyl bromide (bromomethane)
49. Deleted
50. Deleted
51. chlorodibromomethane
52. hexachlorobutadiene
53. hexachlorocyclopentadiene
54. isophorone

55. naphthalene
59. 2,4-dinitrophenol
60. 4,6-dinitro-o-cresol
61. N-nitrosodimethylamine
63. N-nitrosodi-n-propylamine
64. pentachlorophenol
67. butyl benzyl phthalate
69. di-n-octyl phthalate
71. dimethyl phthalate
72. benzo(a)anthracene (1,2-benzanthracene)
73. benzo(a)pyrene (3,4-benzopyrene)
74. 3,4-benzofluoranthene
75. benzo(k)fluoranthane (11,12-benzofluoranthene)
77. acenaphthylene
78. anthracene (a)
79. benzo(ghi)perylene (1,11-benzoperylene)
82. dibenzo(a,h)anthracene (1,2,5,6-dibenzanthracene)
83. indeno (1,2,3-cd)pyrene
88. vinyl chloride (chloroethylene)
89. aldrin
90. dieldrin
91. chlordane (technical mixture and metabolites)
92. 4,4'-DDT
93. 4,4'-DDE(p,p'DDX)
94. 4,4'-DDD(p,p'TDE)
96. b-endosulfan-Beta
97. endosulfan sulfate
98. endrin
106. PCB–1242 (Arochlor 1242) (a)
107. PCB–1254 (Arochlor 1254) (a)
108. PCB–1221 (Arochlor 1221) (a)
109. PCB–1232 (Arochlor 1232) (b)
110. PCB–1248 (Arochlor 1248) (b)
111. PCB–1260 (Arochlor 1260) (b)
112. PCB–1016 (Arochlor 1016) (b)
113. toxaphene
117. beryllium
127. thallium
129. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

(a), (b) Reported together.

(f) Subpart I—Metallurgical Acid Plants Subcategory.

2. acrolein
3. acrylonitrile
5. benzidene
7. chlorobenzene
8. 1,2,4-trichlorobenzene
9. hexachlorobenzene
12. hexachloroethane
16. chloroethane
17. Deleted
18. bis (2-chloroethyl) ether
19. 2-chloroethyl vinyl ether (mixed)
20. 2-chloronaphthalene
21. 2,4,6-trichlorophenol
24. 2-chlorophenol
25. 1,2-dichlorobenzene
26. 1,3-dichlorobenzene
27. 1,4-dichlorobenzene
28. 3,3'-dichlorobenzidine
30. 1,2-trans-dichloroethylene
31. 2,4-dichlorophenol
32. 1,2-dichloropropane
33. 1,2-dichloropropylene (1,3-dichloropropene)
35. 2,4-dinitrotoluene
36. 2,6-dinitrotoluene
37. 1,2-diphenylhydrazine
40. 4-chlorophenyl phenyl ether
41. 4-bromophenyl phenyl ether
42. bis(2-chloroisopropyl) ether
43. bis(2-chloroethoxy) methane
45. methyl chloride (chloromethane)
46. methyl bromide (bromomethane)
50. Deleted
52. hexachlorobutadiene
53. hexachlorocyclopentadiene
57. 2-nitrophenol
58. 4-nitrophenol
59. 2,4-dinitrophenol
60. 4,6-dinitro-o-cresol
61. N-nitrosodimethylamine
63. N-nitrosodi-n-propylamine
72. benzo(a)anthracene (1,2-benzanthracene)
77. acenaphthylene
79. benzo(ghi)perylene (1,11-benzoperylene)
82. dibenzo(a,h)anthracene (1,2,5,6-dibenzanthracene)
83. indeno (1,2,3-cd)pyrene
88. vinyl chloride (chloroethylene)
89. aldrin
95. a-endosulfan-Alpha
97. endosulfan sulfate
113. toxaphene
116. asbestos (Fibrous)
129. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

(g) Subpart J—Primary Tungsten Subcategory.

2. acrolein
3. acrylonitrile
5. benzidene
6. carbon tetrachloride (tetrachloromethane)
7. chlorobenzene
8. 1,2,4-trichlorobenzene
9. hexachlorobenzene
12. hexachlorpethane
13. 1,1-dichloroethane
14. 1,1,2-trichloroethane
16. chloroethane
17. bis (chloromethyl) ether
18. bis (2-chloroethyl) ether
19. 2-chloroethyl vinyl ether (mixed)
20. 2-chloronaphthalene
21. 2,4,6-trichlorophenol
22. parachlorometa cresol
24. 2-chlorophenol
25. 1,2-dichlorobenzene
26. 1,3-dichlorobenzene
27. 1,4-dichlorobenzene
28. 3,3'-dichlorobenzidine
30. 1,2-trans-dichloroethylene
31. 2,4-dichlorophenol
32. 1,2-dichloropropane
33. 1,2-dichloropropylene (1,3-dichloropropene)
34. 2,4-dimethylphenol
35. 2,4-dinitrotoluene
36. 2,6-dinitrotoluene
37. 1,2-diphenylhydrazine
39. fluoranthene
40. 4-chlorophenyl phenyl ether
41. 4-bromophenyl phenyl ether
42. bis(2-chloroisopropyl) ether
43. bis(2-chloroethoxy) methane
44. methylene chloride (dichloromethane)
45. methyl chloride (chloromethane)
46. methyl bromide (bromomethane)
48. dichlorobromomethane
49. trichlorofluoromethane
50. dichlorodifluoromethane
52. hexachlorobutadiene
53. hexachlorocyclopentadiene
56. nitrobenzene
57. 2-nitrophenol
58. 4-nitrophenol
59. 2,4-dinitrophenol
60. 4,6-dinitro-o-cresol
61. N-nitrosodimethylamine
62. N-nitrosodiphenylamine
63. N-nitrosodi-n-propylamine
64. pentachlorophenol
67. butyl benzyl phthalate
72. benzo(a)anthracene (1,2-benzanthracene)
74. 3,4-benzofluoranthene
75. benzo(k)fluoranthene (11,12-benzofluoranthene)
83. indeno (1,2,3-cd)pyrene
88. vinyl chloride (chloroethylene)
89. aldrin
90. dieldrin
91. chlordane (technical mixture and metabolites)
92. 4,4'-DDT
93. 4,4'-DDE(p,p'DDX)
94. 4,4'-DDD(p,p'TDE)
96. b-endosulfan-Beta
97. endosulfan sulfate
98. endrin
99. endrin aldehyde
100. heptachlor
101. heptachlor epoxide
102. a-BHC-Alpha
103. b-BHC-Beta
104. r-BHC (lindane)-Gamma
105. g-BHC-Delta
113. toxaphene
116. asbestos (Fibrous)
129. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

(h) Subpart K—Primary Columbium-Tantalum Subcategory.

2. acrolein
3. acrylonitrile
5. benzidene
9. hexachlorobenzene
13. 1,1-dichloroethane
16. chloroethane
17. Deleted
18. bis (2-chloroethyl) ether
19. 2-chloroethyl vinyl ether (mixed)
21. 2,4,6-trichlorophenol
22. parachlorometa cresol
24. 2-chlorophenol
25. 1,2-dichlorobenzene
26. 1,3-dichlorobenzene
27. 1,4-dichlorobenzene
28. 3,3'-dichlorobenzidine
29. 1,1-dichloroethylene
31. 2,4-dichlorophenol
32. 1,2-dichloropropane
33. 1,2-dichloropropylene (1,3-dichloropropene)
34. 2,4-dimethylphenol
37. 1,2-diphenylhydrazine
40. 4-chlorophenyl phenyl ether
41. 4-bromophenyl phenyl ether
42. bis(2-chloroisopropyl) ether
43. bis(2-chloroethoxy) methane
45. methyl chloride (chloromethane)
46. methyl bromide (bromomethane)
49. Deleted
50. Deleted
52. hexachlorobutadiene
53. hexachlorocyclopentadiene
55. naphthalene
57. 2-nitrophenol
58. 4-nitrophenol
59. 2,4-dinitrophenol
60. 4,6-dinitro-o-cresol
61. N-nitrosodimethylamine
62. N-nitrosodiphenylamine
63. N-nitrosodi-n-propylamine

64. pentachlorophenol
65. phenol
69. di-n-octyl phthalate
72. benzo(a)anthracene (1,2-benzanthracene)
74. 3,4-benzofluoranthene
75. benzo(k)fluoranthene (11,12-benzofluoranthene)
76. chrysene
77. acenaphthylene
79. benzo(ghi)perylene
82. dibenzo(a,h)anthracene (1,2,5,6-dibenzanthracene)
83. indeno (1,2,3-cd)pyrene
84. pyrene
86. toluene
88. vinyl chloride (chloroethylene)
89. aldrin
90. dieldrin
91. chlordane
92. 4,4'-DDT
93. 4,4'-DDE
94. 4,4'-DDD(p,p'TDE)
95. a-endosulfan-Alpha
96. b-endosulfan-Beta
97. endosulfan sulfate
98. endrin
99. endrin aldehyde
100. heptachlor
101. heptachlor epoxide
102. alpha-BHC
103. beta-BHC
104. gamma-BHC
105. delta-BHC
129. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

(i) Subpart L—Secondary Silver Subcategory.

2. acrolein
3. acrylonitrile
5. benzidene
8. 1,2,4-trichlorobenzene
9. hexachlorobenzene
12. hexachlorethane
13. 1,1-dichloroethane
14. 1,1,2-trichloroethane
16. chloroethane
17. Deleted
18. bis (2-chloroethyl) ether
19. 2-chloroethyl vinyl ether (mixed)
20. 2-chloronaphthalene
21. 2,4,6-trichlorophenol
22. parachlorometa cresol
24. 2-chlorophenol
25. 1,2-dichlorobenzene
26. 1,3-dichlorobenzene
27. 1,4-dichlorobenzene
28. 3,3'-dichlorobenzidine
31. 2,4-dichlorophenol
32. 1,2-dichloropropane
33. 1,2-dichloropropylene (1,3-dichloropropene)
34. 2,4-dimethylphenol
35. 2,4-dinitrotoluene
36. 2,6-dinitrotoluene
37. 1,2-diphenylhydrazine
39. fluoranthene
40. 4-chlorophenyl phenyl ether
41. 4-bromophenyl phenyl ether
42. bis(2-chloroisopropyl) ether
43. bis(2-choroethoxy) methane
45. methyl chloride (chloromethane)
46. methyl bromide (bromomethane)
48. dichlorobromomethane
49. Deleted
50. Deleted
52. hexachlorobutadiene
53. hexachlorocyclopentadiene
54. isophorone
55. napthalene
56. nitrobenzene
57. 2-nitrophenol
58. 4-nitrophenol
59. 2,4-dinitrophenol
60. 4,6-dinitro-o-cresol
61. N-nitrosodimethylamine
62. N-nitrosodiphenylamine
63. N-nitrosodi-n-propylamine
64. pentachlororphenol
65. phenol
71. dimethyl phthalate
72. benzo (a)anthracene (1,2-benzanthracene)
73. benzo (a)pyrene (3,4-benzopyrene)
74. 3,4-benzofluoranthene
75. benzo(k)fluoranthene (11,12-benzofluoranthene)
76. chrysene
77. acenaphthylene
79. benzo(ghi)perylene (1,11-benzoperylene)
80. fluorene
82. dibenzo (a,h)anthracene (1,2,5,6-dibenzanthracene)
83. indeno (1,2,3-cd)pyrene
88. vinyl chloride (chloroethylene)
89. aldrin
94. 4,4'-DDD(p,p'TDE)
95. a-endosulfan-Alpha
96. b-endosulfan-Beta
97. endosulfan sulfate
101. heptachlor epoxide
105. delta-BHC
117. beryllium
129. 2,3,7,8-tetrachlorod'benzo-p-dioxin (TCDD)

(j) Subpart M—Secondary Lead Subcategory.

1. acenaphthene
2. acrolein
3. acrylonitrile
5. benzidene
6. carbon tetrachloride (tetrachloromethane)
8. 1,2,4-trichlorobenzene
9. hexachlorobenzene
10. 1,2-dichloroethane
12. hexachlorethane
13. 1,1-dichloroethane
14. 1,1,2-trichloroethane
15. 1,1,2,2-tetrachloroethane
16. chloroethane
17. bis (chloromethyl) ether
18. bis (2-chloroethyl) ether
19. 2-chloroethyl vinyl ether (mixed)
20. 2-chloronaphthalene
22. parachlorometa cresol
24. 2-chlorophenol
25. 1,2-dichlorobenzene
26. 1,3-dichlorobenzene
27. 1,4-dichlorobenzene
28. 3,3'-dichlorobenzidine
29. 1,1-dichloroethylene
30. 1,2-*trans*-dichloroethylene
32. 1,2-dichloropropane
33. 1,2-dichloropropylene (1,3-dichloropropene)
34. 2,4-dimethylphenol
35. 2,4-dinitrotoluene
36. 2,6-dinitrotoluene
37. 1,2-diphenylhydrazine
38. ethylbenzene
41. 4-bromophenyl phenyl ether
42. bis(2-chloroisopropyl) ether
43. bis(2-chloroethoxy) methane
45. methyl chloride (chloromethane)
46. methyl bromide (bromomethane)
48. dichlorobromomethane
49. trichlorofluoromethane
50. dichlorodifluoromethane
51. chlorodibromomethane
52. hexachlorobutadiene
53. hexachlorocyclopentadiene
54. isophorone
55. naphthalene
58. 4-nitrophenol
59. 2,4-dinitrophenol
60. 4,6-dinitro-o-cresol
61. N-nitrosodimethylamine
62. N-nitrosodiphenylamine
63. N-nitrosodi-n-propylamine
64. pentachlorophenol
70. diethyl phthalate
73. benzo(a)pyrene
74. 3,4-benzofluoranthene
75. benzo(k)fluoranthene
79. benzo(ghi)perylene (1,11-benzoperylene)
82. dibenzo(a,h)anthracene
83. indeno(1,2,3-c,d)pyrene
85. tetrachloroethylene
87. trichloroethylene
88. vinyl chloride (chloroethylene)
95. a-endosulfan-Alpha
105. g-BHC-Delta
113. toxaphene
116. asbestos (Fibrous)
129. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

Appendix D—Toxic Pollutants Detected Below the Analytical Quantification Limit

(a) Subpart B—Primary Aluminum Smelting Subcategory.

54. isophorone
69. di-n-octyl phthalate
70. diethyl phthalate
86. toluene
87. trichloroethylene
89. aldrin
90. dieldrin
91. chlordane (technical mixture and metabolites)
92. 4,4'-DDT
93. 4,4'-DDE(p,p'DDX)
94. 4,4'-DDD
95. alpha-endosulfan
96. b-endosulfan-Beta
97. endosulfan sulfate
98. endrin
99. endrin aldehyde
100. heptachlor
101. heptachlor epoxide
102. a-BHC-Alpha
103. b-BHC-Beta
104. r-BHC (lindane)-Gamma
105. g-BHC-Delta
109. PCB-1232 (a)
110. PCB-1248 (a)
111. PCB-1260 (a)
112. PCB-1016 (a)
113. toxaphene

(a) Reported together.

(b) Subpart C—Secondary Aluminum Subcategory.

91. chlordane (technical mixture and metabolites)
92. 4,4'-DDT
93. 4,4'-DDE(p,p'DDX)
98. endrin
99. endrin aldehyde
100. heptachlor

101. heptachlor epoxide
102. a-BHC-Alpha
103. b-BHC-Beta
104. r-BHC (lindane)-Gamma
106. PCB-1242 (a)
107. PCB-1254 (a)
108. PCB-1221 (a)
109. PCB-1232 (b)
110. PCB-1248 (b)
111. PCB-1260 (b)
112. PCB-1016 (b)
113. toxaphene
121. cyanide (Total)

(a), (b) Reported together.

(c) Subpart E—Primary Copper Electrolytic Refining Subcategory.

1. acenaphthene
4. benzene
11. 1,1,1-trichlorethane
15. 1,1,2,2-tetrachloroethane
29. 1,1-dichloroethylene
30. 1,2-trans-dichloroethylene
39. fluoranthene
55. naphthalene
71. dimethyl phthalate
73. benzo (a)pyrene (3,4-benzopyrene)
75. benzo(k)fluoranthane (11,12-benzofluoranthene)
76. chrysene
78. anthracene (a)
81. phenanthrene (a)
84. pyrene
85. tetrachloroethylene
87. trichloroethylene
91. chlordane (technical mixture and metabolites)
92. 4,4'-DDT
93. 4,4'-DDE(p,p'DDX)
95. a-endosulfan-Alpha
96. b-endosulfan-Beta
97. endosulfan sulfate
98. endrin
99. endrin aldehyde
100. heptachlor
101. heptachlor epoxide
102. a-BHC-Alpha
103. b-BHC-Beta
104. r-BHC (lindane)-Gamma
106. PCB-1242 (Arochlor 1242) (b)
107. PCB-1254 (Arochlor 1254) (b)
108. PCB-1221 (Arochlor 1221) (b)
109. PCB-1232 (Arochlor 1232) (c)
110. PCB-1248 (c)
111. PCB-1260 (Arochlor 1260) (c)
112. PCB-1016 (Arochlor 1016) (c)

(a), (b), (c) Reported together.

(d) Subpart G—Primary Lead Subcategory.

4. benzene
6. carbon tetrachloride (tetrachloromethane)
23. chloroform (trichloromethane)
44. methylene chloride (dichloromethane)

(e) Subpart H—Primary Zinc Subcategory.

1. acenaphthene
18. bis(chloromethyl)ether
21. 2,4,6-trichlorophenol
23. chloroform
34. 2,4-dimethyl phenol
39. fluoranthene
47. bromoform
48. dichlorobromomethane
56. nitrobenzene
57. 2-nitrophenol
58. 4-nitrophenol
62. N-nitrosodiphenylamine
65. phenol
70. diethyl phthalate
76. chrysene
80. fluorene
81. phenanthrene
84. pyrene
85. tetrachloroethylene
87. trichloroethylene
95. alpha-endosulfan
99. endrin aldehyde
100. heptachlor
101. heptachlor epoxide
102. alpha-BHC
103. beta-BHC
104. gamma-BHC
105. delta-BHC
114. antimony
121. cyanide (Total)

(f) Subpart I—Metallurgical Acid Plants Subcategory.

1. acenaphthene
4. benzene
10. 1,2-dichloroethane
11. 1,1,1-trichloroethane
14. 1,1,2-trichloroethane
15. 1,1,2,2-tetrachloroethane
29. 1,1-dichloroethylene
34. 2,4-dimethylphenol
39. fluoranthene
47. bromoform
49. Deleted
51. chlorodibromomethane
54. isophorone
55. naphthalene
56. nitrobenzene
62. N-nitrosodiphenylamine
64. pentachlorophenol
65. phenol
67. butyl benzyl phthalate
68. di-n-butyl phthalate
69. di-n-octyl phthalate
70. diethyl phthalate
71. dimethyl phthalate
73. benzo(a)pyrene (3,4-benzopyrene)
74. 3,4-benzofluoranthene
75. benzo(k)fluoranthane (11,12-benzofluoranthene)
76. chrysene
80. fluorene
84. pyrene
87. trichloroethylene
90. dieldrin
91. chlordane (technical mixture and metabolites)
92. 4,4'-DDT
93. 4,4'-DDE(p,p'DDX)
94. 4,4'-DDD(p,p'TDE)
96. b-endosulfan-Beta
98. endrin
99. endrin aldehyde
100. heptachlor
101. heptachlor epoxide
102. alpha-BHC
103. b-BHC-Beta
104. r-BHC (lindane)-Gamma
105. delta-BHC
106. PCB–1242 (Arochlor 1242) (a)
107. PCB–1254 (Arochlor 1254) (a)
108. PCB–1221 (Arochlor 1221) (a)
109. PCB–1232 (Arochlor 1232) (b)
110. PCB–1248 (Arochlor 1248) (b)
111. PCB–1260 (Arochlor 1260) (b)
112. PCB–1016 (Arochlor 1016) (b)
117. beryllium
121. cyanide (Total)

(a), (b) Reported together.

(g) Subpart J—Primary Tungsten Subcategory.

4. benzene
10. 1,2-dichloroethane
15. 1,1,2,2-tetrachloroethane
54. isophorone
70. diethyl phthalate
71. dimethyl phthalate
78. anthracene (a)
81. phenanthrene (a)
84. pyrene
87. trichloroethylene
95. a-endosulfan-Alpha
106. PCB–1242 (Arochlor 1242) (b)
107. PCB–1254 (Arochlor 1254) (b)
108. PCB–1221 (Arochlor 1221) (b)
109. PCB–1232 (Arochlor 1232) (c)
110. PCB–1248 (Arochlor 1248) (c)
111. PCB–1260 (Arochlor 1260) (c)
112. PCB–1016 (Arochlor 1016) (c)
114. antimony
125. selenium

(a), (b), (c) Reported together.

(h) Subpart K—Primary Columbium-Tantalum Subcategory.

14. 1,1,2-trichloroethane
15. 1,1,2,2-tetrachloroethylene
20. 2-chloronaphthalene
35. 2,4-dinitrotoluene
36. 2,6-dinitrotoluene
39. fluoranthene
67. butyl benzyl phthalate
73. benzo(a)pyrene (3,4-benzopyrene)
78. anthracene (a)
80. fluorene
81. phenanthrene (a)
113. toxapene
121. cyanide (Total)

(a) Reported together.

(i) Subpart L—Secondary Silver Subcategory.

7. chlorobenzene
15. 1,1,2,2-tetrachloroethane
51. chlorodibromomethane
78. anthracene (a)
81. phenanthrene (a)
90. dieldrin
91. chlordane (technical mixture and metabolites)
92. 4,4'-DDT
93. 4,4'-DDE(p,p'DDX)
98. endrin
99. endrin aldehyde
100. heptachlor
102. a-BHC-Alpha
103. b-BHC-Beta
104. r-BHC (lindane)-Gamma
113. toxaphene
116. asbestos (Fibrous)

(a) Reported together.

(j) Subpart M—Secondary Lead.

4. benzene
7. chlorobenzene
11. 1,1,1-trichloroethane
21. 2,4,6-trichlorophenol
29. 1,1-dichloroethylene
31. 2,4-dichlorophenol
40. 4-chlorophenyl phenyl ether
44. methylene chloride
57. 2-nitrophenol
65. phenol
72. benzo(a)anthracene (1,2-benzanthracene)
78. anthracene (a)

80. fluorene
81. phenanthrene (a)
86. toluene
89. aldrin
90. dieldrin
91. chlordane (technical mixture and metabolites)
92. 4,4'-DDT
93. 4,4'-DDE(p,p'DDX)
94. 4,4'-DDD(p,p'TDE)
96. b-endosulfan-Beta
97. endosulfan sulfate
98. endrin
99. endrin aldehyde
100. heptachlor
101. heptachlor epoxide
102. a-BHC-Alpha
103. b-BHC-Beta
104. r-BHC (lindane)-Gamma
106. PCB–1242 (Arochlor 1242) (b)
107. PCB–1254 (Arochlor 1254) (b)
108. PCB–1221 (Arochlor 1221) (b)
109. PCB–1232 (Arochlor 1232) (c)
110. PCB–1248 (Arochlor 1248) (c)
111. PCB–1260 (Arochlor 1260) (c)
112. PCB–1016 (Arochlor 1016) (c)

(a), (b), (c) Reported together.

Appendix E—Toxic Pollutants Detected in Amounts Too Small To Be Effectively Reduced by Technologies Considered in Preparing This Guideline

(a) Subpart B—Primary Aluminum Smelting Subcategory.

4. benzene
23. chloroform
44. methylene chloride
123. mercury

(b) Subpart C—Secondary Aluminum Subcategory.

29. 1,1-dichloroethylene
30. 1,2-trans-dichloroethylene
48. dichlorobromomethane
114. antimony
117. beryllium
123. mercury
125. selenium
126. silver

(c) Subpart E—Primary Copper Electrolytic Refining Subcategory.

114. antimony
125. selenium

(d) Subpart G—Primary Lead Subcategory.

115. arsenic
117. beryllium
119. chromium (Total)
123. mercury
124. nickel
125. selenium
126. silver

(e) Subpart H—Primary Zinc Subcategory.

4. benzene
22. parachlorometa-cresol
86. toluene
123. mercury
125. selenium

(f) Subpart I—Metallurgical Acid Plants Subcategory.

22. parachlorometa-cresol
23. chloroform (trichloromethane)
38. ethylbenzene
48. dichlorobromomethane
85. tetrachloroethylene

(g) Subpart J—Primary Tungsten Subcategory.

23. chloroform (trichloromethane)
29. 1,1-dichloroethylene
38. ethylbenzene
51. chloroidibromomethane
85. tetrachloroethylene
86. toluene
117. beryllium
123. mercury

(h) Subpart K—Primary Columbium-Tantalum Subcategory.

4. benzene
48. dichlorobromomethane
54. isophorone
70. diethyl phthalate
117. beryllium
126. silver

(i) Subpart L—Secondary Silver Subcategory.

1. acenaphthene
30. 1,2-trans-dichloroethylene
38. ethybenzene

(j) Subpart M—Secondary Lead Subcategory.

23. chloroform (trichloromethane)
47. bromoform (tribromomethane)
56. nitrobenzene
71. dimethyl phthalate
117. beryllium

Appendix F—Toxic Pollutants Detected in the Effluent From Only a Small Number of Sources

(a) Subpart B—Primary Aluminum Smelting Subcategory.

20. 2-chlornaphthalene
42. bis(2-chloroisopropyl) ether
55. naphthalene
62. N-nitrosodiphenylamine
65. phenol
66. bis(2-ethylhexyl) phthalate
67. butyl benzyl phthalate
68. di-n-butyl phthalate
74. 3,4-benzofluoranthene
75. benzo(k)fluranthene
77. acenaphthylene
83. indeno(1,2,3-cd)pyrene
106. PCB–1242 (Arochlor 1242) (a)
107. PCB–1254 (Arochlor 1254) (a)
108. PCB–1221 (Arochlor 1221) (a)
117. beryllium
126. silver
127. thallium

(a) Reported together.

(b) Subpart C—Secondary Aluminum Subcategory.

4. benzene
23. chloroform (trichloromethane)
27. 1,4-dichlorobenzene
39. fluoranthene
44. methylene chloride (dichloromethane)
66. bis(2-ethylhexyl) phthalate
67. butyl benzyl phthalate
68. di-n-butyl phthalate
69. di-n-octyl phthalate
71. dimethyl phthalate
73. benzo (a)pyrene (3,4-benzopyrene)
76. chrysene
77. acenaphthylene
84. pyrene
85. tetrachloroethylene
87. trichloroethylene
115. arsenic
119. chromium (Total)
120 copper
124. nickel
127. thallium

(a), (b) Reported together.

(c) Subpart G—Primary Lead Subcategory.

114. antimony
120. copper

(d) Subpart H—Primary Zinc Subcategory.

11. 1,1,1-trichloroethane
38. ethylbenzene
44. methylene chloride
66. bis(2-ethylhexyl) phthalate
68. di-n-butyl phthalate
69. di-n-octyl phthalate

(e) Subpart I—Metallurgical Acid Plants Subcategory.

6. carbon tetrachloride
13. 1,1-dichloroethane
44. methylene chloride (dichloromethane)
66. bis(2-ethylhexyl) phthalate
78. anthracene
81. phenanthrene
86. toluene
127. thallium

(f) Subpart J—Primary Tungsten Subcategory.

47. bromoform (tribromomethane)
66. bis(2-ethylhexyl) phthalate
68. di-n-butyl phthalate
69. di-n-octyl phthalate
76. chrysene
115. arsenic
120. copper
121. cyanide (Total)

(g) Subpart K—Primary Columbium-Tantalum Subcategory.

1. acenaphthene
6. carbon tetrachloride (tetrachloromethane)
10. 1,2-dichloroethane
12. hexachlorethane
23. chloroform (trichloromethane)
44. methylene chloride (dichloromethane)
47. bromoform
56. nitrobenzene
66. bis(2-ethylhexyl) phthalate
68. di-n-butyl phthalate
71. dimethyl phthalate
85. tetrachloroethylene
106. PCB–1242 (Arochlor 1242) (a)
107. PCB–1254 (Arochlor 1254) (a)
108. PCB–1221 (Arochlor 1221) (a)
109. PCB–1232 (Arochlor 1232) (b)
110. PCB–1248 (Arochlor 1248) (b)
111. PCB–1260 (Arochlor 1260) (b)
112. PCB–1016 (Arochlor 1016) (b)
123. mercury

(a), (b) Reported together.

(h) Subpart L—Secondary Silver Subcategory.

11. 1,1,1-trichlorethane
23. chloroform (trichloromethane)
44. methylene chloride (dichloromethane)
47. bromoform (tribromomethane)
66. bis(2-ethylhexyl) phthalate
67. butyl benzyl phthalate
68. di-n-butyl phthalate
69. di-n-octyl phthalate
70. diethyl phthalate
84. pyrene
85. tetrachloroethylene
86. toluene

106. PCB–1242 (Arochlor 1242) (a)
107. PCB–1254 (Arochlor 1254) (a)
108. PCB–1221 (Arochlor 1221) (a)
109. PCB–1232 (Arochlor 1232) (b)
110. PCB–1248 (Arochlor 1248) (b)
111. PCB–1260 (Arochlor 1260) (b)
112. PCB–1016 (Arochlor 1016) (b)
123. mercury

(a), (b) Reported together.

(i) Subpart M—Secondary Lead Subcategory.

39. fluoranthene
67. butyl benzyl phthalate
66. bis(2-ethylhexyl) phthalate
68. di-n-butyl phthalate
69. di-n-octyl phthalate
76. chrysene
77. acenaphthylene
84. pyrene
121. cyanide
123. mercury
125. selenium

Appendix G—Toxic Pollutants Effectively Controlled by Technologies Upon Which Are Based Other Effluent Limitations and Guidelines

(a) Subpart B—Primary Aluminum Smelting Subcategory.

1. acenaphthene
39. fluoranthene
72. benzo (a)anthracene (1,2-benzanthracene)
76. chrysene
77. acenaphthylene
78. anthracene (a)
79. benzo(ghi)perylene (1,11-benzoperylene)
80. fluorene
81. phenanthrene (a)
82. dibenzo (a, h)anthracene (1,2,5,6-dibenzanthracene)
84. pyrene
115. arsenic
116. asbestos
118. cadmium
119. chromium (Total)
120. copper
122. lead
125. selenium
128. zinc

(a) Reported together.

(b) Subpart C—Secondary Aluminum Subcategory.

118. cadmium.

(c) Subpart E—Primary Copper Electrolytic Refining Subcategory.

119. chromium (Total)
122. lead
126. silver
128. zinc

(d) Subpart G—Primary Lead Subcategory.

116. asbestos (Fibrous)
118. cadmium

(e) Subpart H—Primary Zinc Subcategory.

115. arsenic
116. asbestos (Fibrous)
119. chromium (Total)
124. nickel
126. silver

(f) Subpart I—Metallurgical Acid Plants Subcategory.

114. antimony
119. chromium (Total)
123. mercury
124. nickel
125. selenium
126. silver

(g) Subpart J—Primary Tungsten Subcategory.

118. cadmium
119. chromium (Total)
124. nickel
126. silver
127. thallium

(h) Subpart K—Primary Columbium-Tantalum Subcategory.

114. antimony
115. arsenic
116. asbestos
118. cadmium
119. chromium (Total)
120. copper
124. nickel
125. selenium
127. thallium

(i) Subpart L—Secondary Silver Subcategory.

118. cadmium
114. antimony
115. arsenic
119. chromium (Total)
121. cyanide
122. lead
124. nickel
125. selenium
126. silver
127. thallium

(j) Subpart M—Secondary Lead Subcategory.

118. cadmium
119. chromium (Total)
120. copper
124. nickel

Appendix H—Toxic Pollutants Detected But Only in Trace Amounts and Are Neither Causing Nor Likely To Cause Toxic Effects

(a) Subpart J—Primary Tungsten Subcategory.

1. acenaphthene
11. 1,1,1-trichloroethane
55. naphthalene
65. phenol
73. benzo(a)pyrene
77. acenaphthylene
79. benzo(ghi)perylene
80. fluorene
82. dibenzo(a,h)anthracene

(b) Subpart K—Primary Columbium-Tantalum Subcategory.

7. chlorobenzene
8. 1,2,4-trichlorobenzene
10. 1,2-dichloroethane
30. 1,2-trans-dichloroethylene
38. ethylbenzene
51. chlorodibromomethane
87. trichloroethylene

(c) Subpart L—Secondary Silver Subcategory.

4. benzene
6. carbon-tetrachloride (tetrachloromethane)
10. 1,2-dichloroethane
29. 1,1-dichloroethylene
87. trichloroethylene

Appendix I—Toxic Pollutants Detected But Present Solely as a Result of Their Presence in the Intake Waters

(a) Subpart F—Primary Electrolytic Copper Refining Subcategory.

23. chloroform (trichloromethane)
66. bis(2-ethylhexyl) phthalate
67. butyl benzyl phthalate
68. di-n-butyl phthalate
69. di-n-octyl phthalate

For the reasons discussed above, EPA amends 40 CFR Part 421 as follows:

1. By adding an undesignated subpart entitled "General Provisions," immediately preceding Subpart A as follows:

PART 421—NONFERROUS METALS MANUFACTURING POINT SOURCE CATEGORY

General Provisions

Sec.

421.1 Applicability.
421.2 [Reserved]
421.3 Monitoring and reporting requirements.
421.4 Compliance date for pretreatment standards for existing sources. (PSES.)
421.5 Removal allowances for pretreatment standards.

Authority. Secs. 301, 304 (b), (c), (e), and (g), 306 (b) and (c), 307 (b) and (c), 308, and 501 of the Federal Water Pollution Control Act as amended (the Act); 33 U.S.C. 1251, 1311, 1314 (b), (c), (e), and (g), 1316 (b) and (c), 1317 (b) and (c), and 1361; 86 Stat. 816, Pub. L. 92–500; 91 Stat. 1567, Pub. L. 95–217.

General Provisions

§ 421.1 Applicability.

This part applies to facilities producing primary metals from ore concentrates and recovering secondary metals from recycle wastes which discharge or may discharge pollutants to waters of the United States or which introduce or may introduce pollutants into a publicly owned treatment works. The applicability of this part to alloying or casting of nonferrous metals is limited to alloying or casting of hot metal directly from the nonferrous metals manufacturing process without cooling. Remelting followed by alloying or cooling is included in the aluminum forming, nonferrous metals forming, or metal molding and casting point source categories.

§ 421.2 [Reserved]

§ 421.3 Monitoring and reporting requirements.

The following special monitoring requirements apply to all facilities controlled by this regulation:

(a) The "monthly average" regulatory values shall be the basis for the monthly average discharge in direct discharge

permits and for pretreatment standards. Compliance with the monthly discharge limit is required regardless of the number of samples analyzed and averaged.

§ 421.4 Compliance date for pretreatment standards for existing sources (PSES).

The compliance date for pretreatment standards for existing sources will be three years after promulgation of this regulation.

§ 421.5 Removal allowances for pretreatment standards.

Removal allowances pursuant to 40 CFR 403.7(a) may be granted for the toxic metals limited in 40 CFR Part 421 when used as indicator pollutants.

2. By revising Subparts B through I and by adding Subparts J through M to read as set forth below. (For purposes of clarity, promulgated BPT effluent limitations guidelines and provisions relating to applicability and definitions are being reprinted as part of today's regulation. The BPT limitations and other reprinted provisions remain unaffected by today's regulation and are not subject to judicial review. These provisions are indicated by an asterisk (*).)

Subpart B—Primary Aluminum Smelting Subcategory

Sec.

421.20 Applicability: description of the primary aluminum smelting subcategory.*
421.21 Specialized definitions.
421.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
421.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
421.24 Standards of performance for new sources.
421.25 [Reserved]
421.26 Pretreatment standards for new sources.
421.27 [Reserved]

Subpart C—Secondary Aluminum Smelting Subcategory

421.30 Applicability: description of the secondary aluminum smelting subcategory.*
421.31 Specialized definitions.*
421.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.*
421.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
421.34 Standards of performance for new sources.
421.35 Pretreatment standards for existing sources.
421.36 Pretreatment standards for new sources.
421.37 [Reserved]

Subpart D—Primary Copper Smelting Subcategory

421.40 Applicability: description of the primary copper smelting subcategory.*
421.41 Specialized definitions.*
421.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.*
421.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
421.44 Standards of performance for new sources.
421.45 [Reserved]
421.46 Pretreatment standards for new sources.
421.47 [Reserved]

Subpart E—Primary Electrolytic Copper Refining Subcategory

421.50 Applicability: description of the primary electrolytic copper refining subcategory.*
421.51 Specialized definitions.*
421.52 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.*
421.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
421.54 Standards of performance for new sources.
421.55 [Reserved]
421.56 Pretreatment standards for new sources.
421.57 [Reserved]

Subpart F—Secondary Copper Subcategory

421.60 Applicability: description of the secondary copper subcategory.*
421.61 Specialized definitions.*
421.62 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.*
421.63 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
421.64 Standards of performance for new sources.
421.65 Pretreatment standards for existing sources.
421.66 Pretreatment standards for new sources.
421.67 [Reserved]

Subpart G—Primary Lead Subcategory

421.70 Applicability: description of the primary lead subcategory.*
421.71 Specialized definitions.*
421.72 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
421.73 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
421.74 Standards of performance for new sources.
421.75 Pretreatment standards for existing sources.
421.76 Pretreatment standards for new sources.
421.77 [Reserved]

Subpart H—Primary Zinc Subcategory

421.80 Applicability: description of the primary zinc subcategory.*
421.81 Specialized definitions.*
421.82 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.*
421.83 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
421.84 Standards of performance for new sources.
421.85 Pretreatment standards for existing sources.
421.86 Pretreatment standards for new sources.
421.87 [Reserved]

Subpart I—Metallurgical Acid Plants Subcategory

421.90 Applicability: description of the metallurgical acid plants subcategory.*
421.91 Specialized definitions.*
421.92 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.*
421.93 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
421.94 Standards of performance for new sources.
421.95 Pretreatment standards for existing sources.
421.96 Pretreatment standards for new sources.
421.97 [Reserved]

Subpart J—Primary Tungsten Subcategory

421.100 Applicability: description of the primary tungsten subcategory.
421.101 Specialized definitions.
421.102 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of

the best practicable control technology currently available.
421.103 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
421.104 Standards of performance for new sources.
421.105 Pretreatment standards for existing sources.
421.106 Pretreatment standards for new sources.
421.107 [Reserved]

Subpart K—Primary Columbium-Tantalum Subcategory

421.110 Applicability: description of the primary columbium-tantalum subcategory.
421.111 Specialized definitions.
421.112 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
421.113 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
421.114 Standards of performance for new sources.
421.115 Pretreatment standards for existing sources.
421.116 Pretreatment standards for new sources.
421.117 [Reserved]

Subpart L—Secondary Silver Subcategory

421.120 Applicability: description of the secondary silver subcategory.
421.121 Specialized definitions.
421.122 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
421.123 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
421.124 Standards of performance for new sources.
421.125 Pretreatment standards for existing sources.
421.126 Pretreatment standards for new sources.
421.127 [Reserved]

Subpart M—Secondary Lead Subcategory

421.130 Applicability: description of the secondary lead subcategory.
421.131 Specialized definitions.
421.132 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
421.133 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
421.134 Standards of performance for new sources.
421.135 Pretreatment standards for existing sources.
421.136 Pretreatment standards for new sources.
421.137 [Reserved]

Authority. Secs. 301, 304 (b), (c), (e), and (g), 306 (b) and (c), 307 (b) and (c), 308, and 501 of the Federal Water Pollution Control Act as amended (the Act); 33 U.S.C. 1251, 1311, 1314 (b), (c), (e), and (g), 1316 (b) and (c), 1317 (b) and (c), and 1361; 86 Stat. 816, Pub. L. 92–500; 91 Stat. 1567, Pub. L. 95–217.

Subpart B—Primary Aluminum Smelting Subcategory

§ 421.20 Applicability: description of the primary aluminum smelting subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of aluminum from alumina in the Hall-Heroult process.

§ 421.21 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in Part 401 of this chapter, shall apply to this subpart.

(b) The term "product" shall mean hot aluminum metal.

§ 421.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable technology currently available (BPT):

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Metric units—mg/kg of product	
	English units—pounds per million pounds of product	
Fluoride	2.0	1.0
Total Suspended solids	3.0	1.5
pH	(1)	(1)

[1] Within the range of 6 to 9 at all times.

§ 421.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable: (a) Subpart B—Anode and Cathode Paste Plant Wet Air Pollution Control

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of paste produced	
Benzo(a)pyrene	.001	
Antimony	.263	.117
Nickel	.075	.050
Aluminum	.831	.369
Fluoride	4.760	2.720

(b) Supart (B)—Anode Contact Cooling and Briquette Quenching.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of anodes cast	
Benzo(a)pyrene	.002	
Antimony	.403	.180
Nickel	.115	.077
Aluminum	1.277	.566
Fluoride	7.315	4.180

(c) Subpart (B)—Anode Bake Plant Wet Air Pollution Control (Closed Top Ring Furnace).

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of anodes baked	
Benzo(a)pyrene	.043	
Antimony	8.346	3.719
Nickel	2.378	1.600
Aluminum	26.420	11.720
Fluoride	151.400	86.460

(d) Subpart B—Anode Bake Plant Wet Air Pollution Control (Open Top Ring Furnace With Spray Tower Only).

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of anodes baked	
Benzo(a)pyrene	.001	
Antimony	.097	.043
Nickel	.028	.019
Aluminum	.306	.136
Fluoride	1.750	1.000

(e) Subpart B—Anode Bake Plant Wet Air Pollution Control (Open Top Ring Furnace With Wet Electrostatic Precipitator and Spray Tower).

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of anodes baked	
Benzo(a)pyrene	.007	
Antimony	1.409	.628
Nickel	.402	.270
Aluminum	4.461	1.979
Fluoride	25.550	14.600

(f) Subpart B—Anode Bake Plant Wet Air Pollution Control (Tunnel Kiln).

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of anodes baked	
Benzo(a)pyrene	.011	
Antimony	2.197	.979
Nickel	.626	.421
Aluminum	6.953	3.084
Fluoride	39.830	22.760

(g) Subpart B—Cathode Reprocessing (Operated With Dry Potline Scrubbing and Not Commingled With Other Process or Nonprocess Waters).

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cryolite recovered	
Benzo(a)pyrene	.350	
Antimony	420.400	189.200
Cyanide	157.600	70.060
Nickel	80.570	35.030
Aluminum	273.200	122.600
Fluoride	29,430.000	13,310.000

(h) Subpart B—Cathode Reprocessing (Operated With Dry Potline Scrubbing and Commingled With Other Process or Nonprocess Waters).

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cryolite recovered	
Benzo(a)pyrene	0.350	
Antimony	67.610	30.120
Cyanide	157.600	70.060
Nickel	19.270	12.960
Aluminum	214.000	94.930
Fluoride	1,226.000	700.600

(i) Subpart B—Cathode Reprocessing (Operated With Wet Potline Scrubbing).

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of cryolite recovered	
Benzo(a)pyrene	.000	
Antimony	.000	.000
Cyanide	.000	.000
Nickel	.000	.000
Aluminum	.000	.000
Fluoride	.000	.000

(j) Subpart B—Potline Wet Air Pollution Control (Operated Without Cathode Reprocessing).

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.008	
Antimony	1.618	.721
Nickel	.461	.310
Aluminum	5.120	2.271
Fluoride	29.330	16.760

(k) Subpart B—Potline Wet Air Pollution Control (Operated With Cathode Reprocessing and Not Commingled With Other Process or Nonprocess Waters).

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.008	
Antimony	10.060	4.525
Cyanide	3.771	1.676
Nickel	1.928	.838
Aluminum	6.537	2.933
Fluoride	703.900	318.500

(l) Potline Wet Air Pollution Control Cooperated With Cathode Reprocessing and Commingled With Other Process or Nonprocess Wastewaters).

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	0.008	
Antimony	1.618	.721
Cyanide	3.771	1.676
Nickel	0.461	.310
Aluminum	5.120	2.271
Fluoride	29.330	16.760

(m) Subpart B—Potroom Wet Air Pollution Control.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.017	
Antimony	3.204	1.428
Nickel	.913	.614
Aluminum	10.140	4.499
Fluoride	58.100	33.200

(n) Subpart B—Potline SO_2 Emissions Wet Air Pollution Control.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.013	
Antimony	2.588	1.153
Nickel	.738	.496
Aluminum	8.194	3.634
Fluoride	46.940	26.820

(o) Subpart B—Degassing Wet Air Pollution Control.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.026	
Antimony	5.036	2.244
Nickel	1.435	.965
Aluminum	15.940	7.071
Fluoride	91.320	52.180

(p) Subpart B—Pot Repair and Pot Soaking.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.000	
Antimony	.000	.000
Nickel	.000	.000
Aluminum	.000	.000
Fluoride	.000	.000

(q) Subpart B—Direct Chill Casting Contact Cooling.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum product from direct chill casting	
Benzo(a)pyrene	.013	
Antimony	2.565	1.143
Nickel	.731	.492
Aluminum	8.120	3.602
Fluoride	46.520	26.580

(r) Subpart B—Continuous Rod Casting Contact Cooling.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum product from rod casting	
Benzo(a)pyrene	.001	
Antimony	.201	.089
Nickel	.057	.038
Aluminum	.636	.282
Fluoride	3.640	2.080

(s) Subpart B—Stationary Casting or Shot Casting Contact Cooling.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum product from stationary casting or shot casting	
Benzo(a)pyrene	.000	
Antimony	.000	.000
Nickel	.000	.000
Aluminum	.000	.000
Fluoride	.000	.000

§ 421.24 Standards of performance for new sources.

Any new source subject to this subpart shall achieve the following new source performance standards:

(a) Subpart B—Anode and Cathode Paste Plant Wet Air.

Pollution Control—NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of paste produced	
Benzo(a)pyrene	.000	
Antimony	.000	.000
Nickel	.000	.000
Aluminum	.000	.000
Fluoride	.000	.000
Oil and grease	.000	.000
otal suspended solids	.000	.000
prH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(b) Subpart B—Anode Contact Cooling and Briquette Quenching.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/Kg (pound per million pounds) of anodes cast	
Benzo(a)pyrene	.002	
Antimony	.403	.180
Nickel	.115	.077
Aluminum	1.277	.566
Fluoride	7.315	4.180
Oil and grease	2.090	2.090
Total suspended solids	3.135	2.508
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(c) Subpart B—Anode Bake Plant Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/Kg (pound per million pounds) of anodes cast	
Benzo(a)pyrene	.000	
Antimony	.000	.000
Nickel	.000	.000
Aluminum	.000	.000
Fluoride	.000	.000
Oil and grease	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(d) Subpart B—Cathode Reprocessing (Operated With Dry Potline Scrubbing and Not Commingled With Other Process or Nonprocess Waters).

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/Kg (pound per million pounds) of cryolite recovered	
Benzo(a)pyrene	.350	
Antimony	420.400	189.200
Cyanide	157.600	70.060
Nickel	80.570	35.030
Aluminum	273.200	122.600
Fluoride	29,430.000	13,310.000
Oil and grease	350.300	350.300
Total suspended solids	2,172.000	945.800
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(e) Subpart B—Cathode Reprocessing (Operated With Dry Potline Scrubbing and Commingled With Other Process or Nonprocess Waters).

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of cryolite recovered	
Benzo(a)pyrene	0.350	
Antimony	67.610	30.120
Cyanide	157.600	70.060
Nickel	19.270	12.960
Aluminum	214.000	94.930
Fluoride	1,226.000	700.600
Oil and grease	350.300	350.300
Total suspended solids	2,172.000	945.800
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(f) Subpart B—Potline Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.000	
Antimony	.000	.000
Nickel	.000	.000
Aluminum	.000	.000
Fluoride	.000	.000
Oil and grease	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(g) Subpart B—Potroom Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.000	
Antimony	.000	.000
Nickel	.000	.000
Aluminum	.000	.000
Fluoride	.000	.000
Oil and grease	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(h) Subpart B—Potline SO_2 Emissions Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.013	
Antimony	2.568	1.153
Nickel	.738	.496
Aluminum	8.194	3.634
Fluoride	46.940	26.820

NSPS—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Oil and grease	13.410	13.410
Total suspended solids	20.120	16.090
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(i) Subpart B—Degassing Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.000	
Antimony	.000	.000
Nickel	.000	.000
Aluminum	.000	.000
Fluoride	.000	.000
Oil and grease	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(j) Subpart B—Pot Repair and Pot Soaking.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.000	
Antimony	.000	.000
Nickel	.000	.000
Aluminum	.000	.000
Fluoride	.000	.000
Oil and grease	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(k) Subpart B—Direct Chill Casting Contact Cooling.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum product from direct chill casting	
Benzo(a)pyrene	.013	
Antimony	2.565	1.143
Nickel	.731	.492
Aluminum	8.120	3.602
Fluoride	46.520	26.580
Oil and grease	13.290	13.290
Total suspended solids	19.940	15.950
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(l) Subpart B—Continuous Rod Casting Contact Cooling.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum product from rod casting	
Benzo(a)pyrene	.001	
Antimony	.201	.089
Nickel	.057	.038
Aluminum	.636	.282
Fluoride	3.640	2.080
Oil and grease	1.040	1.040
Total suspended solids	1.560	1.248
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(m) Subpart B—Stationary Casting or Shot Casting Contact Cooling.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum product from stationary casting or shot casting	
Benzo(a)pyrene	.000	
Antimony	.000	.000
Nickel	.000	.000
Aluminum	.000	.000
Fluoride	.000	.000
Oil and grease	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

§ 421.25 [Reserved]

§ 421.26 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduced pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in primary aluminum process wastewater introduced into a POTW shall not exceed the following values:

(a) Subpart B—Anode and Cathode Paste Plant Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of paste produced	
Benzo(a)pyrene	.000	
Nickel	.000	.000
Fluoride	.000	.000

(b) Subpart B—Anode Contact Cooling and Briquette Quenching.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of anodes cast	
Benzo(a)pyrene	.002	
Nickel	.115	.077
Fluoride	7.315	4.180

(c) Subpart B—Anode Bake Plant Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of anodes baked	
Benzo(a)pyrene	.000	
Nickel	.000	.000
Fluoride	.000	.000

(d) Subpart B—Cathode Reprocessing (Operated With Dry Potline Scrubbing and Not Commingled With Other Process or Nonprocess Waters).

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cryolite recovered	
Benzo(a)pyrene	.350	
Cyanide	157.600	70.060
Nickel	80.570	35.030
Fluoride	29,430.000	13,310.000

(e) Subpart B—Cathode Reprocessing (Operated With Dry Potline Scrubbing and Commingled With Other Process or Nonprocess Waters).

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cryolite recovered	
Benzo(a)pyrene	0.350	
Cyanide	157.600	70.060
Nickel	19.270	12.960
Fluoride	1,226.000	700.600

(f) Subpart B—Potline Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.000	
Nickel	.000	.000
Fluoride	.000	.000

(g) Subpart B—Potroom Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.000	
Nickel	.000	.000
Fluoride	.000	.000

(h) Subpart B—Potline SO_2 Emissions Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.013	
Nickel	.738	.496
Fluoride	46.940	26.820

(i) Subpart B—Degassing Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.000	
Nickel	.000	.000
Fluoride	.000	.000

(j) Subpart B—Pot Repair and Pot Soaking.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum produced from electrolytic reduction	
Benzo(a)pyrene	.000	
Nickel	.000	.000

PSNS—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Fluoride	.000	.000

(k) Subpart B—Direct Chill Casting Contact Cooling.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum product from direct chill casting	
Benzo(a)pyrene	.013	
Nickel	.731	.492
Fluoride	46.520	26.580

(l) Subpart B—Continuous Rod Casting Contact Cooling.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum product from rod casting	
Benzo(a)pyrene	.001	
Nickel	.057	.038
Fluoride	3.640	2.080

(m) Subpart B—Stationary Casting or Shot Casting Contact Cooling.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of aluminum product from stationary casting or shot casting	
Benzo(a)pyrene	.000	
Nickel	.000	.000
Fluoride	.000	.000

§ 421.27 [Reserved]

Subpart C—Secondary Aluminum Smelting Subcategory

§ 421.30 Applicability: description of the secondary aluminum smelting subcategory.

The provisions of this subpart are applicable to discharges resulting from the recovery, processing, and remelting of aluminum scrap to produce metallic aluminum alloys.

§ 421.31 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in Part 401 of this chapter shall apply to this subpart.

(b) The term "product" shall mean hot aluminum metal.

(c) "At-the-source" means at or before the commingling of delacquering scrubber liquor blowdown with other process or nonprocess wastewaters.

§ 421.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable technology currently available:

(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, which may be discharged by a point source subject to the provisions of this subpart and which uses water for metal cooling, after application of the best practicable control technology currently available: There shall be no discharge of process wastewater pollutants to navigable waters.

(b) The following limitations establish the quantity or quality of pollutants or pollutant properties which may be discharged by a point source subject to the provisions of this subpart and which uses aluminum fluoride in its magnesium removal process ("demagging process"), after application of the best practicable control technology currently available: There shall be no discharge of process wastewater pollutants to navigable waters.

(c) The following limitations establish the quantity or quality of pollutants or pollutant properties controlled by this section, which may be discharged by a point source subject to the provisions of this subpart and which uses chlorine in its magnesium removal process, after application of the best practicable control technology currently available:

EFFLUENT LIMITATIONS

Effluent characteristic	Average of daily values for 30 consecutive days shall not exceed—
	Metric units (kilograms per 1,000 kg magnesium removed) English units (pounds per 1,000 lb magnesium removed)
TSS	175
COD	6.5
pH	(1)

[1] Within the range of 7.5 to 9.0.

(d) The following limitations establish the quantity or quality of pollutants or pollutant properties which may be discharged by a point source subject to the provisions of this subpart and which processes residues by wet methods, after application of the best practical control technology currently available:

EFFLUENT LIMITATIONS

Effluent characteristic	Average of daily values for 30 consecutive days shall not exceed—
	Metric units (kilograms per 1,000 kg of product) English units (pounds per 1,000 lb of product)
TSS	1.5
Fluoride	0.4
Ammonia (as N)	0.01
Aluminum	1.0
Copper	0.003
COD	1.0
pH	(1)

[1] Within the range of 7.5 to 9.0.

§ 421.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(a) Subpart C—Scrap Drying Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound's per million pounds) of aluminum scrap dried	
Lead	.000	.000
Zinc	.000	.000
Aluminum	.000	.000
Ammonia (as N)	.000	.000

(b) Subpart C—Scrap Screening and Milling.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound's per million pounds) of aluminum scrap screened and milled	
Lead	.000	.000
Zinc	.000	.000
Aluminum	.000	.000
Ammonia (as N)	.000	.000

BAT EFFLUENT LIMITATIONS—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Aluminum	.000	.000
Ammonia (as N)	.000	.000

(c) Subpart C—Dross Washing.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound's per million pounds) of drossed washed	
Lead	3.043	1.413
Zinc	11.090	4.565
Aluminum	66.410	29.450
Ammonia (as N)	1,449.000	636.900

(d) Subpart C—Demagging Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound's per million pounds) of aluminum demagged	
Lead	.195	.091
Zinc	.711	.293
Aluminum	4.259	1.889
Ammonia (as N)	92.910	40.850

(e) Subpart C—Delacquering Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound's per million pounds) of aluminum delacquered	
Lead	.022	.010
Zinc	.082	.034
Aluminum	.489	.217
Ammonia (as N)	10.670	4.688
Total phenolics (4-AAP method) [1]	.001	

[1] At the source.

(f) Subpart C—Direct Chill Casting Contact Cooling.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.372	.173
Zinc	1.356	.558
Aluminum	8.120	3.602
Ammonia (as N)	177.200	77.880

(g) Subpart C—Ingot Conveyor Casting Contact Cooling (When Chloride Demagging is Not Practiced On Site).

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.012	.006
Zinc	.044	.018
Aluminum	.263	.117
Ammonia (as N)	5.732	2.520

(h) Subpart C—Ingot Conveyor Casting Contact Cooling (When Chloride Demagging is Not Practiced On Site).

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.000	.000
Zinc	.000	.000
Aluminum	.000	.000
Ammonia (as N)	.000	.000

(i) Subpart C—Stationary Casting Contact Cooling.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.000	.000
Zinc	.000	.000
Aluminum	.000	.000
Ammonia (as N)	.000	.000

(j) Subpart C—Shot Casting Contact Cooling.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.000	.000
Zinc	.000	.000
Aluminum	.000	.000
Ammonia (as N)	.000	.000

§ 421.34 Standards of performance for new sources.

Any new source subject to this subpart shall achieve the following new source performance standards:

(a) Subpart C—Scrap Drying Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average.
	Mg/kg (pounds per million pounds) of aluminum scrap dried	
Lead	.000	.000
Zinc	.000	.000
Aluminum	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
Oil and grease	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times

(b) Subpart C—Scrap Screening and Milling.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum scrap screened and milled	
Lead	.000	.000
Zinc	.000	.000
Aluminum	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	000
Oil and grease	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(c) Subpart C—Dross Washing.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of dross washed	
Lead	.000	.000
Zinc	.000	.000
Aluminum	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
Oil and grease	.000	.000

NSPS—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(d) Subpart C—Demagging Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum demagged	
Lead	.195	.091
Zinc	.711	.293
Aluminum	4.259	1.889
Ammonia (as N)	92.910	40.850
Total suspended solids	10.460	8.364
Oil and grease	6.970	6.970
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(e) Subpart C—Delacquering Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum delacquered	
Lead	.022	.010
Zinc	.082	.034
Aluminum	.489	.217
Ammonia (as N)	10.670	4.688
Total phenolics (4-AAP method) [1]	.001	
Total suspended solids	1.200	.960
Oil and grease	.800	.800
pH	(2)	(2)

[1] At the source.
[2] Within the range of 7.0 to 10.0 at all times.

(f) Subpart C—Direct Chill Casting Contact Cooling.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.372	.173
Zinc	1.356	.558
Aluminum	8.120	3.602
Ammonia (as N)	177.200	77.880
Total suspended solids	19.940	15.950
Oil and grease	13.290	13.290
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(g) Subpart C—Ingot Conveyor Casting Contract Cooling (When Chloride Demagging is Not Practiced On Site).

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.012	.006
Zinc	.044	.018
Aluminum	.263	.117
Ammonia (as N)	5.732	2.520
Total suspended solids	.645	.516
Oil and grease	.430	.430
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(h) Subpart C—Ingot Conveyor Casting Contact Cooling (When Chlorine Demagging is Practiced On Site).

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.000	.000
Zinc	.000	.000
Aluminum	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
Oil and grease	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(i) Subpart C—Stationary Casting Contact Cooling.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.000	.000
Zinc	.000	.000
Aluminum	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
Oil and grease	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(j) Subpart C—Shot Casting Contact Cooling.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.000	.000
Zinc	.000	.000
Aluminum	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
Oil and grease	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

§ 421.35 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in secondary aluminum process wastewater introduced into a POTW shall not exceed the following values:

(a) Subpart C—Scrap Drying Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum scrap dried	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(b) Subpart C—Scrap Screening and Milling.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum scrap screened and milled	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(c) Subpart C—Dross Washing.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of dross washed	
Lead	3.043	1.413
Zinc	11.090	4.565
Ammonia (as N)	1,449.000	636.000

(d) Subpart C—Demagging Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum demagged	
Lead	.195	.091
Zinc	.711	.293
Ammonia (as N)	92.910	40.850

(e) Subpart C—Delacquering Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum delacquered	
Lead	0.22	.010
Zinc	.082	.034
Ammonia (as N)	10.670	4.688
Total phenolics (4-AAP) method) [1]	.001	

[1] At the source.

(f) Subpart C—Direct Chill Casting Contact Cooling.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.372	.173
Zinc	1.356	.558
Ammonia (as N)	177.200	77.800

(g) Subpart C—Ingot Conveyor Casting Contact Cooling. (When Chlorine Demagging Wet Air Pollution Control is Not Practiced on Site.)

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.012	.006
Zinc	.044	.018
Ammonia (as N)	5.732	2.520

(h) Subpart C—Ingot Conveyor Casting Contact Cooling. (When Chlorine Demagging Wet Air Pollution Control is Practiced On Site.)

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(i) Subpart C—Stationary Casting Contact Cooling.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(j) Subpart C—Shot Casting Contact Cooling.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

§ 421.36 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants introduced in secondary aluminum process wastewater into a POTW shall not exceed the following values:

(a) Subpart C—Scrap Drying Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum scrap dried	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(b) Subpart C—Scrap Screening and Milling.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum scrap screened and milled	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(c) Subpart C—Dross Washing.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of dross washed	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(d) Subpart C—Demagging Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum demagged	
Lead	.195	.091
Zinc	.711	.293
Ammonia (as N)	92.910	40.850

(e) Subpart C—Delacquering Wet Air Pollution Control

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum delacquered	
Lead	.022	.010
Zinc	.082	.034
Ammonia (as N)	10.670	4.688
Total phenolics (4-AAP method) [1]	.001	

[1] At the source.

(f) Subpart C—Direct Chill Casting Contact Cooling.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.372	.173
Zinc	1.356	.558
Ammonia (as N)	177.200	77.880

(g) Subpart C—Ingot Conveyor Casting Contact Cooling (When Chlorine Demagging Wet Air Pollution Control Is Not Practiced on Site).

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.012	.006
Zinc	.044	.018
Ammonia (as N)	5.732	2.520

(h) Subpart C—Ingot Conveyor Casting Contact Cooling (When Chlorine Demagging Wet Air Pollution Control Is Practiced on Site).

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(i) Subpart C—Stationary Casting Contact Cooling.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(j) Subpart C—Shot Casting Contact Cooling.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of aluminum cast	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

§ 421.37 [Reserved]

Subpart D—Primary Copper Smelting Subcategory

§ 421.40 Applicability: Description of the primary copper smelting subcategory.

The provisions of this subpart apply to process wastewater discharges resulting from the primary smelting of copper from ore or ore concentrates. Primary copper smelting includes, but is not limited to, roasting, converting, leaching if preceded by a pyrometallurgical step, slag granulation and dumping, fire refining, and the casting of products from these operations.

§ 421.41 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations, and methods of analysis set forth in 40 CFR Part 401 apply to this subpart.

(b) In the event that the waste streams covered by this subpart are combined for treatment or discharge with waste streams covered by Subparts E—Primary Electrolytic Copper Refining and/or Subpart I—Metallurgical Acid Plants, the quantity of each pollutant or pollutant property discharged shall not exceed the quantity of each pollutant or pollutant property which could be discharged if each waste stream were discharged separately.

(c) For all impoundments constructed prior to the effective date of the interim final regulation (40 FR 8513), the term "within the impoundment," when used to calculate the volume of process wastewater which may be discharged, means the water surface area within the impoundment at maximum capacity plus the surface area of the inside and outside slopes of the impoundment dam as well as the surface area between the outside edge of the impoundment dam and any seepage ditch adjacent to the dam upon which rain falls and is returned to the impoundment. For the purpose of such calculations, the surface area allowances set forth above shall not exceed more than 30 percent of the water surface area within the impoundment dam at maximum capacity.

(d) For all impoundments constructed on or after the effective date of the interim final regulation (the interim regulation was effective February 27, 1975; 40 FR 8513, February 27, 1975), the term "within the impoundment," for purposes of calculating the volume of process wastewater which may be discharged, means the water surface area within the impoundment at maximum capacity.

§ 421.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) Except as provided in 40 CFR 125.30–125.32 and paragraph (b) of this section, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT): There shall be no discharge of process wastewater pollutants to navigable waters.

(b) A process wastewater impoundment which is designed, constructed, and operated so as to contain the precipitation from the 10-year, 24-hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration, for the

area in which such impoundment is located may discharge that volume of process wastewater which is equivalent to the volume of precipitation that falls within the impoundment in excess of that attributable to the 10-year, 24-hour rainfall event, when such event occurs.

§ 421.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best avialable technology economically achievable:

(a) Subject to the provisions of paragraph (b) of this section, there shall be no discharge of process wastewater pollutants into navigable waters.

(b) A process wastewater impoundment which is designed, constructed, and operated so as to contain the precipitation from the 25-year, 24-hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration, for the area in which such impoundment is located may discharge that volume of process wastewater which is equivalent to the volume of preciptation that falls within the impoundment in excess of that attributable to the 25-year, 24-hour rainfall event, when such event occurs.

§ 421.44 Standards of performance for new sources.

Any new source subject to this subpart shall achieve the following new source performance standards: There shall be discharge of process wastewater pollutants into navigable waters.

§ 421.45 [Reserved]

§ 421.46 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in primary copper smelting process wastewater introduced into a POTW shall not exceed the following values: There shall be no discharge of process wastewater pollutants into a publicly owned treatment works.

§ 421.47 [Reserved]

Subpart E—Primary Electrolytic Copper Refining Subcategory

§ 421.50 Applicability: description of the primary electrolytic copper refining subcategory.

The provisions of this subpart apply to process wastewater discharges resulting from the electrolytic refining of primary copper, including, but not limited to, anode casting performed at refineries which are not located on-site with a smelter, product casting, and by-product recovery.

§ 421.51 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations, and methods of analysis set forth in 40 CFR Part 401 apply to this subpart.

(b) The term "product" means electrolytically refined copper.

§ 421.52 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

EFFLUENT LIMITATIONS

Effluent characteristic	Maximum for any 1 day	Average of Daily values for 30 consecutive days shall not exceed
	(Metric units, kg/kkg of product; English units, pounds per 1,000 lb of product)	
Total suspended solids	0.100	0.050
Copper	0.0017	0.0008
Cadmium	0.00006	0.00003
Lead	0.0006	0.0026
Zinc	0.0012	0.0003
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

§ 421.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(a) Subpart E—Casting Contact Cooling.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of copper cast	
Arsenic	.692	.284
Copper	.638	.304
Nickel	.274	.184

(b) Subpart E—Anode and Cathode Rinse.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cathode copper production	
Arsenic	.000	.000
Copper	.000	.000
Nickel	.000	.000

(c) Subpart E—Spent Electrolyte.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of copper cathode production	
Arsenic	.068	.028
Copper	.063	.030
Nickel	.027	.018

(c) Subpart E—Casting Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of casting production	
Arsenic	.000	.000
Copper	.000	.000
Nickel	.000	.000

(e) Subpart E—By-Product Recovery.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of product recovered from electrolytic slimes processing	
Arsenic	.000	.000
Copper	.000	.000
Nickel	.000	.000

§ 421.54 Standards of performance for new sources.

Any new source subject to this subpart shall achieve the following new source performance standards:

(a) Subpart E—Casting Contact Cooling.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of copper cast	
Arsenic	.692	.284
Copper	.638	.304
Nickel	.274	.184
Total suspended solids	7.470	5.976
pH	[1]	[1]

[1] Within the range of 7.0 to 10.0 at all times.

(b) Subpart E—Anode and Cathode Rinse.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cathode copper production	
Arsenic	.000	.000
Copper	.000	.000
Nickel	.000	.000
Total suspended solids	.000	.000
pH	[1]	[1]

[1] Within the range of 7.0 to 10.0 at all times.

(c) Subpart E—Spent Electrolyte.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of copper cathode production	
Arsenic	.068	.028
Copper	.063	.030
Nickel	.027	.018
Total suspended solids	.735	.588
pH	[1]	[1]

[1] Within the range 7.0 to 10.0 at all times.

(d) Subpart E—Casting Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of casting production	
Arsenic	.000	.000
Copper	.000	.000
Nickel	.000	.000
Total suspended solids	.000	.000
pH	[1]	[1]

[1] Within the range of 7.0 to 10.0 at all times.

(e) Subpart E—By-Product Recovery.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of product recovered from electrolytic slimes processing	
Arsenic	.000	.000
Copper	.000	.000
Nickel	.000	.000
Total suspended solids	.000	.000
pH	[1]	[1]

[1] Within the range of 7.0 to 10.0 at all times.

§ 421.55 [Reserved]

§ 421.56 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in primary electrolytic copper refining process wastewater introduced into a POTW shall not exceed the following values:

(a) Subpart E—Casting Contact Cooling.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of copper cast	
Arsenic	.692	.284
Copper	.638	.304
Nickel	.274	.184

(b) Subpart E—Anode and Cathode Rinse.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cathode copper production	
Arsenic	.000	.000
Copper	.000	.000
Nickel	.000	.000

(c) Subpart E—Spent Electrolyte.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cathode copper production	
Arsenic	.068	.028
Copper	.063	.030

PSNS—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Nickel	.027	.018

(d) Subpart E—Casting Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of casting production	
Arsenic	.000	.000
Copper	.000	.000
Nickel	.000	.000

(e) Subpart E—By-Product Recovery.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of product recovered from electrolytic slimes processing	
Arsenic	.000	.000
Copper	.000	.000
Nickel	.000	.000

§ 421.57 [Reserved]

Subpart F—Secondary Copper Subcategory

§ 421.60 Applicability: description of the secondary copper subcategory.

The provisions of this subpart are applicable to discharges resulting from the recovery, processing, and remelting of new and used copper scrap and residues to produce copper metal and copper alloys, but are not applicable to continuous rod casting.

§ 421.61 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations, and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) For all impoundments constructed prior to the effective date of this regulation the term "within the impoundment" when used for purposes of calculating the volume of process wastewater which may be discharged shall mean the water surface area within the impoundment at maximum capacity plus the surface area of the inside and outside slopes of the impoundment dam as well as the surface area between the outside edge of the impoundment dam and any

seepage ditch immediately adjacent to the dam upon which rain falls and is returned to the impoundment. For the purpose of such calculations, the surface area allowances set forth above shall not be more than 30 percent of the water surface area within the impoundment dam at maximum capacity.

(c) For all impoundments constructed on or after the effective date of this regulation, the term "within the impoundment" for purposes of calculating the volume of process wastewater which may be discharged shall mean the water surface area within the impoundment at maximum capacity.

(d) The term "pond water surface area" when used for the purpose of calculating the volume of wastewater which may be discharged shall mean the water surface area of the pond created by the impoundment for storage of process wastewater at normal operating level. This surface shall in no case be less than one-third of the surface area of the maximum amount of water which could be contained by the impoundment. The normal operating level shall be the average level of the pond during the preceding calendar month.

§ 421.62 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable technology currently available: Subject to the provisions of paragraphs (b), (c), and (d) of this section, there shall be no discharge of process wastewater pollutants into navigable waters.

(b) A process wastewater impoundment which is designed, constructed, and operated so as to contain the precipitation from the 10-year, 24-hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration for the areas in which such impoundment is located may discharge that volume of process wastewater which is equivalent to the volume of precipitation that falls within the impoundment in excess of that attributable to the 10-year, 24-hour rainfall event, when such event occurs.

(c) During any calendar month there may be discharged from a process wastewater impoundment either a volume of process wastewater equal to the difference between the precipitation for the month that falls within the impoundment and either the evaporation from the pond water surface area for that month, or a volume of process wastewater equal to the difference between the mean precipitation for that month that falls within the impoundment and the mean evaporation from the pond water surface area as establsihed by the National Climatic Center, National Oceanic and Atmospheric Administration, for the area in which such impoundment is located (or as otherwise determined if no monthly data have been established by the National Climatic Center), whichever is greater.

(d) Any process wastewater discharged pursuant to paragraph (c) of this section shall comply with each of the following requirements:

Effluent limitations	Effluent characteristic	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
	Metric Units (mg/1) English Units (ppm)	
TSS	50	25
Cu	0.5	0.25
Zn	10	5
Oil and grease	20	10
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

§ 461.63 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(a) Subject to the provisions of paragraph (b) of this section, there shall be no discharge of process wastewater pollutants into navigable waters.

(b) a process wastewater impoundment which is designed, constructed, and operated so as to contain the precipitation from the 25-year, 24-hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration, for the area in which such impoundment is located may discharge that volume of process wastewater which is equivalent to the volume of precipitation that falls within the impoundment in excess of that attributable to the 25-year, 24-hour rainfall event, when such event occurs.

§ 421.64 Standards of performance for new sources.

Any new source subject to this subpart shall achieve the following new source performance standards: There shall be no discharge of process wastewater pollutants into navigable waters.

§ 421.65 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in secondary copper process wastewater introduced into a POTW shall not exceed the following values:

(a) There shall be no discharge of process wastewater pollutants into a publicly owned treatment works subject to the provisions of paragraph (b).

(b) A process wastewater impoundment which is designed, constructed, and operated so as to contain the precipitation from the 25-year, 24-hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration, for the area in which such impoundment is located may discharge that volume of process wastewater equivalent to the volume of precipitation that falls within the impoundment in excess of that attributable to the 25-year, 24-hour rainfall event, when such event occurs.

§ 421.66 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7 any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in secondary copper process wastewater introduced into a POTW shall not exceed the following values: There shall be no discharge of process wastewater pollutants into a publicly owned treatment works.

§ 421.67 [Reserved]

Subpart G—Primary Lead Subcategory

§ 421.70 Applicability: description of the primary lead subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of lead at primary lead smelters and refineries.

§ 421.71 Specialized definitions.

For the purpose of this subpart the general definitions, abbreviations, and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

§ 421.72 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available:

(a) Subpart G—Sinter Plant Materials Handling Wet Air Pollution Control.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of sinter production	
Lead	594.000	270.000
Zinc	525.000	219.000
Total suspended solids	14,760.000	7,020.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(b) Subpart G—Blast Furnace Wet Air Pollution Control.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of blast furance lead bullion produced	
Lead	.000	.000
Zinc	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(c) Subpart G—Blast Furnace Slag Granulation.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of blast furance lead bullion produced	
Lead	6,155.000	2,798.000
Zinc	5,446.000	2,276.000
Total suspended solids	153,000.000	72,740.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(d) Subpart G—Dross Reverberatory Slag Granulation.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of slag, speiss, or matte granulated	
Lead	9,499.000	4,318.000
Zinc	8,405.000	3,512.000
Total suspended solids	236,000.000	112,300.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(e) Subpart G—Dross Reverberatory Furnace Wet Air Pollution Control.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of dross reverberatory furnace production	
Lead	15,920.000	7,235.000
Zinc	14,080.000	5,884.000
Total suspended solids	395,500.000	188,100.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(f) Subpart G—Zinc Fuming Wet Air Pollution Control.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of blast furance lead bullion produced	
Lead	702.900	319.500
Zinc	622.000	259.000
Total suspended solids	17,470.000	8,307.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(g) Subpart G—Hard Lead Refining Slag Granulation.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	.000	.000
Zinc	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(h) Subpart G—Hard Lead Refining Air Pollution Control.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	32,730.000	14,880.000
Zinc	28,960.000	12,100.000
Total suspended solids	813,300.000	386,800.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(i) Subpart G—Facility Washdown.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	.000	.000
Zinc	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(j) Subpart G—Employee Handwash.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	5.445	2.475
Zinc	4.818	2.013
Total suspended solids	135.300	64.350
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(k) Subpart G—Respirator Wash.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	8.745	3.975
Zinc	7.738	3.233
Total suspended solids	217.300	103.400
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(l) Subpart G—Laundering of Uniforms.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	25.580	11.630
Zinc	22.630	9.455
Total suspended solids	635.500	302.300
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

§ 421.73 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(a) Subpart G—Sinter Plant Materials Handling Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of sinter production	
Lead	100.800	46.800
Zinc	367.200	151.200

(b) Subpart G—Blast Furnace Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	.000	.000
Zinc	.000	.000

(c) Subpart G—Blast Furnace Slag Granulation.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	.000	.000
Zinc	.000	.000

(d) Subpart G—Dross Reverberatory Slag Granulation.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of slag, speiss, or matte granulated	
Lead	1,612.000	748.400
Zinc	5,872.000	2,418.000

(e) Subpart G—Dross Reverberatory Furnace Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of dross reverberatory furnace production	
Lead	.000	.000
Zinc	.000	.000

(f) Subpart G—Zinc Fuming Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of blast furnance lead bullion produced	
Lead	.000	.000
Zinc	.000	.000

(g) Subpart G—Hard Lead Refining Slag Granulation.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	.000	.000
Zinc	.000	.000

(h) Subpart G—Hard Lead Refining Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	.000	.000
Zinc	.000	.000

(i) Subpart G—Facility Washdown.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	.000	.000
Zinc	.000	.000

(j) Subpart G—Employee Handwash.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	.924	.429
Zinc	3.366	1.386

(k) Subpart G—Respirator Wash.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	1.484	.689
Zinc	5.406	2.226

(l) Subpart G—Laundering of Uniforms.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produce	
Lead	4.340	2.015
Zinc	15.810	6.510

§ 421.74 Standards of performance for new sources.

Any new source subject to this subpart must achieve the following performance standards:

(a) Subpart G—Sinter Plant Materials Handling Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of sinter production	
Lead	.000	.000
Zinc	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(b) Subpart G—Blast Furnace Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	.000	.000
Zinc	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1]Within the range of 7.0 to 10.0 at all times.

(c) Subpart G—Blast Furnace Slag Granulation.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of blast furnance lead bullion produced	
Lead	.000	.000
Zinc	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1]Within the range of 7.0 to 10.0 at all times.

(d) Subpart G—Dross Reverberatory Slag Granulation.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of slag, speiss, or matte granulated	
Lead	.000	.000
Zinc	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1]Within the range of 7.0 to 10.0 at all times.

(e) Subpart G—Dross Reverberatory Furnace Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of dross reverberatory furnace production	
Lead	.000	.000
Zinc	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1]Within the range of 7.0 to 10.0 at all times.

(f) Subpart G—Zinc Fuming Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	.000	.000
Zinc	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1]Within the range of 7.0 to 10.0 at all times.

(g) Subpart G—Hard Lead Refining Slag Granulation.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	.000	.000
Zinc	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1]Within the range of 7.0 to 10.0 at all times.

(h) Subpart G—Hard Lead Refining Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	.000	.000
Zinc	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1]Within the range of 7.0 to 10.0 at all times.

(i) Subpart G—Facility Washdown.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	.000	.000
Zinc	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

Within the range of 7.0 to 10.0 at all times.

(j) Subpart G—Employee Handwash.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	.924	.429
Zinc	3.366	1.386

NSPS—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Total suspended solids	49.500	39.600
pH	(1)	(1)

Within the range of 7.0 to 10.0 at all times.

(k) Subpart G—Respirator Wash.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	1.484	.689
Zinc	5.406	2.226
Total suspended solids	79.500	63.600
pH	(1)	(1)

Within the range of 7.0 to 10.0 at all times.

(l) Subpart G—Laundering of Uniforms.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	4.340	2.015
Zinc	15.810	6.510
Total suspended solids	232.500	186.000
pH	(1)	(1)

Within the range of 7.0 to 10.0 at all times.

§ 421.75 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works mut comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in primary lead process wastewater introduced into a POTW shall not exceed the following values:

(a) Subpart G—Sinter Plant Materials Handling Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of sinter production	
Lead	100.800	46.800
Zinc	367.200	151.200

(b) Subpart G—Blast Furnace Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion pounds) of blast furnance lead bullion produced	
Lead	.000	.000
Zinc	.000	.000

(c) Subpart G—Blast Furnace Slag Granulation.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion pounds) of blast furance lead bullion produced	
Lead	.000	.000
Zinc	.000	.000

(d) Subpart G—Dross Reverberatory Slag Granulation.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of slag, speiss, or matte granulated	
Lead	1,612.000	748.400
Zinc	5,872.000	2,418.000

(e) Subpart G—Dross Reverberatory Furnance Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of dross reverberatory furnace production	
Lead	.000	.000
Zinc	.000	.000

(f) Subpart G—Zinc Fuming Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	.000	.000
Zinc	.000	.000

(g) Subpart G—Hard Lead Refining Slag Granulation.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	.000	.000
Zinc	.000	.000

(h) Subpart G—Hard Lead Refining Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of hard lead produced	
Lead	.000	.000
Zinc	.000	.000

(i) Subpart G—Facility Washdown.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced.	
Lead	.000	.000
Zinc	.000	.000

(j) Subpart G—Employee Handwash.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	.924	.429
Zinc	3.366	1.386

(k) Subpart G—Respirator Wash.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	1.484	.689
Zinc	5.406	2.226

(l) Subpart G—Laundering of Uniforms.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of lead bullion produced	
Lead	4.340	2.015
Zinc	15.810	6.510

§ 421.76 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in primary lead process wastewaters introduced into a POTW shall not exceed the following values.

(a) Subpart G—Sinter Plant Materials Handling Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of sinter production	
Lead	.000	.000
Zinc	.000	.000

(b) Subpart G—Blast Furnace Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	.000	.000
Zinc	.000	.000

(c) Subpart G—Blast Furnace Slag Granulation.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	.000	.000
Zinc	.000	.000

(d) Subpart G—Dross Reverberatory Slag Granulation.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of slag, speiss, or matte granulated	
Lead	.000	.000
Zinc	.000	.000

(e) Subpart G—Dross Reverberatory Furnace Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of dross reverberatory furnace production	
Lead	.000	.000
Zinc	.000	.000

(f) Subpart G—Zinc Fuming Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of blast furnace lead bullion produced	
Lead	.000	.000
Zinc	.000	.000

(g) Subpart G—Hard Lead Refining Slag Granulation.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per billion pounds) of hard lead produced	
Lead	.000	.000
Zinc	.000	.000

(h) Subpart G—Hard Lead Refining Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per billion pounds) of hard lead produced	
Lead	.000	.000
Zinc	.000	.000

(i) Subpart G—Facility Washdown.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per billion pounds) of lead bullion produced	
Lead	.000	.000
Zinc	.000	.000

(j) Subpart G—Employee Handwash.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per billion pounds) of lead bullion produced	
Lead	.924	.429
Zinc	3.366	1.386

(k) Subpart G—Respirator Wash.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per billion pounds) of lead bullion produced	
Lead	1.484	.689
Zinc	5.406	2.226

(l) Subpart G—Laundering of Uniforms.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per billion pounds) of lead bullion produced	
Lead	4.340	2.015
Zinc	15.810	6.510

§ 421.77 [Reserved]

Subpart H—Primary Zinc Subcategory

§ 421.80 Applicability: description of the primary zinc subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of primary zinc by either electrolytic or pyrolytic means.

§ 421.81 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations, and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "product" shall mean zinc metal.

§ 421.82 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable technology currently available:

EFFLUENT LIMITATIONS

Effluent characteristics	Maximum for any 1 day	Average of Daily values for 30 consecutive days shall not exceed
	Metric Units (kg/kkg of product) English Units (pounds per 1,000 pounds of product)	
TSS	0.42	0.21
As	0.0016	0.0008
Cd	0.008	0.004
Se	0.608	0.04
Zn	0.08	0.04
pH	(1)	(1)

(1) Within the range of 6.0 to 9.0.

§ 421.83 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(a) Subpart H—Zinc Reduction Furnace Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc reduced	
Cadmium	.334	.134
Copper	2.135	1.018
Lead	.467	.217
Zinc	1.702	.701

(b) Subpart H—Preleach of Zinc Concentrates.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate leached	
Cadmium	.180	.072

BAT EFFLUENT LIMITATIONS—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Copper	1.153	.550
Lead	.252	.117
Zinc	.919	.378

(c) Subpart H—Leaching Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc processed through leaching	
Cadmium	.000	.000
Copper	.000	.000
Lead	.000	.000
Zinc	.000	.000

(d) Subpart H—Electrolyte Bleed Wastewater.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	.086	.035
Copper	.553	.264
Lead	.121	.056
Zinc	.441	.182

(e) Subpart H—Cathode and Anode Wash Wastewater.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	.150	.060
Copper	.961	.458
Lead	.210	.098
Zinc	.766	.315

(f) Subpart H—Casting Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc cast	
Cadmium	.051	.021
Copper	.329	.157
Lead	.072	.033
Zinc	.262	.108

(g) Subpart H—Casting Contact Cooling.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc cast	
Cadmium	.036	.014
Copper	.232	.110
Lead	.051	.024
Zinc	.185	.076

(h) Subpart H—Cadmium Plant Wastewater.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cadmium produced	
Cadmium	1.234	.494
Copper	7.899	3.765
Lead	1.728	.802
Zinc	6.295	2.592

§ 421.84 Standards of performance for new sources.

Any new source subject to this subpart shall achieve the following new source performance standards:

(a) Subpart H—Zinc Reduction Furnace Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc reduced	
Cadmium	.334	.134
Copper	2.135	1.018
Lead	.467	.217
Zinc	1.702	.701
Total suspended solids	25.020	20.020
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(b) Subpart H—Preleach of Zinc Concentrates.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate leached	
Cadmium	.180	.072
Copper	1.153	.550
Lead	.252	.117
Zinc	.919	.378
Total suspended solids	13.520	10.810
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(c) Subpart H—Leaching Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc processed through leaching	
Cadmium	.000	.000
Copper	.000	.000
Lead	.000	.000
Zinc	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(d) Subpart H—Electrolyte Bleed Wastewater.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	.086	.035
Copper	.553	.264
Lead	.121	.056
Zinc	.441	.182
Total suspended solids	6.480	5.184
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(e) Subpart H—Cathode and Anode Wash Wastewater.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	.150	.060
Copper	.961	.458
Lead	.210	.098
Zinc	.766	.315
Total suspended solids	11270.	9.012
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(f) Subpart H—Casting Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc cast	
Cadmium	.051	.021
Copper	.329	.157
Lead	.072	.033
Zinc	.262	.108
Total suspended solids	3.855	3.084
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(g) Subpart H—Casting Contact Cooling.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc cast	
Cadmium	.036	.014
Copper	.232	.110
Lead	.051	.024
Zinc	.185	.076
Total suspended solids	2.715	2.172
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(h) Subpart H—Cadmium Plant Wastewater.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cadmium produced	
Cadmium	1.234	.494
Copper	7.899	3.765
Lead	1.728	.802
Zinc	6.295	2.592
Total suspended solids	92.570	74.050
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

§ 421.85 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in primary zinc process wastewater introduced into a POTW shall not exceed the following values:

(a) Subpart H—Zinc Reduction Furnace Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc reduced	
Cadmium	.334	.134
Zinc	1.702	.701

(b) Subpart H—Preleach of Zinc Concentrates.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate leached	
Cadmium	.180	.072

PSES—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Zinc	.919	.376

(c) Subpart H—Leaching Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc processed through leaching	
Cadmium	.000	.000
Zinc	.000	.000

(d) Subpart H—Electrolyte Bleed Wastewater.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	.086	.035
Zinc	.441	.182

(e) Subpart H—Cathode and Anode Wash Wastewater.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	.150	.060
Zinc	.766	.315

(f) Subpart H—Casting Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc cast	
Cadmium	.051	.021
Zinc	.262	.108

(g) Subpart H—Casting Contact Cooling.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc cast	
Cadmium	.036	.014
Zinc	.185	.076

(h) Subpart H—Cadmium Plant Wastewater.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cadmium produced	
Cadmium	1.234	.494
Zinc	6.295	2.592

§ 421.86 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in primary zinc process wastewaters introduced into a POTW shall not exceed the following values:

(a) Subpart H—Zinc Reduction Furnace Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc reduced	
Cadmium	.334	.134
Zinc	1.702	.701

(b) Subpart H—Preleach of Zinc Concentrates.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate leached	
Cadmium	.180	.072
Zinc	.919	.378

(c) Subpart H—Leaching Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc processed through leaching	
Cadmium	.000	.000
Zinc	.000	.000

(d) Subpart H—Electrolyte Bleed Wastewater.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	.086	.035
Zinc	.441	.182

(e) Subpart H—Cathode and Anode Wash Wastewater.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cathode zinc produced	
Cadmium	.150	.060
Zinc	.766	.315

(f) Subpart H—Casting Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc cast	
Cadmium	.051	.021
Zinc	.262	.108

(g) Subpart H—Casting Contact Cooling.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of zinc cast	
Cadmium	0.036	0.014
Zinc	0.185	0.076

(h) Subpart H—Cadmium Plant Wastewater.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of cadmium produced	
Cadmium	1.234	0.494
Zinc	6.295	2.592

§ 421.87 [Reserved]

Subpart I—Metallurgical Acid Plants Subcategory

§ 421.90 Applicability: description of the metallurgical acid plants subcategory.

The provisions of this subpart apply to process wastewater discharges resulting from or associated with the manufacture of by-product sulfuric acid at primary copper smelters, primary zinc facilities, and primary lead facilities, including any associated air pollution control or gas-conditioning systems for sulfur dioxide off-gases from pyrometallurgical operations.

§ 421.91 Specialized definitions.

(a) Except as provided below, the general definitions, abbreviations, and methods of analysis set forth in 40 CFR Part 401 apply to this subpart.

(b) The term "product" means 100 percent equivalent sulfuric acid, H^2SO^4 capacity.

§ 421.92 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
	Metric units, kg/kkg of product English units, pounds per 1,000 pounds of product	
Total suspended solids	0.304	0.152
Copper	0.005	0.002
Cadmium	0.00018	0.00009
Lead	0.0018	0.00079
Zinc	0.0036	0.0009
pH	(1)	(1)

[1] Within the range of 6.0 to 9.0.

§ 421.93 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

Subpart I—Metallurgical Acid Plant

Pollutant or pollutant property	BAT Effluent Limitations: Maximum for any 1 day	BAT Effluent Limitations: Maximum for monthly average
	(Mg/kg pounds per million pounds) of 100 pct sulfuric acid capacity	
Arsenic	3.550	1.456
Cadmium	.511	.204
Copper	3.269	1.558
Lead	.715	.332
Zinc	2.605	1.073

§ 421.94 Standards of performance for new sources.

Any new source subject to this subpart shall achieve the following new source performance standards:

Subpart I—Metallurgical Acid Plant

Pollutant or pollutant property	NSPS: Maximum for any 1 day	NSPS: Maximum for monthly average
	(Mg/kg pounds per million pounds) of 100 pct sulfuric acid capacity	
Arsenic	3.550	1.456
Cadmium	.511	.204
Copper	3.269	1.558
Lead	.715	.332
Zinc	2.605	1.073
Total suspended solids	38.310	30.650
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

§ 421.95 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in metallurgical acid plant blowdown introduced into a POTW shall not exceed the following values:

SUBPART I—METALLURGICAL ACID PLANT

Pollutant or pollutant property	PSES	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of 100 pct sulfuric acid capacity	
Cadmium	0.511	0.204
Zinc	2.605	1.073

§ 421.96 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in metallurgical acid plant blowdown introduced into a POTW shall not exceed the following values:

SUBPART I—METALLURGICAL ACID PLANT

Pollutant or pollutant property	PSNS	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of 100 percent sulfuric acid capacity	
Arsenic	3.550	1.456
Cadmium	.511	.204
Copper	3.269	1.558
Lead	.715	.332
Zinc	2.605	1.073

§ 421.97 [Reserved]

Subpart J—Primary Tungsten Subcategory

§ 421.100 Applicability: description of the primary tungsten subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of tungsten at primary tungsten facilities.

§ 421.101 Specialized definitions.

For the purpose of this subpart the general information, abbreviations, and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

§ 421.102 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable technology currently available:

(a) Subpart J—Tungstic Acid Rinse.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	12.680	6.038
Zinc	44.080	18.420
Ammonia (as N)	4,025.000	1,769.000
Total suspended solids	1,238.000	588.700
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(b) Subpart J—Acid Leach Wet Air Pollution Control.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pound per million pounds) of tungstic acid produced	
Lead	11.070	5.270
Zinc	38.470	16.080
Ammonia (as N)	3,513.000	1,544.000
Total suspended solids	1,081.000	513.600
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all time.

(c) Subpart J—Alkali Leach Wash.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of sodium tungstate produced	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(d) Subpart J—Ion-Exchange Raffinate.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of ammonium tungstate produced	
Lead	21.300	10.140
Zinc	74.030	30.930
Ammonia (as N)	6,759.000	2,972.000
Total suspended solids	2,079.000	988.800
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(e) Subpart J—Calcium Tungstate Precipitate Wash.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of calcium tungstate produced	
Lead	19.800	9.428
Zinc	68.830	28.760
Ammonia (as N)	6,284.000	2,763.000
Total suspended solids	1,933.000	919.300
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(f) Subpart J—Cystallization and Drying of Ammonium Paratungstate.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of ammonium paratungstate produced	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(g) Subpart J—Ammonium Paratungstate Conversion to Oxides Wet Air Pollution Control.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic oxide (WO3) produced	
Lead	9.198	4.380
Zinc	31.980	13.360
Ammonia (as N)	2,919.000	1,284.000
Total suspended solids	897.900	427.100
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(h) Subpart J—Ammonium Paratungstate Coversion to Oxides Water of Formation.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic oxide (WO3)sodium tungstate produced	
Lead	.021	.010
Zinc	.073	.031
Ammonia (as N)	6.665	2.930
Total suspended solids	2.050	.975
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(i) Subpart J—Reduction to Tungsten Wet Air Pollution Control.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	12.940	6.161
Zinc	44.970	18.790
Ammonia (as N)	4,106.000	1,805.000
Total suspended solids	1,263.000	600.700
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(j) Subpart J—Reduction to Tungsten Water of Formation.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	.205	.098
Zinc	.714	.298
Ammonia (as N)	65.190	28.660
Total suspended solids	20.050	9.536
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(k) Subpart J—Tungsten Powder Acid Leach and Wash.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	1.008	.480
Zinc	3.504	1.464
Ammonia (as N)	319.900	140.700
Total suspended solids	98.400	46.800
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(l) Subpart J—Molybdenum Sulfide Precipitation Wet Air Pollution Control.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of molybdenum sulfide precipitated	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

§ 421.103 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(a) Subpart J—Tungstic Acid Rinse.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	8.453	3.925
Zinc	30.800	12.680
Ammonia (as N)	4,025.000	1,769.000

(b) Subpart J—Acid Leach Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	.738	.343
Zinc	2.688	1.107
Ammonia (as N)	351.300	154.400

(c) Subpart J—Alkali Leach Wash.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of sodium tungstate produced	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(d) Subpart J—Ion-Exchange Raffinate.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of ammonium tungstate produced	
Lead	14.200	6.592
Zinc	51.720	21.300
Ammonia (as N)	6,759.000	2,972.000

(e) Subpart J—Calcium Tungstate Precipitate Wash.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of calcium tungstate produced	
Lead	13.200	6.128
Zinc	48.080	19.800
Ammonia (as N)	6,284.000	2,763.000

(f) Subpart J—Crystallization and Drying of Ammonium Paratungstate.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of ammonium paratungstate produced	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(g) Subpart J—Ammonium Paratungstate Conversion to Oxides Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic oxide (WO_3) produced	
Lead	.613	.285
Zinc	2.234	.920
Ammonia (as N)	291.900	126.400

(h) Subpart J—Ammonium Paratungstate Conversion to Oxides Water of Formation.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic oxide (WO_3) produced	
Lead	.014	.007
Zinc	.051	.021
Ammonia (as N)	6.665	2.930

(i) Subpart J—Reduction to Tungsten Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	.862	.400
Zinc	3.142	1.294
Ammonia (as N)	410.600	180.500

(j) Subpart J—Reduction to Tungsten Water of Formation.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	.137	.064
Zinc	.499	.205
Ammonia (as N)	65.190	28.660

(k) Subpart J—Tungsten Powder Acid Leach and Wash t+1.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	.672	.312
Zinc	2.448	1.008
Ammonia (as N)	319.900	140.700

(l) Subpart J—Molybdenum Sulfide Precipitation Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Poliutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of molybdenum sulfide precipitated	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

§ 421.104 Standards of performance for new sources.

Any new source subject to this subpart shall achieve the following new source performance standards:

(a) Subpart J—Tungstic Acid Rinse.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	8.453	3.925
Zinc	30.800	12.680
Ammonia (as N)	4,025.000	1,769.000
Total suspended solids	452.900	362.300
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(b) Subpart J—Acid Leach Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	.738	.343
Zinc	2.688	1.107
Ammonia (as N)	351.300	154.400
Total suspended solids	39.530	31.620
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(c) Subpart J—Alkali Leach Wash.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of sodium tungstate produced	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(d) Subpart J—Ion-Exchange Raffinate.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of ammonium tungstate produced	
Lead	14.200	6.592
Zinc	51.720	21.300
Ammonia (as N)	6,759.000	2,972.000
Total suspended solids	760.600	608.500
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(e) Subpart J—Calcium Tungstate Precipitate Wash.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of calcium tungstate produced	
Lead	13.200	6.128
Zinc	48.080	19.800
Ammonia (as N)	6,284.000	2,763.000
Total suspended solids	707.100	565.700
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(f) Subpart J—Crystallization and Drying of Ammonium Paratungstate.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of ammonium paratungstate produced	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(g) Subpart J—Ammonium Paratungstate Conversion to Oxides Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic oxide (WO_3) produced	
Lead	.613	.285
Zinc	2.234	.920
Ammonia (as N)	291.900	126.400
Total suspended solids	32.850	26.280
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(h) Subpart J—Ammonium Paratungstate Conversion to Oxides Water of Formation.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic oxide (WO_3) produced	
Lead	.014	.007
Zinc	.051	.021
Ammonia (as N)	6.665	2.930
Total suspended solids	.750	.600
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(i) Subpart J—Reduction to Tungsten Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	.862	.400
Zinc	3.142	1.294
Ammonia (as N)	410.600	180.500
Total suspended solids	46.200	36.960
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(j) Subpart J—Reduction to Tungsten Water of Formation.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	.137	.064
Zinc	.499	.205
Ammonia (as N)	65.190	28.660
Total suspended solids	7.335	5.868
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(k) Subpart J—Tungsten Powder Acid Leach and Wash.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	.672	.312
Zinc	2.448	1.008
Ammonia (as N)	319.900	140.700
Total suspended solids	36.000	28.800
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

(l) Subpart J—Molybdenum Sulfide Precipitation Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of molybdenum sulfide precipitated	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

(1) Within the range of 7.0 to 10.0 at all times.

§ 421.105 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in primary tungsten process wastewater introduced into a POTW shall not exceed the following values:

(a) Subpart J—Tungstic Acid Rinse.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	8.453	3.925
Zinc	30.800	12.680
Ammonia (as N)	4,025.000	1,769.000

(b) Subpart J—Acid Leach Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	.738	.343
Zinc	2.688	1.107
Ammonia (as N)	351.300	154.400

(c) Subpart J—Alkali Leach Wash.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of sodium tungstate produced	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(d) Subpart J—Ion-Exchange Raffinate.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of ammonium tungstate prqduced	
Lead	14.200	6.592
Zinc	51.720	21.300
Ammonia (as N)	6,759.000	2,972.000

(e) Subpart J—Calcium Tungstate Precipitate Wash.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of calcium tungstate produced	
Lead	13.200	6.128
Zinc	48.080	19.800
Ammonia (as N)	6,284.000	2,763.000

(f) Subpart J—Crystallization and Drying of Ammonium Paratungstate.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of ammonium paratungstate produced	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(g) Subpart J—Ammonium Paratungstate Conversion to Oxides Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic oxide (WO3) produced	
Lead	.613	.285
Zinc	2.234	.920
Ammonia (as N)	291.900	128.400

(h) Subpart J—Ammonium Paratungstate Conversion to Oxides Water of Formation.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic oxide (WO3) produced	
Lead	.014	.007
Zinc	.051	.021
Ammonia (as N)	6.665	2.930

(i) Subpart J—Reduction to Tungsten Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	.862	.400
Zinc	3.142	1.294
Ammonia (as N)	410.600	180.500

(j) Subpart J—Reduction to Tungsten Water of Formation.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	.137	.064
Zinc	.499	.205
Ammonia (as N)	65.190	28.660

(k) Subpart J—Tungsten Powder Acid Leach and Wash.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungsten metal produced	
Lead	.672	.312
Zinc	2.448	1.008
Ammonia (as N)	319.900	140.700

(l) Subpart J—Molybdenum Sulfide Precipitation Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of molybdenum sulfide precipitated	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

§ 421.106 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in primary tungsten process wastewater introduced into a POTW shall not exceed the following values:

(a) Subpart J—Tungstic Acid Rinse.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	6.453	3.925
Zinc	30.800	12.680
Ammonia (as N)	4,025.000	1,769.000

(b) Subpart J—Acid Leach Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic acid produced	
Lead	.738	.343
Zinc	2.688	1.107
Ammonia (as N)	351.300	154.400

(C) Subpart J—Alkali Leach Wash.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of sodium tungstate produced	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(d) Subpart J—Ion-Exchange Raffinate.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of ammonium tungstate produced	
Lead	14.200	6.592
Zinc	51.720	21.300
Ammonia (as N)	6,759.000	2,972.000

(e) Subpart J—Calcium Tungstate Precipitate Wash.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of calcium tungstate produced	
Lead	13.200	6.126
Zinc	48.080	19.800
Ammonia (as N)	6,284.000	2,763.000

(f) Subpart J—Crystallization and Drying of Ammonium Paratungstate.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of ammonium paratungstate produced	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(g) Subpart J—Ammonium Paratungstate Conversion to Oxides Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic oxide (WO_3) produced	
Lead	.613	.285
Zinc	2.234	.920

PSNS—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Ammonia (as N)	291.900	128.400

(h) Subpart J—Ammonium Paratungstate Conversion to Oxides Water of Formation.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic oxide (WO_3 produced	
Lead	.014	.007
Zinc	.051	.021
Ammonia (as N)	6.665	2.930

(i) Subpart J—Reduction to Tungsten Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic metal produced	
Lead	.862	.400
Zinc	3.142	1.294
Ammonia (as N)	410.600	180.500

(j) Subpart J—Reduction to Tungsten Water of Formation.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic metal produced	
Lead	.137	.064
Zinc	.499	.205
Ammonia (as N)	65.190	28.660

(k) Subpart J—Tungsten Powder Acid Leach and Wash.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tungstic metal produced	
Lead	.672	.312
Zinc	2.448	1.008
Ammonia (as N)	319.900	140.700

(l) Subpart J—Molybdenum Sulfide Precipitation Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of molybdenum sulfide precipitated	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

§ 421.107 [Reserved]

Subpart K—Primary Columbium-Tantalum Subcategory

§ 421.110 Applicability: description of the primary columbium-tantalum subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of columbium or tantalum by primary columbium-tantalum facilities.

§ 421.111 Specialized definitions.

For the purpose of this subpart the general definitions, abbreviations, and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

§ 421.112 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable technology currently available:

(a) Subpart K—Concentrate Digestion Wet Air Pollution Control.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	2.612	1.244
Zinc	9.080	3.794
Ammonia (as N)	829.000	364.500
Fluoride	217.700	124.400
Total suspended solids	255.000	121.300
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(b) Subpart K—Solvent Extraction Raffinate.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	3.845	1.831
Zinc	13.370	5.585
Ammonia (as N)	1,221.000	536.500
Fluoride	320.400	183.100
Total suspended solids	375.400	178.500
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(c) Subpart K—Solvent Extraction Wet Air Pollution Control.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	1.032	.491
Zinc	3.586	1.498
Ammonia (as N)	327.400	143.900
Fluoride	85.960	49.120
Total suspended solids	100.700	47.890
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(d) Subpart K—Precipitation and Filtration.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	5.750	2.738
Zinc	19.990	8.350
Ammonia (as N)	1,825.000	802.200
Fluoride	479.100	273.800
Total suspended solids	561.300	267.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(e) Subpart K—Precipitation and Filtration Wet Air Pollution Control.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	26.680	12.700
Zinc	92.730	38.740
Ammonia (as N)	8,466.000	3,722.000
Fluoride	2,223.000	1,270.000
Total suspended solids	2,604.000	1,239.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(f) Subpart K—Tantalum Salt Drying.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt dried	
Lead	25.430	12.110
Zinc	88.390	36.930
Ammonia (as N)	8,070.000	3,548.000
Fluoride	2,119.000	1,211.000
Total suspended solids	2,482.000	1,181.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(g) Subpart K—Oxides Calcining Wet Air Pollution Control.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of columbium-tantalum oxide dried	
Lead	16.140	7.685
Zinc	56.100	23.440
Ammonia (as N)	5,122.000	2,252.000
Fluoride	1,345.000	768.500
Total suspended solids	1,576.000	749.200
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(h) Subpart K—Reduction of Tantalum Salt to Metal.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	69.750	33.220
Zinc	242.500	101.300
Ammonia (as N)	22,140.000	9,732.000
Fluoride	5,813.000	3,322.000
Total suspended solids	6,809.000	3,239.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(i) Subpart K—Reduction of Tantalum Salt to Metal Wet Air Pollution Control.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	.858	.409
Zinc	2.983	1.246
Ammonia (as N)	272.400	119.700
Fluoride	71.510	40.860
Total suspended solids	83.770	39.840
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(j) Subpart K—Tantalum Powder Wash.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum power washed	
Lead	8.582	4.087
Zinc	29.830	12.470
Ammonia (as N)	2,724.000	1,198.000
Fluoride	715.200	408.700
Total suspended solids	837.800	398.500
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(k) Subpart K—Consolidation and Casting Contact Cooling.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of columbium or tantalum cast or consolidated	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Fluoride	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

§ 421.113 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(a) Subpart K—Concentrate Digestion Wet Air Pollution Control.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	.174	.081
Zinc	.635	.261
Ammonia (as N)	82.910	36.450
Fluoride	21.770	12.440

(b) Subpart K—Solvent Extraction Raffinate.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	2.564	1.190
Zinc	9.338	3.845
Ammonia (as N)	1,221.000	536.500
Fluoride	320.400	183.100

(c) Subpart K—Solvent Extraction Wet Air Pollution Control.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	.069	.032
Zinc	.251	.103
Ammonia (as N)	32.790	14.420
Fluoride	8.610	4.920

(d) Subpart K—Precipitation and Filtration.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	3.833	1.780
Zinc	13.960	5.750
Ammonia (as N)	1,825.000	802.200
Fluoride	479.100	273.800

(e) Subpart K—Precipitation and Filtration Wet Air Pollution Control.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	1.778	.826
Zinc	6.478	2.668
Ammonia (as N)	846.600	372.200
Fluoride	222.300	127.000

(f) Subpart K—Tantalum Salt Drying.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt dried	
Lead	16.950	7.871
Zinc	61.750	25.430
Ammonia (as N)	8,070.000	3,548.000

BAT Effluent Limitations—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Fluoride	2,119.000	1,211.000

(g) Subpart K—Oxides Calcining Wet Air Pollution Control.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of columbium-tantalum oxide	
Lead	1.076	.500
Zinc	3.919	1.614
Ammonia (as N)	512.200	225.200
Fluoride	134.500	76.840

(h) Subpart K—Reduction of Tantalum Salt to Metal.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	46.500	21.590
Zinc	169.400	69.750
Ammonia (as N)	22,140.000	9,732.000
Fluoride	5,813.000	3,322.000

(i) Subpart K—Reduction of Tantalum Salt to Metal Wet Air Pollution Control.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	.572	.266
Zinc	2.084	.858
Fluoride	71.510	40.860

(j) Subpart K—Tantalum Powder Wash.

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum powder washed	
Lead	5.721	2.656
Zinc	20.840	8.582
Ammonia (as N)	2,724.000	1,198.000
Fluoride	715.200	408.700

(k) Subpart K—Consolidation and Casting Contact Cooling.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of columbium or tantalum cast or consolidated	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Fluoride	.000	.000

§ 421.114 Standards of performance for new sources.

Any new source subject to this subpart shall achieve the following new source performance standards:

(a) Subpart K—Concentrate Digestion Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	.174	.081
Zinc	.635	.261
Ammonia (as N)	82.910	36.450
Fluoride	21.770	12.440
Total suspended solids	9.330	7.464
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(b) Subpart K—Solvent Extraction Raffinate.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	2.564	1.190
Zinc	9.338	3.845
Ammonia (as N)	1,221.000	536.500
Fluoride	320.400	183.100
Total suspended solids	137.300	109.900
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(c) Subpart K—Solvent Extraction Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	.069	.032
Zinc	.251	.103
Ammonia (as N)	32.790	14.420
Fluoride	8.610	4.920
Total suspended solids	3.690	2.952
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(d) Subpart K—Precipitation and Filtration.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	3.833	1.780
Zinc	13.960	5.750
Ammonia (as N)	1,825.000	802.200
Fluoride	479.100	273.800
Total suspended solids	205.400	164.300
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(e) Subpart K—Precipitation and Filtration Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	1.778	.826
Zinc	6.478	2.668
Ammonia (as N)	846.600	372.200
Fluoride	222.300	127.000
Total suspended solids	95.270	76.210
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(f) Subpart K—Tantalum Salt Drying.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt dried	
Lead	16.950	7.871
Zinc	61.750	25.430
Ammonia (as N)	8,070.000	3,548.000
Fluoride	2,119.000	1,211.000
Total suspended solids	908.200	726.500
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(g) Subpart K—Oxides Calcining Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of columbium-tantalum oxide dried	
Lead	1.076	.500
Zinc	3.919	1.614
Ammonia (as N)	512.200	225.200
Fluoride	134.500	76.840
Total suspended solids	57.630	46.110
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(h) Subpart K—Reduction of Tantalum Salt to Metal.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	46.500	21.590
Zinc	169.400	69.750
Ammonia (as N)	22,140.000	9,732.000
Fluoride	5,813.000	3,322.000
Total suspended solids	2,491.000	1,993.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(i) Subpart K—Reduction of Tantalum Salt to Metal Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	.572	.266
Zinc	2.084	.858
Ammonia (as N)	272.400	119.700
Fluoride	71.510	40.860
Total suspended solids	30.650	24.520
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(j) Subpart K—Tantalum Powder Wash.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum powder washed	
Lead	5.721	2.656
Zinc	20.840	8.582
Ammonia (as N)	2,724.000	1,198.000
Fluoride	715.200	408.700
Total suspended solids	306.500	245.200
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(k) Subpart K—Consolidation and Casting Contact Cooling.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of columbium or tantalum cast or consolidated	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Fluoride	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

§ 421.115 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in primary columbium-tantalum process wastewater introduced into a POTW shall not exceed the following values:

(a) Subpart K—Concentrate Digestion Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	.174	.081
Zinc	.635	.261
Ammonia (as N)	82.910	36.450
Fluoride	21.770	12.440

(b) Subpart K—Solvent Extraction Raffinate.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	2.564	1.190
Zinc	9.338	3.845
Ammonia (as N)	1,221.000	536.500
Fluoride	320.400	183.100

(c) Subpart K—Solvent Extraction Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	.069	.032
Zinc	.251	.103
Ammonia (as N)	32.790	14.420
Fluoride	8.610	4.920

(d) Subpart K—Precipitation and Filtration.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	3.833	1.780
Zinc	13.960	5.750
Ammonia (as N)	1,825.000	802.200
Fluoride	479.100	273.800

(e) Subpart K—Precipitation and Filtration Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	1.778	.826
Zinc	6.478	2.668
Ammonia (as N)	846.600	372.200
Fluoride	222.300	127.000

(f) Subpart K—Tantalum Salt Drying.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt dried	
Lead	16.950	7.871
Zinc	61.750	25.430
Ammonia (as N)	8,070.000	3,548.000
Fluoride	2,119.000	1,211.000

(g) Subpart K—Oxides Calcining Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of columbium-tantalum oxide dried	
Lead	1.076	.500
Zinc	3.919	1.614
Ammonia (as N)	512.200	225.200
Fluoride	134.500	76.840

(h) Subpart K—Reduction of Tantalum Salt to Metal.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	46.500	21.590
Zinc	169.400	69.750
Ammonia (as N)	22,140.000	9,732.000

PSES—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Fluoride	5,813.000	3,322.000

(i) Subpart K—Reduction of Tantalum Salt to Metal Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	.572	.266
Zinc	2.084	.858
Ammonia (as N)	272.400	119.700
Fluoride	71.510	40.860

(j) Subpart K—Tantalum Powder Wash.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum powder washed	
Lead	5.721	2.656
Zinc	20.840	8.582
Ammonia (as N)	2,724.000	1,198.000
Fluoride	715.200	408.700

(k) Subpart K—Consolidation and Casting Contact Cooling.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of columbium or tantalum cast or consolidated	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Fluoride	.000	.000

§ 421.116 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in primary columbium-tantalum process wastewater introduced into a POTW shall not exceed the following values:

(a) Subpart K—Concentrate Digestion Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	.174	.081
Zinc	.635	.261
Ammonia (as N)	82.910	36.450
Fluoride	21.770	12.440

(b) Subpart K—Solvent Extraction Raffinate.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	2.564	1.190
Zinc	9.338	3.845
Ammonia (as N)	1,221.000	536.500
Fluoride	320.400	183.100

(c) Subpart K—Solvent Extraction Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	.069	.032
Zinc	.251	.103
Ammonia (as N)	32.790	14.420
Fluoride	8.610	4.920

(d) Subpart K—Precipitation and Filtration.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	3.833	1.760
Zinc	13.960	5.750
Ammonia (as N)	1,825.000	802.200
Fluoride	479.100	273.800

(e) Subpart K—Precipitation and Filtration Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of concentrate digested	
Lead	1.778	.826
Zinc	6.478	2.668
Ammonia (as N)	846.600	372.200

PSNS—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Fluoride	222.300	127.000

(f) Subpart K—Tantalum Salt Drying.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt dried	
Lead	16.950	7.871
Zinc	61.750	25.430
Ammonia (as N)	8,070.000	3,548.000
Fluoride	2,119.000	1,211.000

(g) Subpart K—Oxides Calcining Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of columbium-tantalum oxide dried	
Lead	1.076	.500
Zinc	3.919	1.614
Ammonia (as N)	512.200	225.200
Fluoride	134.500	76.840

(h) Subpart K—Reduction of Tantalum Salt to Metal.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	46.500	21.590
Zinc	169.400	69.750
Ammonia (as N)	22,140.000	9,732.000
Fluoride	5,813.000	3,322.000

(i) Subpart K—Reduction of Tantalum Salt to Metal Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum salt reduced	
Lead	.572	.266
Zinc	2.084	.858
Ammonia (as N)	272.400	119.700
Fluoride	71.510	40.860

(j) Subpart K—Tantalum Powder Wash.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of tantalum powder washed	
Lead	5.721	2.656
Zinc	20.840	8.582
Ammonia (as N)	2,724.000	1,198.000
Fluoride	715.200	408.700

(k) Subpart K—Consolidation and Casting Contact Cooling.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of columbium or tantalum cast or consolidated	
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Fluoride	.000	.000

§ 421.117 [Reserved]

Subpart L—Secondary Silver Subcategory

§ 421.120 Applicability: description of the secondary silver subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of silver from secondary silver facilities processing protographic and nonphotographic raw materials.

§ 421.121 Specialized definitions.

For the purpose of this subpart the general definitions, abbreviations, and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

§ 421.122 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable technology currently available:

(a) Subpart L—Film Stripping.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from film stripping	
Copper	95.670	50.350

BPT EFFLUENT LIMITATIONS—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Zinc	73.510	30.720
Ammonia (as N)	6,712.000	2,951.000
Total suspended solids	2,065.000	981.800
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(b) Subpart L—Film Stripping Wet Air Pollution Control and Precipitation and Filtration of Film Stripping Solutions Wet Air Pollution Control.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from precipitation and filtration of film stripping solutions	
Copper	1.843	.970
Zinc	1.416	.592
Ammonia (as N)	129.300	56.840
Total suspended solids	39.770	18.920
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(c) Subpart L—Precipitation and Filtration of Film Stripping Solutions.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	109.400	57.570
Zinc	84.050	35.120
Ammonia (as N)	7,674.000	3,374.000
Total suspended solids	2,361.000	1,123.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(d) Subpart L—Precipitation and Filtration of Photographic Solutions.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	50.540	26.600
Zinc	38.836	16.226
Ammonia (as N)	3,545.000	1,559.000
Total suspended solids	1,090.600	518.700
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(e) Subpart L—Precipitation and Filtration of Photographic Solutions Wet Air Pollution Control.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from precipitation and filtration of photographic solutions	
Copper	23.070	12.140
Zinc	17.730	7.406
Ammonia (as N)	1,618.000	711.400
Total suspended solids	497.800	236.800
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(f) Subpart L—Electrolytic Refining.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from electrolytic refining	
Copper	1.444	.760
Zinc	1.110	.464
Ammonia (as N)	101.300	44.540
Total suspended solids	31.160	14.820
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(g) Subpart L—Furnace Wet Air Pollution Control.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver roasted, smelted, or dried	
Copper	1.273	.670
Zinc	.978	.409
Ammonia (as N)	89.310	39.260
Total suspended solids	27.470	13.070
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(h) (Subpart L—Leaching.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver produced from leaching	
Copper	.164	.086
Zinc	.126	.053
Ammonia (as N)	11.470	5.040
Total suspended solids	3.526	1.677
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(i) Subpart L—Leaching Wet Air Pollution Control and Precipitation of Nonphotographic Solutions Wet Air Pollution Control.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver produced from leaching or silver precipitated	
Copper	8.417	4.430
Zinc	6.468	2.703
Ammonia (as N)	590.500	259.600
Total suspended solids	181.700	86.390
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(j) Subpart L—Precipitation and Filtration of Nonphotographic Solutions.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	5.833	3.070
Zinc	4.482	1.873
Ammonia (as N)	409.300	179.900
Total suspended solids	125.900	59.670
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(k) Subpart L—Floor and Equipment Washdown.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver production	
Copper	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

§ 421.123 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(a) Subpart L—Film Stripping.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from film stripping	
Copper	64.450	30.720
Zinc	51.360	21.150

BAT EFFLUENT LIMITATIONS—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Ammonia (as N)	6,712.000	2,951.000

(b) Subpart L—Film Stripping Wet Air Pollution Control and Precipitation and Filtration of Film Stripping Solutions Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from precipitation and filtration of film stripping solutions	
Copper	1.242	.592
Zinc	.990	.408
Ammonia (as N)	129.300	56.840

(c) Subpart L—Precipitation and Filtration of Film Stripping Solutions.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	73.690	35.120
Zinc	58.720	24.180
Ammonia (as N)	7,674.000	3,374.000

(d) Subpart L—Precipitation and Filtration of Photographic Solutions.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	34.048	16.226
Zinc	27.132	11.172
Ammonia (as N)	3,545.000	1,559.000

(e) Subpart L—Precipitation and Filtration of Photographic Solutions Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from precipitation and filtration of photographic solutions	
Copper	15.540	7.406
Zinc	12.380	5.099
Ammonia (as N)	1,618.000	711.400

(f) Subpart L—Electrolytic Refining.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from electrolytic refining	
Copper	.973	.464
Zinc	.775	.319
Ammonia (as N)	101.300	44.540

(g) Subpart L—Furnace Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver roasted, smelted, or dried	
Copper	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(h) Subpart L—Leaching.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver produced from leaching	
Copper	.110	.053
Zinc	.088	.036
Ammonia (as N)	11.470	5.040

(i) Subpart L—Leaching Wet Air Pollution Control and Precipitation of Nonphotographic Solutions Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver produced from leaching or silver precipitated	
Copper	5.671	2.703
Zinc	4.519	1.861
Ammonia (as N)	590.500	259.600

(j) Subpart L—Precipitation and Filtration of Nonphotographic Solutions.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	3.930	1.873
Zinc	3.132	1.290
Ammonia (as N)	409.300	179.900

(k) Subpart L—Floor and Equipment Washdown.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver production	
Copper	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

§ 421.124 Standards of performance for new sources.

Any new source subject to this subpart shall achieve the following new source performance standards:

(a) Subpart L—Film Stripping.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from film stripping	
Copper	64.450	30.720
Zinc	51.360	21.150
Ammonia (as N)	6,712.000	2,951.000
Total suspended solids	755.300	604.200
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(b) Subpart L—Film Stripping Wet Air Pollution Control and Precipitation and Filtration of Film Stripping Solutions Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from precipitation and filtration of film stripping solutions	
Copper	1.242	.592
Zinc	.990	.408
Ammonia (as N)	129.300	56.840
Total suspended solids	14.550	11.640
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(c) Subpart L—Precipitation and Filtration of Film Stripping Solutions.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	mg/troy ounce of silver precipitated	
Copper	73.690	35.120
Zinc	58.720	24.180
Ammonia (as N)	7,674.000	3,374.000
Total suspended solids	863.600	690.900
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(d) Subpart L—Precipitation and Filtration of Photographic Solutions.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	34.048	16.226
Zinc	27.132	11.172
Ammonia (as N)	3,545.000	1,559.000
Total suspended solids	399.000	319.200
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(e) Subpart L—Precipitation and Filtration of Photographic Solutions Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from precipitation and filtration of photographic solutions	
Copper	15.540	7.406
Zinc	12.380	5.099
Ammonia (as N)	1,618.000	711.400
Total suspended solids	182.100	145.700
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(f) Subpart L—Electrolytic Refining.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from electrolytic refining	
Copper	.973	.464
Zinc	.775	.319
Ammonia (as N)	101.300	44.540
Total suspended solids	11.400	9.120
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(g) Subpart L—Furnace Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver roasted, smelted, or dried	
Copper	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(h) Subpart L—Leaching.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver produced from leaching	
Copper	.110	.053
Zinc	.088	.036
Ammonia (as N)	11.470	5.040
Total suspended solids	1.290	1.032
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(i) Subpart L—Leaching Wet Air Pollution Control and Precipitation of Nonphotographic Solutions Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver produced from leaching or silver precipitated	
Copper	5.671	2.703
Zinc	4.519	1.861
Ammonia (as N)	590.500	259.600
Total suspended solids	66.450	53.160
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(j) Subpart L—Precipitation and Filtration of Nonphotograhic Solutions.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	3.930	1.873
Zinc	3.132	1.290
Ammonia (as N)	409.300	179.900
Total suspended solids	46.050	36.840
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(k) Subpart L—Floor and Equipment Washdown.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver production	
Copper	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

§ 421.125 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in secondary silver process wastewater introduced into a POTW must not exceed the following values.

(a) Subpart L—Film Stripping.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from film stripping	
Copper	64.450	30.720
Zinc	51.360	21.150
Ammonia (as N)	6,712.000	2,951.000

(b) Subpart L—Film Stripping Wet Air Pollution Control and Precipitation and Filtration of Film Stripping Solutions Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from precipitation and filtration of film stripping solutions	
Copper	1.242	.592
Zinc	.990	.408
Ammonia (as N)	129.300	56.840

(c) Subpart L—Precipitation and Filtration of Film Stripping Solutions.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	73.690	35.120
Zinc	58.720	24.180
Ammonia (as N)	7,674.000	3,374.000

(d) Subpart L—Precipitation and Filtration of Photographic Solutions.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	34.048	16.226
Zinc	27.132	11.172
Ammonia (as N)	3,545.000	1,559.000

(e) Subpart L—Precipitation and Filtration of Photographic Solutions Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from precipitation and filtration of photographic solutions	
Copper	15.540	7.406
Zinc	12.380	5.099
Ammonia (as N)	1,618.000	711.400

(f) Subpart L—Electrolytic Refining.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from electrolytic refining	
Copper	.973	.464
Zinc	.775	.319
Ammonia (as N)	101.300	44.540

(g) Subpart L—Furnace Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver roasted, smelted, or dried	
Copper	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(h) Subpart L—Leaching.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver produced from leaching	
Copper	.110	.053
Zinc	.088	.036
Ammonia (as N)	11.470	5.040

(i) Subpart L—Leaching Wet Air Pollution Control and Precipitation of Nonphotographic Solutions Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver produced from leaching or silver precipitated	
Copper	5.671	2.703
Zinc	4.519	1.861
Ammonia (as N)	590.500	259.600

(j) Subpart L—Precipitation and Filtration of Nonphotographic Solutions.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	3.930	1.873
Zinc	3.132	1.290
Ammonia (as N)	409.300	179.900

(k) Subpart L—Floor and Equipment Washdown.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver production	
Copper	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

§ 421.126 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in secondary silver process wastewater introduced into a POTW shall not exceed the following values:

(a) Subpart L—Film Stripping.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from film stripping	
Copper	64.450	30.720
Zinc	51.360	21.150
Ammonia (as N)	6,712.000	2,951.000

(b) Subpart L—Film Stripping Wet Air Pollution Control and Precipitation and Filtration of Film Stripping Solutions Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from precipitation and filtration of film stripping solutions	
Copper	1.242	.592
Zinc	.990	.408
Ammonia (as N)	129.300	56.840

(c) Subpart L—Precipitation and Filtration of Film Stripping Solutions.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	73.690	35.120
Zinc	58.720	24.180
Ammonia (as N)	7,674.000	3,374.000

(d) Subpart L—Precipitation and Filtration of Photographic Solutions.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	34.048	16.226
Zinc	27.132	11.172
Ammonia (as N)	3,545.000	1,559.000

(e) Subpart L—Precipitation and Filtration of Photographic Solutions Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from precipitation and filtration of photographic solutions	
Copper	15.540	7.406
Zinc	12.380	5.099
Ammonia (as N)	1,618.000	5.099.711.400
Ammonia (as N)	1,618.000	711.400

(f) Subpart L—Electrolytic Refining.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver from electrolytic refining	
Copper	.973	.464
Zinc	.775	.319
Ammonia (as N)	101.300	44.540

(g) Subpart L—Furnace Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver roasted, smelted or dried	
Copper	.000	000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(h) Subpart L—Leaching.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver produced from leaching	
Copper	.110	.053
Zinc	.088	.036
Ammonia (as N)	11.470	5.040

(i) Subpart L—Leaching Wet Air Pollution Control and Precipitation of Nonphotographic Solutions Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver produced from leaching or silver precipitated	
Copper	5.671	2.703
Zinc	4.519	1.861
Ammonia (as N)	590.500	259.600

(j) Subpart L—Precipitation and Filtration of Nonphotographic Solutions.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver precipitated	
Copper	3.930	1.873
Zinc	3.132	1.290
Ammonia (as N)	409.300	179.900

(k) Subpart L—Floor and Equipment Washdown.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/troy ounce of silver production	
Copper	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

§ 421.127 [Reserved].

Subpart M—Secondary Lead Subcategory

§ 421.130 Applicability: description of the secondary lead subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of lead by secondary lead facilities.

§ 421.131 Specialized definitions.

For the purpose of this subpart the general definitions, abbreviations, and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

§ 421.132 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable technology currently available:

(a) Subpart M—Battery Cracking

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	1.932	.862
Arsenic	1.407	.579
Lead	.283	.135
Zinc	.983	.411
Ammonia (as N)	.000	.000
Total suspended solids	27.600	13.130
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(b) Subpart M—Blast, Reverberatory, or Rotary Furnace Wet Air Pollution Control

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	7.491	3.341
Arsenic	5.455	2.245
Lead	1.096	.522
Zinc	3.811	1.592
Ammonia (as N)	.000	.000
Total suspended solids	107.000	50.900
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(c) Subpart M—Kettle Wet Air Pollution Control

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from refining	
Antimony	.129	.058
Arsenic	.094	.039
Lead	.019	.009
Zinc	.066	.027
Ammonia (as N)	.000	.000
Total suspended solids	1.845	.878
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(d) Subpart M—Lead Paste Desulfurization

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead processed through desulfurization	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(e) Subpart M—Casting Contact Cooling

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead cast	
Antimony	.634	.283
Arsenic	.462	.190
Lead	.093	.044
Zinc	.323	.135
Ammonia (as N)	.000	.000
Total suspended solids	9.061	4.310
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(f) Subpart M—Truck Wash.

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.060	.027
Arsenic	.044	.018
Lead	.009	.004
Zinc	.031	.013
Ammonia (as N)	.000	.000
Total suspended solids	.861	.410
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(g) Subpart M—Facility Washdown

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(h) Subpart M—Battery Case Classification.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(i) Subpart M—Employee Handwash.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.077	.035
Arsenic	.056	.023
Lead	.011	.005
Zinc	.039	.016
Ammonia (as N)	.000	.000
Total suspended solids	1.107	.527
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(j) Subpart M—Employee Respirator Wash.

BPT EFFULENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.126	.056
Arsenic	.092	.038
Lead	.018	.009
Zinc	.064	.027
Ammonia (as N)	.000	.000
Total suspended solids	1.804	.858
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(k) Subpart M—Laundering of Uniforms.

BPT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.367	.164
Arsenic	.268	.110
Lead	.054	.026
Zinc	.187	.078
Ammonia (as N)	.000	.000
Total suspended solids	5.248	2.496
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

§ 421.133 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(a) Subpart M—Battery Cracking.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	1.299	.579
Arsenic	.936	.384
Lead	.189	.087
Zinc	.687	.283
Ammonia (as N)	.000	.000

(b) Subpart M—Blast, Reverberatory, or Rotary Furnace Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	5.038	2.245
Arsenic	3.628	1.488
Lead	.731	.339
Zinc	2.662	1.096
Ammonia (as N)	0.000	0.000

(c) Subpart M—Kettle Wet Air Pollution Control.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from refining	
Antimony	.087	.039
Arsenic	.063	.026
Lead	.013	.006
Zinc	.046	.019
Ammonia (as N)	.000	.000

(d) Subpart M—Lead Paste Desulfurization.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead processed through desulfurization	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(e) Subpart M—Casting Contact Cooling.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead cast	
Antimony	.042	.019
Arsenic	.031	.013
Lead	.006	.003
Zinc	.022	.009
Ammonia (as N)	.000	.000

(f) Subpart M—Truck Wash.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.041	.018
Arsenic	.029	.012
Lead	.006	.003
Zinc	.021	.009
Ammonia (as N)	.000	.000

(g) Subpart M—Facility Washdown.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(h) Subpart M—Battery Case Classification.

BAT EFFLUENT LIMITATIONS

Pollutant pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	.000	.000
Arsenic	.000	.000

BAT EFFLUENT LIMITATIONS—Continued

Pollutant pollutant property	Maximum for any 1 day	Maximum for monthly average
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(i) Subpart M—Employee Handwash.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.052	.023
Arsenic	.038	.015
Lead	.008	.004
Zinc	.028	.011
Ammonia (as N)	.000	.000

(j) Subpart M—Employee Respirator Wash.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.085	.038
Arsenic	.061	.025
Lead	.012	.006
Zinc	.045	.018
Ammonia (as N)	.000	.000

(k) Subpart M—Laundering of Uniforms.

BAT EFFLUENT LIMITATIONS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.247	.110
Arsenic	.178	.073
Lead	.036	.017
Zinc	.131	.054
Ammonia (as N)	.000	.000

§ 421.134 Standards of performance for new sources.

Any new source subject to this subpart shall achieve the following new source performance standards:

(a) Subpart M—Battery Cracking.

NSPS

Polletant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	1.299	.579
Arsenic	.936	.384
Lead	.189	.087
Zinc	.697	.283
Ammonia (as N)	.000	.000
Total suspended solids	10.100	8.076
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(b) Subpart M—Blast, Reverberatory, or Rotary Furnace Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	5.038	2.245
Arsenic	3.628	1.488
Lead	.731	.339
Zinc	2.662	1.096
Ammonia (as N)	0.000	0.000
Total suspended solids	39.150	31.320
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(c) Subpart M—Kettle Wet Air Pollution Control.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from refining	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(d) Subpart M—Lead Paste Desulfurization.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead processed through desulfurization	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(e) Subpart M—Casting Contact Cooling.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead cast	
Antimony	.042	.019
Arsenic	.031	.013
Lead	.005	.003
Zinc	.022	.009
Ammonia (as N)	.000	.000
Total suspended solids	.330	.264
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(f) Subpart M—Truck Wash.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.041	.018
Arsenic	.029	.012
Lead	.006	.003
Zinc	.021	.009
Ammonia (as N)	.000	.000
Total suspended solids	.315	.252
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(g) Subpart M—Facility Washdown.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(h) Subpart M—Battery Case Classification.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000
Total suspended solids	.000	.000
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(i) Subpart M—Employee Handwash.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.052	.023
Arsenic	.036	.015
Lead	.008	.004
Zinc	.028	.011
Ammonia (as N)	.000	.000
Total suspended solids	.405	.324
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(j) Subpart M—Employee Respirator Wash.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.085	.038
Arsenic	.061	.025
Lead	.012	.006
Zinc	.045	.018
Ammonia (as N)	.000	.000
Total suspended solids	.660	.528
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

(k) Subpart M—Laundering of Uniforms.

NSPS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.247	.110
Arsenic	.178	.073
Lead	.036	.017
Zinc	.131	.054
Ammonia (as N)	.000	.000
Total suspended solids	1.920	1.536
pH	(1)	(1)

[1] Within the range of 7.0 to 10.0 at all times.

§ 421.135 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in secondary lead process wastewater introduced into a POTW shall not exceed the following values:

(a) Subpart M—Battery Cracking.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	1.299	.579
Arsenic	.936	.384
Lead	.189	.087
Zinc	.687	.283
Ammonia (as N)	.000	.000

(b) Subpart M—Blast, Reverberatory, or Rotary Furnace Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	5.038	2.245
Arsenic	3.628	1.488
Lead	.731	.339
Zinc	2.662	1.096
Ammonia (as N)	.000	.000

(c) Subpart M—Kettle Wet Air Pollution Control.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from refining	
Antimony	.087	.039
Arsenic	.063	.026
Lead	.013	.006
Zinc	.046	.019
Ammonia (as N)	.000	.000

(d) Subpart M—Lead Paste Desulfurization.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead processed through desulfurization	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(e) Subpart M—Casting Contact Cooling.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead cast	
Antimony	.042	.019
Arsenic	.031	.013
Lead	.006	.003
Zinc	.022	.009
Ammonia (as N)	.000	.000

(f) Subpart M—Truck Wash.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.041	.018
Arsenic	.029	.012
Lead	.006	.003
Zinc	.021	.009
Ammonia (as N)	.000	.000

(g) Subpart M—Facility Washdown.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(h) Subpart M—Battery Case Classification.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(i) Subpart M—Employee Handwash.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.052	.023
Arsenic	.038	.015
Lead	.008	.004
Zinc	.028	.011

PSES—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Ammonia (as N)	.000	.000

(j) Subpart M—Employee Respirator Wash.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.085	.038
Arsenic	.061	.025
Lead	.012	.006
Zinc	.045	.018
Ammonia (as N)	.000	.000

(k) Subpart M—Laundering of Uniforms.

PSES

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.247	.110
Arsenic	.178	.073
Lead	.036	.017
Zinc	.131	.054
Ammonia (as N)	.000	.000

§ 421.136 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in secondary lead process wastewater introduced into a POTW shall not exceed the following values:

(a) Subpart M—Battery Cracking.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	1.299	.579
Arsenic	.936	.384
Lead	.189	.087
Zinc	.687	.283
Ammonia (as N)	.000	.000

(b) Subpart M—Blast, Reverberatory, or Rotary Furnace Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	5.038	2.245
Arsenic	3.628	1.488
Lead	.731	.339
Zinc	2.662	1.096
Ammonia (as N)	.000	.000

(c) Subpart M—Kettle Wet Air Pollution Control.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from refining	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(d) Subpart M—Lead Paste Desulfurization.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead processed through desulfurization	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(e) Subpart M—Casting Contact Cooling.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead cast	
Antimony	.042	.019
Arsenic	.031	.013
Lead	.006	.003
Zinc	.022	.009
Ammonia (as N)	.000	.000

(f) Subpart M—Truck Wash.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.041	.018
Arsenic	.029	.012
Lead	.006	.003
Zinc	.021	.009
Ammonia (as N)	.000	.000

(g) Subpart M—Facility Washdown.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(h) Subpart M—Battery Case Classification.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead scrap produced	
Antimony	.000	.000
Arsenic	.000	.000
Lead	.000	.000
Zinc	.000	.000
Ammonia (as N)	.000	.000

(i) Subpart M—Employee Handwash.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.052	.023
Arsenic	.038	.015
Lead	.008	.004
Zinc	.028	.011
Ammonia (as N)	.000	.000

(j) Subpart M—Employee Respirator Wash.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.085	.038
Arsenic	.061	.025

PSNS—Continued

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
Lead	.012	.006
Zinc	.045	.018
Ammonia (as N)	.000	.000

(k) Subpart M—Laundering of Uniforms.

PSNS

Pollutant or pollutant property	Maximum for any 1 day	Maximum for monthly average
	Mg/kg (pounds per million pounds) of lead produced from smelting	
Antimony	.247	.110
Arsenic	.178	.073
Lead	.036	.017
Zinc	.131	.054
Ammonia (as N)	.000	.000

§ 421.137 [Reserved]

[FR Doc. 84-5738 Filed 3-7-84; 8:45 am]
BILLING CODE 6560-50-M

federal register

Thursday
March 8, 1984

Part III

Environmental Protection Agency

41 CFR Ch. 15
48 CFR Ch. 15
Acquisition Regulations; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

41 CFR Ch. 15

48 CFR Ch. 15

[AAA-FRL 2538-2]

Acquisition Regulations

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: This document establishes a final rule known as the Environmental Protection Agency Acquisition Regulation (EPAAR). This rule is codified as Chapter 15 of Title 48 of the Code of Federal Regulations. The purpose of the EPAAR is to implement the Federal Acquisition Regulation (FAR) where required and supplement the FAR in areas where there is no FAR coverage on policies unique to EPA.

The FAR is being promulgated as the uniform, simplified, acquisition regulation called for by Executive Order 12352, Federal Procurement Reforms. The FAR will supersede the Defense Acquisition Regulation, the Federal Procurement Regulations, and the National Aeronautics and Space Administration Procurement Regulations.

EFFECTIVE DATE: April 1, 1984.

FOR FURTHER INFORMATION CONTACT: Pamela John or Edward Murphy, Environmental Protection Agency, Procurement and Contracts Management Division (PM-214), 401 M Street, SW., Washington, D.C. 20460, tel: (202) 382-5026.

SUPPLEMENTARY INFORMATION: The Notice of Proposed Rulemaking was published on Page 55594 of the **Federal Register** on December 14, 1983 and invited comments for Parts 1, 13, 14, 15, 16, 28, 32, 35, 36, 37, 46, 52, and 53 of the EPAAR by January 16, 1984; Parts 3, 9, 12, 19, 20, 22, 30, 31, 42, and 45 by January 23, 1984; and Parts 2, 4, 5, 8, 10, 17, 23, 24, 25, 27, 33, 34, and 48 by January 30, 1984.

One public comment was received. The commentor takes exception to EPA application to the FAR 19.502-2 "rule of two" for setting aside contracts for architect-engineer services for small businesses when two or more small businesses could be found to provide the needed services at reasonable prices. The commentor feels that this rule would constrain EPA's flexibility to retain the most qualified and experienced expertise in contracts associated with solid and hazardous waste response activities under the Resource Conservation Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act. The commentor recommends either that EPA obtain an appropriate deviation from the FAR or request the Civil Agency Acquisition Council and Office of Federal Procurement Policy consider appropriate modifications to FAR coverage.

EPA fully supports the small business set-aside program requirements in the FAR and believes it is in the public interest to place contracts with small businesses. The FAR provision in Subpart 19.502 does not preclude individual determinations not to set aside a requirement when a set-aside would be detrimental to the public interest. EPA therefore has concluded that no FAR deviation is necessary.

Executive Order 12291

In accordance with the memorandum from David Stockman, Director, Office of Management and Budget, to Donald Sowle, Administrator, Office of Federal Procurement Policy, and Christopher DeMuth, Administrator, Information and Regulatory Affairs, dated October 4, 1982, this rule is exempt from the provisions of Executive Order 12291.

Regulatory Flexibility Act

This rule was reviewed under the Regulatory Flexibility Act of 1980, Pub. L. 96-354, which requires preparation of a regulatory flexibility analysis for any rule which is likely to have a significant economic impact on a substantial number of small entities. Since this rule reformats existing procurement policies to comply with the FAR structure and does not promulgate any new procurement policies which would impact the public, EPA certifies that this rule will not have a significant economic impact on a substantial number of small entities. Therefore, no regulatory flexibility analysis has been prepared.

Paperwork Reduction Act

The information collection and recordkeeping requirements that are imposed on the public by this rule have been cleared by the Office of Management and Budget (OMB) in accordance with section 3504(h) of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501, et seq.

National Environmental Policy Act

EPA has concluded that this rule does not represent a major Federal action having significant impact on the human environment under the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 432 et seq. 1976), the Council on Environmental Quality Regulations (40 CFR Parts 1500-1508), and the EPA guidelines at 40 CFR Part 6, and therefore does not require an environmental impact statement or an environmental assessment pursuant to NEPA.

List of Subjects in 48 CFR Chapter 15

Government procurement, EPA acquisition regulations.

Dated: February 23, 1984.

K. Kirke Harper,

Director, Office of Administration.

1. Chapter 15 of Title 41 of the Code of Federal Regulations is removed.

2. Title 48 Chapter 15 Code of Federal Regulations is established as set forth below:

CHAPTER 15—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER A—GENERAL

Sec.

1501 General
1502 Definition of words and terms.
1503 Improper business practices and personal conflicts of interest.
1504 Administrative matters.
1505 Publicizing contract actions.

SUBCHAPTER B—ACQUISITION PLANNING

1508 Required sources of supply.
1509 Contractor qualifications.
1510 Specifications, standards, and other purchase descriptions.
1512 Contract delivery or performance

SUBCHAPTER C—CONTRACTING METHODS AND CONTRACT TYPES

1513 Small purchases and other simplified purchase procedures.
1514 Formal advertising.
1515 Contracting by negotiation.
1516 Types of contracts
1517 Special contracting methods.

SUBCHAPTER D—SOCIOECONOMIC PROGRAMS

1519 Small business and small disadvantaged business concerns.
1520 Labor surplus area concerns.
1522 Application of labor laws to government acquisitions.
1523 Environmental, conservation, and occupational safety.
1524 Protection of privacy and freedom of information.
1525 Foreign acquisition.

SUBCHAPTER E—GENERAL CONTRACTING REQUIREMENTS

1527 Patents, data and copyrights.
1528 Bonds and insurance.
1530 Cost accounting standards.
1531 Contract cost principles and procedures.
1532 Contract financing.
1533 Disputes and appeals.

SUBCHAPTER F—SPECIAL CATEGORIES OF CONTRACTING

1534 Major system acquisition.

Sec.
1535 Research and development contracting.
1536 Construction and architect-engineering contracts.
1537 Service contracting.

SUBCHAPTER G—CONTRACT MANAGEMENT

1542 Contract administration.
1545 Government property.
1546 Quality assurance.
1548 Value engineering.

SUBCHAPTER H—CLAUSES AND FORMS

1552 Solicitation provisions and contract clauses.
1553 Forms.

SUBCHAPTER A—GENERAL

PART 1501—GENERAL

Sec.
1501.000 Scope of part.

Subpart 1501.1—Purpose, Authority, Issuance

1501.101 Purpose.
1501.103 Applicability.
1501.104 Issuance.
1501.104–1 Publication and code arrangement.
1501.104–2 Arrangement of regulations.
1501.104–3 Copies.

Subpart 1501.3—Agency Acquisition Regulations

1501.301 Policy.
1501.303 Codification and public participation.
1501.304 Agency control and compliance procedures.
1501.370 OMB control numbers.

Subpart 1501.4—Deviations

1501.401 Definition.
1501.403 Individual deviations.
1501.404 Class deviations.

Subpart 1501.6—Contracting Authority and Responsibilities

1501.603 Selection, appointment, and termination of appointment.
1501.603–1 General.
1501.670 Ratification of unauthorized contract actions.
1501.670–1 General.
1501.670–2 Applicability.
1501.670–3 Definitions.
1501.670–4 Policy.
1501.670–5 Procedures.
1501.670–6 Ratification approvals and concurrences.
1501.670–7 Exception.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1501.000 Scope of part.

The Federal Acquisition Regulation System brings together, in Title 48 of the Code of Federal Regulations, the acquisition regulations applicable to all executive agencies of the Government. This part establishes a system of Environmental Protection Agency (EPA) acquisition regulations, referred to as the EPAAR, for the codification and publication of policies and procedures of EPA which implement and supplement the Federal Acquisition Regulation (FAR).

Subpart 1501.1—Purpose, Authority, Issuance

1501.101 Purpose.

(a) This subpart establishes Chapter 15, the Environmental Protection Agency Acquisition Regulation (EPAAR), within Title 48, the Federal Acquisition Regulations System.

(b) The purpose of the EPAAR is to implement the FAR where further implementation is needed and to supplement the FAR when coverage is needed for subject matter not covered in the FAR.

1501.103 Applicability.

The FAR and the EPAAR apply to all acquisitions as defined in Part 2 of the FAR, except where expressly excluded.

1501.104 Issuance.

1501.104–1 Publication and code arrangement.

The EPAAR will be published in: (a) The **Federal Register**, (b) cumulated form in the Code of Federal Regulations (CFR), and (c) a separate loose-leaf form in a distinctive light blue color.

1501.104–2 Arrangement of regulations.

(a) *References and citations.* This regulation may be referred to as the Environmental Protection Agency Acquisition Regulation or the EPAAR. References to EPAAR materials shall be made in a manner similar to that prescribed by FAR 1.104–2(c).

1501.104–3 Copies.

Copies of the EPAAR in **Federal Register** and CFR form may be purchased from the Superintendent of Documents, Government Printing Office (GPO), Washington, D.C. 20402. Copies of loose-leaf EPAAR are distributed within EPA and may be obtained from the EPA Facilities and Support Services Division.

Subpart 1503.3—Agency Acquisition Regulations

1501.301 Policy.

The EPAAR is prescribed by the Director, Office of Administration.

1501.303 Codification and public participation.

(a) The EPAAR is codified as Chapter 15 in Title 48, Code of Federal Regulations.

(b) Public participation in promulgation of the EPAAR shall be in the same manner as specified for the FAR in FAR 1.501. Where solicitation of public comment on significant EPAAR revisions is impractical prior to promulgation, the revisions may be set forth in temporary regulations. Comments will be solicited on the temporary regulations and considered prior to formulating the final regulations.

1501.304 Agency control and compliance procedures.

(a) The Assistant General Counsel, Contracts and Information Law, and the Head of the Contracting Activity (HCA) shall review all EPAARs prior to promulgation to assure compliance with FAR Part 1.

(b) The EPA representative to the Civilian Agency Acquisition Council (CAA Council) will recommend to the chairperson of the CAA Council any EPA regulatory coverage that should be included in the FAR.

1501.370 OMB control numbers.

The information collection requirements contained in the EPAAR have been approved by the Office of Management and Budget (OMB) in accordance with section 3504(h) of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501, et seq. The OMB clearance numbers are 2030–0005, 2030–0006, and 2030–0007.

Subpart 1501.4—Deviations

1501.401 Definition.

A deviation to the EPAR is defined in the same manner as a deviation to the FAR (see FAR 1.401).

1501.403 Individual deviations.

Requests for individual deviations from the FAR and the EPAAR shall be submitted to the Head of the Contracting Activity (HCA) for approval. Requests submitted shall cite the specific part of the FAR or EPAAR from which it is desired to deviate; shall set forth the nature of the deviation(s); and shall give the reasons for the action requested. The HCA shall transmit copies of approved individual FAR deviations to the FAR Secretariat.

1501.404 Class deviations.

Requests for class deviations to the EPAAR shall be submitted in advance to the HCA for processing in accordance with FAR 1.404 and this section. Requests submitted shall include the same type of information as required for individual deviations as prescribed in 1501.403. The HCA may approve class deviations to the FAR and the EPAAR and shall transmit copies of approved

class FAR deviations to the FAR Secretariat as required by FAR 1.404.

Subpart 1501.6—Contracting Authority and Responsibilities

1501.603 Selection, appointment, and termination of appointment.

1501-603-1 General.

EPA Contracting Officers shall be selected and appointed and their appointments terminated in accordance with the Contracting Officer warrant program specified in Chapter 8 of the EPA "Contracts Management Manual."

1501.670 Ratification of unauthorized contract actions.

1501.670-1 General.

Execution of otherwise proper contracts made by individuals without contracting authority, or by Contracting Officers in excess of the limits of their delegated authority, may be later ratified in accordance with the policies and procedures prescribed in this section. To be effective, such ratification must be in the form of a written document clearly stating that ratification of a previously unauthorized act is intended and must be signed by a person authorized to ratify such acts. Officials cited in 1501.670-6 are authorized to ratify previously unauthorized acts.

1501.670-2 Applicabililty.

With the exception of paid advertisements, the provisions of this section apply to all unauthorized contract actions, whether oral or written and without regard to dollar value. Examples of unauthorized contract actions are: (a) Ordering supplies or services by an individual without contracting authority; (b) unauthorized direction of work through assignment of orders or tasks; (c) unauthorized addition of new work; (d) directing Contractors to subcontract with particular firms; or (e) unauthorized direction which changes the terms and conditions of the contract. All ratifications are subject to the requirements of 1501.670-1 and the determination of a properly designated Contracting Officer to ratify the unauthorize contract action.

1501.670-3 Definitions.

"Ratification" means the execution, by an authorized Contracting Officer, of a document retroactively formalizing a contract action of: (a) An individual who acted without contracting authority; or (b) a Contracting Officer who acted beyond his or her delegated authority.

"Unauthorized Action" means a contract action taken by an individual without contracting authority or a contract action by an individual acting beyond the limits of his or her delegated contracting authority.

1501.670-4 Policy.

Contracting actions taken by personnel without formally delegated contracting authority do not legally obligate the Government for the expenditure of funds. If an unauthorized contract action would have been valid had it been authorized by a Contracting Officer, then the Contracting Officer may ratify the unauthorized action. If an unauthorized action is otherwise improper, a Contracting Officer cannot ratify it and the Agency must deny legal liability, in which case the person committing the unauthorized action may be personally liable.

1501.670-5 Procedures.

(a) The program office will notify the cognizant contract office by memorandum of the circumstances surrounding any unauthorized action. This notification will include:

(1) All relevant documents and records,

(2) Documentation why the work was necessary to and for the benefit of the Government, and;

(3) A statement of steps taken or proposed to prevent reoccurrence of the unauthorized action.

(b) The division director (or equivalent) of the responsible office shall approve the memorandum. If expenditure of funds is involved, as part of this submission the program office will include a Procurement Request/Order, EPA Form 1900-8, with funding sufficient to cover the supplies or services. For any new work, or work beyond the scope of an existing contract, the program office shall submit a justification for noncompetitive procurement (JNCP) as required by FAR 15.104 and 1515.105 of this chapter.

(c) Upon receiving the notification the Contracting Officer shall make a determination and findings regarding ratification of the unauthorized action. In order to document this determination, additional information may be required from the Contractor and an opinion from the Office of General Counsel may be necessary. Concurrently, the Contracting Officer may, at his/her discretion, inform the Inspector General (IG) of the action by memorandum routed through the Head of the Contracting Activity (HCA). The Contracting Officer shall also prepare a memorandum from the Assistant Administrator for Administration and Resources Management to the Assistant, Associate, or Regional Administrator (or equivalent level) of the person committing the unauthorized action. This memorandum shall contain a brief description of the circumstances surrounding the unauthorized action, recommend corrective action, and include a copy of the memorandum sent to the IG. Submission of a memorandum to the appropriate Assistant, Associate, or Regional Administrator for unauthorized actions involving small purchases is optional and may be accomplished at the discretion of the Chief of the Contracting Office or a Management Division Director or equivalent at a regional or field activity.

§ 1501.670-6 Ratification approvals and concurrences.

(a) The Chief of the Contracting Office is the ratifying official, provided that he/she has redelegable contracting authority.

(b) For ratification actions which arise in regional offices or laboratory sites, the Chief of the Contracting Office to whom the activity functionally reports is the ratifying official, provided that he/she has redelegable contracting authority. The HCA is the ratifying official for actions which arise in regional or laboratory sites which do not functionally report to a contracting office.

(c) The HCA shall review all ratification actions of $250,000 or more.

§ 1501.670-7 Exception.

EPA is not authorized to ratify improperly ordered paid advertisements. Therefore, the cognizant paying office shall return to the Contractor all voucher claims not accompanied by a written prior authorization. If there was not prior authorization, the paying office shall instruct the Contractor to present its claim directly to the General Accounting Office in accordance with the instructions contained in 4 CFR Part 31, Claims Against the United States, General Procedures.

PART 1502—DEFINITION OF WORDS AND TERMS

Subpart 1502.1—Definitions.

§ 1502.100 Definitions

"Chief of the Contracting Office" means the Branch Chief(s) at the Headquarters Procurement Operations and the Directors of the Contracts Management Divisions at Research Triangle Park and Cincinnati.

"Head of the Contracting Activity" (HCA) means the Director, Procurement and Contracts Management Division.

"Legal counsel" means those attorneys assigned to the Contracts and

Information Law Branch, Office of the General Counsel and designated by the Assistant General Counsel as contract law specialists.

"Procurement Executive" means the Assistant Administrator for Administration and Resources Management.

(Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c))

PART 1503—IMPROPER BUSINESS PRACTICES AND PERSONAL CONFLICTS OF INTEREST

Sec.

1503.000 Scope of part.

Subpart 1503.1—Safeguards

1503.101 Standards of conduct.
1503.101-3 Agency regulations.
1503.103 Independent pricing.
1503.103-2 Evaluating the certification.

Subpart 1503.2—Contractor Gratuities to Government Personnel

1503.203 Reporting suspected violations of the gratuities clause.

Subpart 1503.3—Reports of Suspected Antitrust Violations

1503.301 General.

Subpart 1503.4—Contingent Fees

1503.408 Evaluation of the SF 119.
1503.408-1 Responsibilities.
1503.409 Misrepresentations or violations of the covenant against contingent fees.

Subpart 1503.5—Other Improper Business Practices

1503.502 Subcontractor kickbacks.

Subpart 1503.6—Contracts With Government Employees or Organizations Owned or Controlled by Them

1503.600-70 Scope of subpart.
1503.600-71 Definitions.
1503.601 Policy.
1503.602 Exceptions.
1503.603 Responsibilities of the contracting officer.
1503.670 Solicitation disclosure provision.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1503.000 Scope of part.

This Part implements FAR Part 3, cites EPA regulations on employee responsibilities and conduct, establishes responsibility for reporting violations and related actions, and provides for authorization of exceptions to policy.

Subpart 1503.1—Safeguards

1503.101 Standards of conduct.

1503.101-3 Agency regulations.

EPA regualtions on Employee Responsibilities and Conduct are contained in 40 CFR Part 3. All personnel involved in acquisition actions shall become familiar with the statutory and regulatory prohibitions. Any problems or questions concerning 40 CFR Part 3 shall be referred to the appropriate Deputy Ethics Official pursuant to 40 CFR Part 3, Subpart B.

1503.103 Independent pricing.

1503.103-2 Evaluating the certification.

Whenever an offer is rejected under FAR 3.103-2 or the Certificate of Independent Price Determination is suspected of being false, the Contracting Officer shall report the situation to the Inspector General through the Head of the Contracting Activity for referral to the Attorney General in accordance with FAR 3.303.

Subpart 1503.2—Contractor Gratuities to Government Personnel

1503.203 Reporting suspected violations of the gratuities clause.

EPA personnel, particularly Contracting Officers, shall promptly report, by memorandum, suspected violations of the Gratuities clause in solicitations or contracts to the Inspector General through the Head of the Contracting Activity.

Subpart 1503.3—Reports of Suspected Antitrust Violations

1503.301 General.

The Contracting Officer shall report any suspected violations of antitrust laws to the Inspector General through the Head of the Contracting Activity for referral to the Attorney General in accordance with FAR Subpart 3.3.

Subpart 1503.4—Contingent Fees

1503.408 Evaluation of the SF 119.

1503.408-1 Responsibilities.

The Contracting Officer's documentation of the evaluation of the Standard Form 119, Statement of Contingent or Other Fees, conclusions, and any proposed actions shall be reviewed by the Head of the Contracting Activity in coordination with legal counsel.

1503.409 Misrepresentations or violations of the covenant against contingent fees.

EPA personnel who suspect or have evidence of attempted or actual exercise of improper influence, misrepresentations, or violations of the Covenant Against Contingent Fees shall report the matter promptly to the Inspector General through the Head of the Contracting Activity.

Subpart 1503.5—Other Improper Business Practices

1503.502 Subcontractor kickbacks.

The Contracting Officer shall report suspected violations of the Anti-Kickback Act to the Inspector General through the Head of the Contracting Activity.

Subpart 1503.6—Contracts with Government Employees or Organizations Owned or Controlled by Them.

1503.600-70 Scope of subpart.

This subpart implements and supplements FAR Subpart 3.6 and sets forth EPA policy and procedures for identifying and dealing with conflicts of interest and improper influence or favoritism in connection with contracts involving current or former EPA employees. This subpart does not apply to agreements with other departments or agencies of the Federal Government, nor to contracts awarded to State or local units of Government.

1503.600-71 Definitions.

(a) "Regular employee" means any officer or employee of EPA who is employed or appointed, with or without compensation, to serve more than 130 days during any period of 365 consecutive days, including regular officers of the Public Health Service Commissioned Corps and reserve officers of the Public Health Service Commissioned Corps while on active duty.

(b) "Special employee" means an officer or employee of EPA who is retained, designated, appointed or employed to perform, with or without compensation, temporary duties either on a full-time or intermittent basis for not more that 130 days during any period of 365 consecutive days and who actually served more than 60 days during such 365-day period.

1503.601 Policy.

(a) No contract may be awarded without competition to a former regular or special EPA employee (or to a business concern or other organization owned or substantially owned or controlled by a former employee) whose employment terminated within 365 calendar days before submission of a proposal to EPA.

(b) No contract shall be awarded without competition to a firm which employs, or proposes to employ, a current regular or special EPA employee or a former EPA regular or special employee whose employment terminated within 365 calendar days

before submission of a proposal to EPA, if either of the following conditions exits:

(1) The current or former EPA regular or special employee is or was involved in development or negotiating the proposal for the prospective contractor.

(2) The current or former EPA regular or special employee will be involved directly or indirectly in the management, administration, or performance of the contract.

1503.602 Exceptions.

(a) The Assistant Administrator for Administration and Resources Management may authorize an exception, in writing, to the policy in FAR 3.601 and 1503.601 of this chapter for the reasons stated in FAR 3.602, if the exception would not involve a violation of 18 U.S.C. 203, 18 U.S.C. 205, 18 U.S.C. 207, 18 U.S.C. 208, or EPA regulations at 40 CFR Part 3. The Assistant Administrator shall consult with the Designated Agency Ethics Official before authorizing any exceptions.

(b) This subpart does not apply to subcontracts, that is, agreements to undertake part of the work as an independent contractor. However, where subcontracts essentially create an "employer-employee" relationship, the subpart shall apply. In determining whether such a relationship exists, the Contracting Officer shall generally be guided by the standards of Chapter 304, Subchapter 1–4 of the "Federal Personnel Manual" in distinguishing between employees and independent contractors.

1503.603 Responsibilities of the contracting officer.

Before awarding a contract, the Contracting Officer shall obtain an authorization under 1503.602 for any of the reasons stated in FAR 3.603.

1503.670 Solicitation of disclosure provision.

The Contracting Officer shall insert the provision at 1552.203–70, Current/Former Agency Employee Involvement Certification, in all noncompetitive requests for proposals.

PART 1504—ADMINISTRATIVE MATTERS

Subpart 1504.8—Contract Files

Sec.

1504.804 Closeout of contract files.

1504.804–5 Detailed procedures for closing out contract files.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c)

Subpart 1504.8—Contract Files

1504.804 Closeout of contract files.

1504.804–5 Detailed procedures for closing out contract files.

In addition to those procedures set forth in FAR 4.804–5, the contracting office shall, before final payment is made under a costreimbursement type contract, verify the allowability, allocability, and reasonableness of cost claimed. Verification of total costs incurred should be obtained from the Office of Audit through the Planning and Cost Advisory Branch, Procurement and Contracts Management Division in the form of a final audit report. Similar verification of actual costs shall be made for other contracts when cost incentives, price redeterminations, or cost-reimbursement elements are involved. Termination settlement proposals shall be submitted to the Planning and Cost Advisory Branch for review by the Office of Audit as prescribed by FAR 49.107. All such audits will be coordinated through the cost advisory office in the contracting activity. Exceptions to these procedures are the quick close-out procedures as described in 1542.708 and Unit 2 of the EPA *Acqusition Handbook*.

PART 1505—PUBLICIZING CONTRACT ACTIONS

Sec.

1505.000 Scope of part.

Subpart 1505.2—Synopses of Proposed Contracts

1505.270 Use of synopses to perform market surveys.

Subpart 1505.4—Release of Information

1505.401 General.

1505.405 Exchange of acquisition information.

Subpart 1505.5—Paid Advertisement

1505.502 Authority.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c)

1505.000 Scope of part.

This part provides additional instructions on information to include in synopses of proposed contracts, provides policy references relative to release of information, and provides procedures for obtaining information on previous Government contracts.

Subpart 1505.2—Synopses of Proposed Contracts

1505.270 Use of synopses to perform market surveys.

(a) Market surveys shall be used in justifying noncompetitive procurements with a potential value exceeding $10,000. Either the synopsis of a proposed noncompetitive contract for goods or services or a sources-sought synopsis that is detailed enough to permit submission of meaningful responses and subsequent evaluation of the responses by the Government constitutes an acceptable market survey.

(b) The synopsis of a proposed noncompetitive contract, or the sources-sought synopsis, must contain sufficient detail to permit the Contracting Officer to perform an evaluation of the responses to the synopsis. As a minimum, the synopsis shall include:

(1) A clear statement of the supplies or services being procured;

(2) Required Contractor capabilities, experience, and any other factors salient to the requirement; and

(3) Criteria and weighting of the criteria to indicate relative order of importance to be used in the evaluation of responses.

Subpart 1505.4—Release of Information

1505.401 General.

The Freedom of Information Act, 5 U.S.C. 552, provides that, with certain exceptions, Government records shall be made available to the public upon request. This Act has been implemented by the Environmental Protection Agency in 40 CFR Part 2 (5 U.S.C. 301).

1505.405 Exchange of acquisition information.

Contracting Officers shall insert the solicitation provision at 1552.214–70 and 1552.215–72, Past Performance, to obtain information on previous Government contracts or subcontracts.

Subpart 1505.5—Paid Advertisement

1505.502 Authority.

Authority to approve publication of paid advertisements in newspapers has been delegated to those Contracting Officers whose contracting officer warrant specifically grants them this authority.

SUBCHAPTER B—ACQUISITION PLANNING

PART 1508—REQUIRED SOURCES OF SUPPLY

Subpart 1508.8—Acquisition of Printing and Related Supplies

1508.870 Contract clause.

Contracting Officers shall insert the contract clause at 1552.208–70, Printing, in all contracts which require printing, duplication, binding, reproduction, and related services and are subject to the provisions of the Government Printing

and Binding Regulations published by the Joint Committee on Printing, Congress of the United States.

(Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c))

PART 1509—CONTRACTOR QUALIFICATIONS

Sec.

1509.000 Scope of part.

Subpart 1509.1—Responsible Prospective Contractors

1509.105 Procedures.
1509.105–2 Determinations and documentation.
1509.105–3 Disclosures of preaward information.

Subpart 1509.170—Contractor Performance Evaluations

1509.170–1 Scope of subpart.
1509.170–2 Applicability.
1509.170–3 Purpose.
1509.170–4 Procedures.

Subpart 1509.4—Debarment, Suspension, and Ineligibility

1509.403 Definitions.
1509.404 Consolidated list of debarred, suspended, and ineligible contractors.
1509.406 Debarment.
1509.406–3 Procedures.
1509.407 Suspension.
1509.407–3 Procedures.

Subpart 1509.5—Organizational Conflicts of Interest

1509.500 Scope of subpart.
1509.502 Applicability.
1509.503 Waiver.
1509.505–4 Obtaining access to proprietary information.
1509.506 Information sources.
1509.507 Procedures.
1509.508 Solicitation provision and contract clause.
1509.509 Examples.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c)

1509.000 Scope of part.

This Part implements FAR Part 9 and provides policy and procedures pertaining to contractor's responsibility; debarment, suspension, and ineligibility; and organizational conflicts of interest.

Subpart 1509.1—Responsible Prospective Contractors

1509.105 Procedures.

1509.105–2 Determinations and documentation.

Where the Contracting Officer makes a determination that a Contractor is not responsible and the determination is based totally or in part on factors which are also cause(s) for debarment or suspension under FAR Subpart 9.4, the Contracting Officer shall report the information as prescribed in 1509.406–3 and 1509.407–3.

1509.105–3 Disclosures of preaward information.

The Freedom of Information Act, 5 U.S.C. 552, provides that, with certain exceptions, Government records shall be made available to the public upon request. This Act has been implemented by the Environmental Protection Agency in 40 CFR Part 2. Subpart B, Confidentiality of Business Information, of 40 CFR Part 2 provides the policy and guidance pertaining to the treatment of confidential business information submitted by prospective Contractors.

Subpart 1509.170—Contractor Performance Evaluations

1509.170–1 Scope of subpart.

This subpart establishes EPA policy and procedures for evaluation of contractor performance.

1509.170–2 Applicability.

The provisions of this subpart apply to: (a) All contracts for research and development and for services other than management consulting services when the contract amount is $25,000 and above, and (b) all contracts for management consulting services, without regard to dollar value. FAR 36.201 and 36.604 provide detailed instructions for conduct of construction and architect-engineering Contractor performance evaluation.

1509.170–3 Purpose.

The purpose of this subpart is to: (a) Provide an orderly and uniform method of determining and recording the effectiveness of contractors in meeting contractual obligations; (b) emphasize to contractors the importance of satisfying contractual obligations; (c) create within the EPA a record of contractor performance and a means for considering this record in future acquisition actions; and (d) provide a system for identifying contractors with a history of poor performance.

1509.170–4 Procedures.

(a) *Use and preparation of forms.* EPA Form 1900–26, Contracting Officer's Evaluation of Contractor Performance, and EPA Form 1900–27, Project Officer's Evaluation of Contractor Performance, shall be prepared at the completion of the technical effort of the contract or purchase order to record the effectiveness of contractors in meeting contractual obligations. Forms shall be prepared in accordance with the instructions printed on the back of each form.

(b) *Responsibilities for preparation of forms.*

(1) The Contracts Management Division shall originate EPA Form 1900–26 and EPA Form 1900–27 within two weeks after the completion of the technical effort of the contract or purchase order.

(2) The Contracting Officer administering the contract shall prepare the business evaluation on EPA Form 1900–26; forward the original of the form to the Quality Assurance Section, Procurement and Contracts Management Division (PM–214), Washington, D.C. 20460; and retain a copy in the contract file.

(3) The Project Officer with technical responsibility for the contract shall prepare the technical evaluation on EPA Form 1900–27; forward the form to the Quality Assurance Section, Procurement and Contracts Management Division (PM–214), Washington, D.C. 20460; and forward a copy to the Contracting Officer for insertion in the contract file.

(c) *Unsatisfactory performance ratings.* The Contracting Officer shall apprise the Contractor of any overall rating of "unsatisfactory." If the Contractor submits comments in response to such a rating, the evaluator shall include the comments as an attachment to the evaluation form. Evaluators shall make appropriate changes to the performance evaluations if any are warranted by the Contractor's comments.

(d) *Review of evaluations.* The Quality Assurance Section, PCMD, shall review each evaluation as it is received, and compare it with recent evaluations submitted for the same Contractor. If the Quality Assurance Section discerns a pattern of unsatisfactory performance, it will notify the appropriate Contracting Officer for his/her possible action, which may include referral of the matter in accordance with 1509.406–3(a)(1).

(e) *Filing of forms.* Evaluation forms shall be filed in the Contractor performance evaluation files maintained by the Quality Assurance Section, Procurement and Contracts Management Division.

(f) *Release of ratings.* Information on Contractors' performance ratings may be obtained by contacting the Quality Assurance Section. Contractors' performance ratings determined by the Contracting Officer and the Project Officer may be released to other Government agencies at their specific written request, and on condition that the information will not be made available outside of the Government. Requests for information on the ratings from individuals of entities outside of the Government shall be processed in accordance with the Freedom of Information Act and 40 CFR Part 2.

Subpart 1509.4—Debarment, Suspension, and Ineligibility

1509.403 Definitions.

The Director, Grants Administration Division, is designated the "debarring official" and the "suspending official" as defined in FAR 9.403 and is designated as the agency official authorized to make the decisions required in FAR 9.405(a), 9.405–1(b), 9.405–2, 9.406–1(c), and 9.407–1(d).

1509.404 Consolidated list of debarred, suspended, and ineligible contractors.

The Director, Grants Administration Division (or designee) is responsible for notifying GSA in accordance with FAR 9.404(c).

1509.406 Debarment.

1509.406–3 Procedures.

(a) *Investigation and referral.*

(1) *Contracting Officer responsibility.*

(i) When contracting personnel discover information which indicates that a cause for debarment or suspension may exist, they shall promptly report such information by memorandum to the cognizant Chief of the Contracting Office. Purchasing agents in the small purchase activities which do not come under the cognizance of the Headquarters, Research Triangle Park (RTP), or Cincinnati contracting offices shall report such information by memorandum directly to the Head of the Contracting Activity (HCA).

(ii) Contracting Officers shall review the GSA consolidated list to ensure that the Agency does not solicit offers from, award contracts to, or consent to subcontract with listed contractors.

(2) *Chief of the Contracting Office responsibility.* When the Chief of the Contracting Office determines that sufficient information exists to support the reasonable belief that a cause for debarment or suspension may exist, such information shall be promptly reported by memorandum to the HCA. The memorandum to the HCA may be a cover memorandum which forwards the Contracting Officer's memorandum and provides the Chief of the Contracting Office's assessment of the information, any investigative report or audit, and any additional information he/she has discovered.

(3) *HCA responsibility.* Upon receipt of a report of a suspected debarment or suspension situation, the HCA or the designee shall take the following actions:

(i) Notify the Debarring Official that investigation of a potential debarment has been initiated.

(ii) Review the reported information.

(iii) Investigate as necessary to verify or develop additional information. Request investigative support from the EPA Inspector General when appropriate.

(iv) Refer the matter to the Debarring Official for consideration of debarment; or recommend to the Debarring Official that the matter be closed without further action because the facts do not constitute a cause for debarment.

(v) Obtain legal counsel's opinion on referrals or recommendations made to the Debarring Official.

(vi) Notify EPA Contracting Officers of those Contractors who are ineligible for solicitation, award, or subcontracting but who do not appear on the GSA Consolidated List; e.g., those who are ineligible based on a settlement reached by the Debarring Official under which the Contractor has agreed to voluntarily exclude itself from participation in Government contracting/subcontracting for a specified period or because of a Notice of Proposal to Debar.

(4) *Debarring Official's responsibility.* The Debarring Official shall:

(i) Review referrals from the HCA together with the HCA's recommendations, if any, and determine whether further consideration by the Debarring Official is warranted and take such actions as are required by FAR Subpart 9.4;

(ii) Obtain the HCA's recommendation prior to reaching a voluntary exclusion settlement with a Contractor in lieu of debarment;

(iii) Promptly notify the HCA of Contractors with whom a settlement in lieu of debarment has been reached under which the Contractor voluntarily excludes itself from or restricts its participation in Government contracting/subcontracting for a specified period; and of Contractors who have received a Notice of Proposal to Debar.

1509.407 Suspension.

1509.407–3 Procedures.

The procedures prescribed in 1509.406–3(a) shall be followed under conditions which appear to warrant suspension of a Contractor.

Subpart 1509.5—Organizational Conflicts of Interests

1509.500 Scope of subpart.

This subpart establishes EPA policy and precedures for identifying, evaluating, and resolving organizational conflicts of interest. EPA's policy is to avoid, neutralize, or mitigate organizational conflicts of interest. If EPA is unable to neutralize or mitigate the effects of a potential conflict of interest, EPA will disqualify the prospective contractor or will terminate the contract when potential or actual conflicts are identified after award.

1509.502 Applicability.

This subpart applies to all EPA contracts except agreements with other Federal agencies. However, this subpart applies to contracts with the Small Business Administration (SBA) under the 8(a) program.

1509.503 Waiver.

The Assistant Administrator for Administration and Resources Management may waive any general rule or procedure of this subpart by determining that its application in a particular situation would not be in the Government's interest. Any request for waiver must be in accordance with FAR 9.503. The Assistant General Counsel for Contracts and Information Law shall be consulted on such waiver requests.

1509.505–4 Obtaining access to proprietary information.

Contractors gaining access to confidential business information of other companies in performing advisory services for EPA shall comply with the special requirements of 40 CFR Part 2 and the provisions of their contracts relating to the treatment of confidential business information.

1509.506 Information sources.

(a) *Disclosure.* Prospective EPA Contractors responding to solicitations or submitting unsolicited proposals shall provide information to the Contracting Officer for use in identifying, evaluating, or resolving potential organizational conflicts of interest. The submittal may be a certification or a disclosure, pursuant to paragraphs (a) (1) or (2) of this section.

(1) If the prospective contractor is not aware of any information bearing on the existence of any organizational conflict of interest, it may so certify.

(2) Prospective contractors not certifying in accordance with paragraph (a)(1) of this section must provide a disclosure statement which describes concisely all relevant facts concerning any past, present, or planned interests relating to the work to be performed and bearing on whether they, including their chief executives, directors, or any proposed consultant or subcontractor, may have a potential organizational conflict of interest.

(b) *Failure to disclose information.* Any prospective contractor failing to provide full disclosure, certification, or other required information will not be eligible for award. Nondisclosure or

misrepresentation of any relevant information may also result in disqualification from award, termination of the contract for default, or debarment from Government contracts, as well as other legal action or prosecution. In response to solicitations, EPA will consider any inadvertent failure to provide disclosure certification as a "minor informality" (as explained in FAR 14.405); however, the prospective contractor must correct the omission promptly.

(c) *Exception.* Where the Contractor has previously submitted a conflict of interest certification or disclosure for a contract, only an update of such statement is required when the contract is modified.

1509.507 Procedures.

(a) The Contracting Officer shall document in writing the resolution of any potential or actual conflicts of interest identified. This documentation shall be reviewed and approved by the Head of the Contracting Activity (HCA) prior to award. If the organizational conflict of interest cannot be resolved by any other means, the Contracting Officer shall disqualify the prospective contractor from receiving the contract award.

(b) The Director, Office of Administration shall review and make the final decision on any Contractor request for higher review of the Contracting Officer's decision as prescribed in FAR 9.507(c)(4).

1509.508 Solicitation provision and contract clause.

(a) *Advance notice of limitations.* The Contracting Officer shall alert prospective contractors by placing a notice in the solicitation whenever a particular acquisition might create an organizational conflict of interest. The notice will:

(1) Include the information prescribed in FAR 9.508–1;

(2) Refer prospective contractors to this subpart; and

(3) Require proposers to disclose relevant facts concerning any past, present, or currently planned interests relating to the work described in the solicitation.

(b) *Required solicitation provision.* Except in solicitations where the Organizational Conflict of Interest provision is geared toward the particular acquisition (see 1509.508(a)), the Contracting Officer shall include in all solicitations the provisions at 1552.209–70 and 1552.209–72. The provision is optional in solicitations for small purchases.

(c) *Required contract clause.* The Contracting Officer shall include the clause in 1552.209–71, in all contracts over $10,000, and, as appropriate, in small purchases. However, the Contracting Officer need not include this clause when a specific clause is developed as prescribed in FAR 9.508–2.

1509.509 Examples.

The examples in the following paragraphs (a) through (e) illustrate situations concerning organizational conflicts of interest (OCI) considered typical of those which might be encountered in EPA contracts. While more than one OCI may exist in the situations described in the examples, the discussion is limited so as to demonstrate a specific conflict. The examples are not all inclusive but are intended to help in applying the general rules in FAR Subpart 9.5 and 1509.5.

(a) Company A, in response to a Request for Proposals (RFP), proposes to undertake certain analyses of an air emission control device. In response to the inquiry in the RFP, Company A advises that it is currently performing similar analyses for the manufacturer of the device. Normally this would constitute an OCI and a contract for that particular work would not be awarded to Company A. The company would be placed in a position in which its judgment could be biased in relation to its work for EPA. Since other well-qualified sources are available, there would be no basis for granting a waiver of the policy.

(b) Company A, in response to an RFP, proposes to undertake an economic analysis of one segment of the chemical industry. Company A advises that it derives a substantial portion of its income from the industry to be studied. Normally this would constitute an OCI and a contract would not be awarded to Company A. It would be placed in a position in which its judgment could be biased in relation to its work for EPA. Should award be made to Company A, the appearance of an OCI could undermine the credibility of the data generated under the contract and render such data useless for its intended purpose, regardless of whether any bias is actually reflected in the data.

(c) Company A receives a contract to define the detailed performance characteristics EPA will require for the purchase of automobile emission analysis equipment. Company A has not developed the particular equipment. At the time the contract is awarded, it is clear to both parties that the performance characteristics defined will be used by EPA to choose competitively a Contractor to develop or produce the equipment. Normally this would constitute an OCI and Company A should not be permitted to propose on the follow-on procurement.

(d) Company A is selected to study possible methods for disposal of toxic substances. The Agency intends to ask that firms doing research in the field make proprietary information available to Company A. The contract must require Company A to protect any proprietary information in receives, to refrain from using the information for any purpose other than that for which it was intended, and to otherwise comply with the requirements of 40 CFR Part 2 and the provisions of its contract relating to the treatment of confidential business information.

(e) Company A, in response to an RFP, proposes to perform inspections for EPA. The inspections are to determine if companies are meeting Federal requirements for limiting discharge of pollutants into the air. Company A plans to act as a consultant to the companies to be inspected. Company A should be prohibited in the contract from acting as a consultant to any of the companies being inspected during the contract period of performance and for a reasonable period thereafter.

PART 1510—SPECIFICATIONS, STANDARDS, AND OTHER PURCHASE DESCRIPTIONS

Sec.

1510.007 Deviations.
1510.011 Solicitation provisions and contract clauses.
1510.011–70 Reports of work.
1510.011–71 Monthly progress report—short form.
1510.011–72 Monthly progress report—cost-type contract.
1510.011–73 Monthly progress report—time and materials or labor hour, or indefinite delivery/indefinite quantity fixed-rate services contract.
1510.011–74 Working files.
1510.011–75 Legal analysis.
1510.011–76 Final reports.
1510.011–77 Management consulting services.

Authority: Sec. 205(c), 63 Stat. 390; as amended, 40 U.S.C. 486(r).

1510.007 Deviations.

The Head of the Contracting Activity (HCA) is the designated official responsible for ensuring that Federal specifications are used and that exceptions and deviations are justified in accordance with FAR 10.007(a).

1510.011 Solicitation provisions and contract clauses.

1510.011-70 Reports of work.

Contracting Officers shall insert one of the contract clauses at 1552.210-70 when the contract requires the delivery of reports. Alternate I should be used to specify reports in the contract schedule, whereas the other clause should be used when reports are specified in a contract attachment.

1510.011-71 Monthly progress report—short form.

Contracting Officers shall insert the contract clause at 1552.210-71 when monthly progress reports are required and the duration of the contract is contemplated to be less than six months.

1510.011-72 Monthly progress report—cost-type contract.

Contracting Officers shall insert the contract clause at 1552.210-72 when monthly progress reports are required and the duration of the contract is expected to exceed six months. This clause may also be used in cost-reimbursement contracts with a duration of less than six months.

1510.011-73 Monthly progress report—time and materials or labor hour, or indefinite delivery/indefinite quantity fixed-rate services contract.

Contracting Officers shall insert the clause at 1552.210-73 in all time and materials, labor hour, and indefinite delivery/indefinite quantity type contracts for services with a period of performance of six months or longer. The clause may also be used in these contract types when the performance period is less than six months.

1510.011-74 Working files.

Contracting Officers shall insert the contract clause at 1552.210-74 in all applicable EPA contracts where accurate working files on all work documentation is required in the performance of the contract.

1510.011-75 Legal analysis.

Contracting Officers shall insert the clause at 1552-210-75 when it is determined that the contract involves legal analysis.

1510.011-76 Final reports.

Contracting Officers shall insert the contract clause at 1552.210-76 when a contract requires both a draft and a final report.

1510.011-77 Management consulting services.

Contracting Officers shall insert the contract clause at 1552.210-77 in all contracts for management consulting services.

PART 1512—CONTRACTING DELIVERY OR PERFORMANCE

Subpart 1512.1—Delivery or Performance Schedules

1512.104 Contract clauses.

(a) The Contracting Officer shall insert the clause at 1552.212-70, Level of Effort, in term form contracts.

(b) The Contracting Officer shall insert the contract clause at 1552.212-71, Work Assignments, in cost-reimbursement type term form contracts when work assignments are used.

(Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c))

SUBCHAPTER C—CONTRACTING METHODS AND CONTRACT TYPES

PART 1513—SMALL PURCHASES AND OTHER SIMPLIFIED PURCHASE PROCEDURES

Subpart 1513.1—General

Sec.

1513.106 Competition and price reasonableness.

Subpart 1513.4—Imprest Fund

1513.404 Conditions for use.

Subpart 1513.5—Purchase Orders

1513.505 Purchase order and related forms.
1513.505-2 Agency order forms in lieu of Optional Forms 347 and 348.
1513.507 Clauses.
1513.570 Oral purchase orders.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

Subpart 1513.1—General

1513.106 Competition and price reasonableness.

Solicitation mailing lists shall be established and maintained by the three major contracting offices: Headquarters in Washington, D.C., Cincinnati, and Research Triangle Park. Contracting personnel at regional and laboratory locations are authorized to use the lists maintained by any of these offices (see 1514.205-1).

Subpart 1513.4—Imprest Fund

1513.404 Conditions for use.

Imprest funds may be used for small purchases when the transaction does not exceed $250 ($500 under emergency conditions).

Subpart 1513.5—Purchase Orders

1513.505 Purchase order and related forms.

1513.505-2 Agency order forms in lieu of Optional Forms 347 and 348.

Contracting Officers may use the EPA Form 1900-8, Procurement Request/Order, in lieu of Optional Forms 347 and 348 for individual purchases prepared in accordance with the instructions printed on the reverse thereof (see 1553.213-70).

1513.507 Clauses.

(a) It is the general policy of the Environmental Protection Agency that Contractor or vendor prescribed leases or maintenance agreements for equipment shall not be executed.

(b) The Contracting Officer shall, where appropriate, insert the clause at 1552.213-70, Notice to Suppliers of Equipment, in orders for purchases or leases of automatic data processing equipment, word processing, and similar types of commercially available equipment for which vendors, as a matter of routine commercial practice, have developed their own leases and/or customer service maintenance agreements.

1513.570 Oral purchase orders.

(a) Contracting Officers are authorized to issue oral purchase orders for supplies or services whose estimated value is $10,000 or less. Oral purchase orders may be used only where all of the following conditions are present:

(1) Supplies or services (including construction) are readily available.

(2) Detailed specifications or complex terms and conditions are not required.

(3) The vendor is willing to furnish the supplies/services on the basis of an oral order.

(4) The vendor has been advised orally of FAR/EPAAR contract clauses which are applicable.

(b) In addition to documenting the existence of the conditions prescribed in (a) above, the following actions must also be completed:

(1) The Procurement Request/Order must be annotated to indicate the date and number of the order, the supplier, the dollar value, and the delivery and discount terms.

(2) The annotated Procurement Request/Order must be retained in the purchase order file and copies provided to the originator of the procurement request, the commitment clerk, the paying office, the property office, and the shipping/receiving office.

PART 1514—FORMAL ADVERTISING

Sec.
1514.000 Scope of part.

Subpart 1514.2—Solicitation of Bids

1514.201 Preparation of invitations for bids.
1514.201–6 Solicitation provisions.
1514.205 Solicitation mailing lists.
1514.205–1 Establishment of lists.
1514.205–5 Release of solicitation mailing lists.

Subpart 1514.4—Opening of Bids and Award of Contract

1514.406 Mistakes in bids.
1514.406–3 Other mistakes disclosed before award.
1514.406–4 Mistakes after award.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1514.000 Scope of part.

This Part implements and supplements FAR Part 14 by providing additional guidance regarding the development of lists of qualified bidders, including small and disadvantaged business sources, and by requiring additional information from bidders that will be used in evaluating bids for award.

Subpart 1514.2—Solicitation of Bids

1514.201 Preparation of invitations for bids.

1514.201–6 Solicitation provisions.

(a) The Contracting Officer shall insert the solicitation provision at 1552.214–70, Past Performance, in all advertised solicitation documents.

(b) The Contracting officer shall insert the solicitation provision at 1552.214–71, Contract Award—Other Factors—Formal Advertising, in Invitations for Bid (IFB) when it is appropriate to describe other factors that will be used in evaluating bids for award.

1514.205 Solicitation mailing lists.

1514.205–1 Establishment of lists.

(a) Within EPA, solicitation mailing lists shall be established and maintained by the three major contracting offices: Headquarters in Washington, D.C., Cincinnati, and Research Triangle Park to provide for the maximum number of qualified sources in solicitations consistent with the nature of supplies or services to be acquired. Contracting personnel at regional and laboratory locations are authorized to use the lists maintained by any of these offices.

(b) It is the policy of EPA to use the Small Business Administration (SBA) procurement automated source system (PASS) for identification of small business and small disadvantaged business sources. PASS is capable of identifying businesses that are small, disadvantaged, women-owned, in labor surplus areas, and by geographic location or any combination thereof.

(c) Identification of sources through PASS or the solicitation mailing list does not negate the requirement for the Contracting Officer to synopsize the acquisition in accordance with FAR 5.201.

(d) For motion picture and videotape production requirements, the Department of Defense (DOD) Directorate for Audiovisual Management Policy, 1117 North 19th Street, Room 601, Arlington, Virginia 22209, is the Executive Agent responsible for maintaining a Qualified Film Producers List and a Qualified Videotape Producers List. When a requirement arises, the Contracting Officer shall notify the Executive Agent who will furnish the names of vendors in increments of five on a rotational basis. The Contracting Officer shall provide a copy of the solicitation to the Executive Agent.

1514.205–5 Release of solicitation mailing lists.

EPA installations shall make the solicitation mailing list, established under 1514.205–1, available to the public and Contractors during normal business hours.

Subpart 1514.4—Opening of Bids and Award of Contract

1514.406 Mistakes in bids.

1514.406–3 Other mistakes disclosed before award.

The Head of the Contracting Activity (HCA) is delegated the authority to make the administrative determinations in connection with mistakes in bids prior to award. This authority may not be redelegated. The legal counsel must review and concur with the determination.

1514.406–4 Mistakes after award.

The Chief of the Contracting Office is authorized to make determinations on mistakes in bids disclosed after award. The legal counsel must review and concur with the determination.

PART 1515—CONTRACTING BY NEGOTIATION

Sec.
1515.000 Scope of part.

Subpart 1515.1—General Requirements for Negotiation

1515.105 Competition.
1515.105–70 Conduct of market surveys.
1515.105–71 Preparation of the justification for noncompetitive procurement (JNCP).
1515.105–72 Justifications for procurements over $1,000 but not exceeding $10,000.
1515.105–73 Review and approval of the JNCP.

Subpart 1515.3—Determinations and Findings to Justify Negotiation

1515.307 Signatory authority.

Subpart 1515.4—Solicitation and Receipt of Proposals and Quotations

1515.403 Solicitation mailing lists.
1515.407 Solicitation provisions.

Subpart 1515.5—Unsolicited Proposals

1515.506 Agency procedures.
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Subpart 1515.6—Source Selection

1515.600 Scope of subpart.
1515.602 Applicability.
1515.603 Purpose.
1515.604 Responsibilities and duties.
1515.604–70 Personal conflicts of interest.
1515.605 Evaluation factors.
1515.608 Proposal evaluation.
1515.609 Competitive range.
1515.610–70 Limited discussions vs full negotiations.
1515.611 Best and final offers.
1515.612 Formal source selection.

Subpart 1515.8—Price Negotiation

1515.804 Cost or pricing data.
1515.804–3 Exemptions from a waiver of submission of certified cost or pricing data.

Subpart 1515.9—Profit

1515.900 Scope of subpart.
1515.902 Policy.
1515.905 Profit-analysis factors.
1515.970 EPA structured approach for developing profit or fee objectives.
1515.970–1 General.
1515.970–2 EPA structured system.
1515.970–3 Documentation.

Subpart 1515.10—Preaward and Postaward Notifications, Protests, and Mistakes.

1515.1002 Debriefing of unsuccessful offerors.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1515.000 Scope of part.

This part implements and supplements FAR Part 15. It prescribes the Environmental Protection Agency policies and procedures for contracting for supplies and services by negotiations.

Subpart 1515.1—General Requirements for Negotiation

1515.105 Competition.

(a) In the fulfillment of national policy, negotiated acquisitions by EPA shall be conducted competitively to the maximum practicable extent. However, it is recognized that there may be circumstances where it is in the interest of the Government and EPA to solicit

only one source. In such instances, the initiating program office may recommend that the property or services can be obtained from only one organization and that a proposal be solicited only from that source. This recommendation is subject to review and approval as provided in 1515.105–73.

(b)(1) A written justification for noncompetitive procurement (JNCP) that documents the facts and circumstances substantiating the infeasibility of competition shall be prepared by the initiating office for each recommended noncompetitive acquisition over $1,000 except those types of acquisitions specifically excepted by FAR Part 15.

(2) Noncompetitive purchases estimated to cost over $1,000 but not exceeding $10,000 shall be justified as prescribed in 1515.105–72.

(3) The recommendation shall be entitled "Justification for Noncompetitive Procurement," and shall be signed at the programmatic Division Director or comparable office level prior to submission with the procurement request. The JNCP shall contain a full and complete justification in accordance with the instructions prescribed in 1515.105–71.

1515.105–70 Conduct of market surveys.

(a) The Contracting Officer shall determine the extent of any market surveys. In making this decision, the Contracting Officer may consider such factors as the type and size of the acquisition, the results of recent competitive acquisitions for similar supplies or services, or other recent market surveys.

(b) The Contracting Officer, with input from the Project Officer, shall determine the market survey strategy and who is responsible for accomplishing the different aspects of the survey. For example, the Contracting Officer may choose to have discussions with offerors who had proposed on previous similar requirements. For market surveys involving discussions with or inquiries from commercial firms, the Contracting Officer shall conduct or participate in such discussions or inquiries.

(c) *Commerce Business Daily* (CBD) synopses of proposed noncompetitive contracts or sources-sought synopses (see 1505.270) that are detailed enough to permit submission of meaningful responses and subsequent evaluation of the responses by EPA constitute an acceptable market survey.

(d) Under those circumstances when market surveys are conducted to assist in determining the existence of competition for acquisitions over $10,000, the Contracting Officer, with the assistance of the Project Officer, shall evaluate responses to such surveys in accordance with the general criteria included in the synopses. If the evaluation indicates the existence of qualified firms, the Contracting Officer shall issue a competitive solicitation. If the Contracting Officer determines, after evaluation of responses, that a noncompetitive acquisition should be conducted, the evaluation document shall be incorporated into the JNCP for review in accordance with 1515.105–73. The documentation shall include:

(1) A copy of the CBD synopsis;

(2) A listing of respondees to the synopsis;

(3) A written evaluation of the responses; and

(4) The basis for the Contracting Officer's conclusion that competitive acquisition is impractical.

1515.105–71 Preparation of the justification for noncompetitive procurement (JNCP).

(a) The JNCP shall fully explain the circumstances which make competitive negotiation impracticable. The JNCP shall:

(1) Identify the problem, mission deficiency, or need that the contract is intended to satisfy;

(2) Provide the facts supporting the citation of one or more of the circumstances set forth in FAR Part 15 that permit the use of a noncompetitive acquisition;

(3) Demonstrate how the initiator knows that the Contractor is the only one that can meet the Government's minimum requirements;

(4) Describe the market survey that was conducted, including whether a sources-sought synopsis or a synopsis of proposed noncompetitive procurement was publicized in the *Commerce Business Daily;* and

(5) If applicable, describe the reasons why a market survey could not be undertaken in connection with an unsolicited proposal.

(b) Each JNCP shall reflect the degree of consideration that has been given to other sources in the particular field and the reasons they lack the capability that the proposed contractor evidences. The following questions represent factors that should be considered, and when appropriate, discussed in the JNCP:

(1) What unique capability applicable to the specific effort does the proposed contractor have which is essential to satisfaction of the Government's minimum requirements?

(2) Is the effort a continuation of a previous effort performed by the proposed contractor; and to what degree is such previous effort critical to the current acquisition? Such questions as the following should be considered and addressed if pertinent:

(i) Is the added effort a minor supplement to a completed project requirement? Of what significance is this fact?

(ii) Is the added effort a major supplement to a completed project requirement? Of what significance is this fact?

(iii) Is the added effort essential to the continuing project requirement? Of what significance is this fact?

(3) Does the proposed contractor have exclusive access to personnel who are considered pre-eminent experts in the particular fields necessary to perform the work? If so, identify the expert(s) and the basis for the person's or persons' expertise.

(4) What facilities, equipment, or data does the proposed contractor have which are specialized, vital to the effort, and which no other company can provide? Can the Government furnish such resources as Government-furnished equipment or data?

(5) Is urgency the basis for the JNCP? Urgency means that the need is so compelling that the Government would be injured financially or otherwise if the property or services to be acquired were not furnished by a certain time. There may be valid reasons for obtaining required goods or services on a urgent basis, and although there may be other firms capable of delivering the required goods or services, no other firm could deliver within the required performance period, even if expedited competitive procedures were employed. Explain the circumstances that led to the need for an urgent contractual action. Explain why the requirement could not have been processed in sufficient time to permit competition on an expedited basis and how it is known that only one firm is capable of timely performance (when a market survey was conducted, provide details as indicated in 1515.105–70). It should be noted that the existence of legislation, court order, or Presidential mandate is not, of itself, a sufficient basis for noncompetitive contracting. However, the circumstances which have necessitated legislation, court order, or Presidential mandate may justify contractual action on an expedited basis using noncompetitive methods.

(6) If the basis for the JNCP is an unsolicited proposal, FAR 15.507 provides criteria for justification of noncompetitive procurement.

(c) *Limitations.* The following factors, according to decisions of the Comptroller General, cannot be used to justify noncompetitive procurements:

(1) The proposed organization is either a nonprofit organization, a tax exempt entity, or a volunteer citizens group; or

(2) The proposed organization has a large price advantage and it is believed that there is little or no willingness in the market to supply competitive offers (Comptroller General Decision B-187369, 2/28/77).

1515.105-72 Justifications for procurements over $1,000 but not exceeding $10,000.

The justification for noncompetitive procurements estimated to be over $1,000 but not to exceed $10,000 shall be in the form of a brief statement attached to the EPA Form 1900-8, Procurement Request/Order.

1515.105-73 Review and approval of the JNCP.

The review and approval of JNCPs shall be conducted by contracting officials at the levels specified in Figure 1515-1 below. The review shall assess the quality of consideration given those factors discussed in 1515.105-71 and the approval shall be based upon the validity of the justification offered in support of the proposal to contract on a noncompetitive basis.

FIGURE 1515-1

Potential contract value	Approving official
• $1,001 to $10,000	Contracting officer.
• $10,001 to $99,999	One level above the contracting officer.
• $100,000 to $1,000,000 (FY 84).	Head of the contracting activity (HCA) or designated representative.[1]
• $100,000 to $500,000 (FY 85).	HCA or designated representative.[1]
• $100,000 to $300,000 (FY 86).	HCA or designated representative.[1]
• Over $1,000,000 (FY 84).	HCA or deputy on a nondelegable basis.[1]
• Over $500,000 (FY 85).	HCA or deputy on a nondelegable basis.[1]
• Over $300,000 (FY 86 and thereafter.	HCA or deputy on a nondelegable basis.[1]

[1] The Contracting Officer shall submit JNCPs directly to the approving official.

Subpart 1515.3—Determinations and Findings to Justify Negotiation

1515.307 Signatory authority.

(a) The Administrator of EPA signs all determinations and findings (D&Fs) authorizing negotiation where agency head signature is prescribed in FAR Subpart 15.2 and Table 15-1 of the FAR.

(b) The Head of the Contracting Activity (HCA) is authorized to sign D&Fs for:

(1) Contracts negotiated under 41 U.S.C. 252(c)(11) when less than $25,000 will be expended; and

(2) Contracts negotiated under 41 U.S.C. 252(c)(14).

(c) The Contracting Officer is authorized to sign all other D&Fs related to authority to negotiate except as otherwise provided in paragraphs (a) and (b) of this section.

Subpart 1515.4—Solicitation and Receipt of Proposals and Quotations

1515.403 Solicitation mailing lists.

Contracting offices shall establish, maintain, and use lists of potential sources in accordance with 1514.205-1.

1515.407 Solicitation provisions.

(a) In addition to those provisions prescribed in FAR 15.407, the Contracting Officer shall insert in negotiated solicitations the provisions at—

(1) 1552.215-72, Past Performance;

(2) 1552.215-73, Instructions for the Preparation of Technical and Cost or Pricing Proposals;

(3) 1552.215-75, Additional Representations, Certifications, and Statements of Offerors Whose Proposals Are In the Competitive Range; and

(b) The Contracting Officer shall insert the provision at 1552.215-76, General Financial and Organizational Information, in requests for revised proposals (or requests for best and final offers) from offerors in the competitive range.

(c) The Contracting Officer shall insert the provision at 1552.215-74, Cost Proposal Instructions, in negotiated solicitations when cost or pricing data is required in an offeror's proposal and it is necessary to obtain the detailed cost data specified in the provision. While designed to obtain cost data for acquisitions under the Compreshensive Environmental Response, Compensation and Liability Act, the provision may be used in other negotiated solicitations.

Subpart 1515.5—Unsolicited Proposals

1515.506 Agency procedures.

The Director, Grants Administration Division (PM-216), EPA, 401 M Street S.W., Washington, D.C. 20460, is the Agency contact point established to coordinate the receipt and handling of unsolicited proposals.

1515.507 Contracting methods.

The Department of Housing and Urban Development-Independent Agencies Appropriation Act contains a requirement that none of the funds provided in the Act may be used for payment through grants or contracts to recipients that do not share in the cost of conducting research resulting from proposals that are not specifically solicited by the Government. Accordingly, contracts which result from unsolicited proposals shall provide for the Contractor to bear a portion of the cost of performance for work subject to the Act. However, where there is no measurable gain to the performing organization, cost sharing is not required.

Subpart 1515.6—Source Selection

1515.600 Scope of subpart.

This subpart establishes EPA policies and procedures for the source evaluation and selection processes in competitive negotiated acquisitions.

1515.602 Applicability.

FAR Subpart 15.6 and this subpart apply to all competitive negotiated procurements in excess of $25,000 except architect-engineering services which are covered in 1536.6.

1515.603 Purpose.

EPA personnel shall conduct source evaluation and selection in accordance with consistent standards and procedures that ensure fair and impartial treatment of all offerors.

1515.604 Responsibilities and duties.

In addition to those cited in FAR 15.604, the following responsibilities and duties are assigned:

(a) *Source Selection Official.* The Source Selection Official (SSO) is the official responsible for overall management of the source selection process. Duties of the SSO include appointing the members and chairpersons of the Source Evaluation Board, the Technical Evaluation Panel, and the Business Evaluation Panel and approving the solicitation document, including any amendments. The SSO approves the competitive range decision and makes the source selection decision.

(b) *Source Evaluation Board.* The Source Evaluation Board (SEB) consists of a chairperson who is responsible for all of the procedural and administrative aspects of the SEB, and other specialists, e.g., technical, procurement, and financial, as may be deemed appropriate by the SSO. An attorney from the Office of General Counsel should serve in an advisory role to the SEB. The SEB makes recommendations to the SSO on selection of a contractor for award.

(c) *Technical Evaluation Panel.* The Technical Evaluation Panel (TEP) develops the evaluation criteria and the Statement of Work for the solicitation and performs the technical evaluation of offers. All members of the TEP must review all proposals initially submitted in response to a solicitation. Unless approved in advance by the SSO, only individuals who evaluated initial proposals may evaluate revised

proposals submitted after determination of the competitive range.

(d) *Business Evaluation Panel.* The Business Evaluation Panel (BEP) reviews the solicitation evaluation criteria and Statement of Work from a business perspective; evaluates the business and contractual aspects of the offerors' business proposals; and considers other factors such as responsibility of the offerors.

1515.604-70 Personal conflicts of interests.

(a) Only regular or special Government employees of EPA as defined in 40 CFR 3.102, or where appropriate, other Federal Government agencies, may participate in the evaluation and selection process.

(b) Each EPA employee (including special employees) engaged in source evaluation and selection is required to be familiar with the provisions of 40 CFR Part 3 regarding personal conflicts of interests. The employee shall inform the Source Selection Official in writing if his/her participation in the source evaluation and selection process could be interpreted as a possible or apparent conflict of interest. The SSO shall relieve any EPA employee who has a conflict of interest of further duties in connection with the evaluation and selection process.

1515.605 Evaluation factors.

The evaluation factors that will be considered in making the source selection and their relative importance shall be included in "Part IV, Section M, Evaluation Factors for Award," in each solicitation.

(a) The Contracting Officer shall insert the provision in 1552.215-70, EPA Source Evaluation and Selection Procedures—Negotiated Procurements and either: (1) The provision in 1552.215-71 Evaluation Factors for Award where technical quality is more important than cost or price, or (2) the provision in Alternate I to 1552.215-71 where cost or price is more important than technical quality, provided an offeror's technical proposal meets the minimum needs of the Government.

(b) Technical evaluation criteria should be prepared in accordance with FAR 15.605 and inserted into paragraph (o) of the provision in 1552.215-71 or Alternate I to that provision.

1515.608 Proposal evaluation.

(a) The initial technical evaluations of proposals shall be conducted in accordance with the following procedures.

(1) The evaluation of technical proposals shall be accomplished using the Scoring Plan specified below, which consists of narrative qualitative descriptions to which numerical values have been assigned. These values shall be applied against the weight assigned to each technical evaluation criterion and subcriterion set forth in the solicitation. The Scoring Plan values are expressed on a scale of zero through five; each value, except "0," "3.5," and "4.5" represents a multiple of 20 percent which is to be used in determining the technical score. For example, a value of "4" applied to a particular technical evaluation criterion whose weight is 30, would result in a technical score of 24. The values used in technical proposal evaluation shall be limited to those established in the Scoring Plan.

SCORING PLAN

Value	Descriptive statement
0	The element is not addressed, or is totally deficient and without merit.
1	The element is addressed but contains deficiencies that can be corrected only by major or significant changes to relevant portions of the proposal.
2	Clarification is required. Final scoring of the element will be made following limited discussions or full negotiations, if discussions or negotiations are held with the offeror.
3	The proposal element is adequate. Overall it meets specifications. However, comments should be made on any perceived weaknesses or on areas in which an offeror could improve.
3.5 [1]	Intermediate merit.
4	The proposal element is good with some superior features.
4.5 [1]	Intermediate merit.
5	The proposal is superior in most feature.

[1] The values 3.5 and 4.5 are to be used to indicate intermediate merit. If used, the Chairperson of the Technical Evaluation Panel shall provide a narrative to explain the distinction between values 3 and 4 or values 4 and 5.

(2) *Ranking.* The assignment of numerical scores to a technical proposal establishes the relative rank of that proposal with respect to those of other offerors. The use of pre-established cut-off scores to determine the competitive range or the source to be selected is prohibited. Each member of the TEP shall independently evaluate and score each offer. The TEP Chairperson shall develop a consensus opinion on the scores assigned to each offer. The averaging of individual TEP member's scores to arrive at an overall panel score is prohibited.

(b) *Technical and business evaluation panel reports of initial offers.* The TEP and BEP shall deliver their respective reports to the Contracting Officer upon completion of the evaluation of initial offers.

(1) The TEP report shall include:

(i) A detailed scoring of each offer received and a narrative summary of facts and findings of significant strengths, weaknesses, and risks associated with each offer. The narrative summary and the score must be consistent. Score sheets prepared by each individual panel member must be made available upon the Contracting Officer's request. For contracts valued at $500,000 or less, the Chairperson of the TEP may use the short form technical evaluation format (EPA Form 1900-61); and

(ii) Any interrogatories the Contracting Officer should submit to offerors to clarify their technical proposals. The Contracting Officer may review the technical proposals and TEP evaluation and submit any additional interrogatories deemed appropriate

(2) The BEP report shall include:

(i) A preliminary cost evaluation of each offeror's cost proposal. The evaluation may include worksheets or a formal narrative pointing out cost elements which appear unreasonable or questionable. For level of effort contracts, the evaluation shall compare proposed costs with the cost standards specified in the solicitation (e.g., man-hours per labor category); and

(ii) A discussion of any factors which might prevent award to an offeror (e.g., appearance on a debarred/suspended list).

(3) Both the TEP and BEP reports shall also include:

(i) A statement that the respective panel members are free from actual or potential personal conflicts of interest; and

(ii) Any information which might reveal that a offeror has an actual or potential organizational conflict of interest.

(c) *Technical and business evaluation reports following the competitive range determination.*

(1) The Project Officer shall deliver a supplemental TEP report to the Contracting Officer at the completion of evaluation of revised proposals and prior to final selection. The supplemental report shall include, for each offeror in the competitive range:

(i) A discussion of whether or not the offerors' cost proposals adequately reflect their technical proposals and the requirements of the solicitation;

(ii) A summary evaluation of the technical aspects of each offeror's record of recent or current performance. The evaluation of past performance includes an analysis of the offeror's previous efforts to provide work of a high quality in a timely, cost-efficient manner. However, past performance is not a criterion to be scored. Where the offeror is known to have performed contracts for EPA and for other Government agencies for comparable work, those agencies should be contacted for a record of past

performance and the Contracting Officer contacted for a record of past performance on EPA contracts; and

(iii) Any changes to the initial technical evaluation scores and a narrative evaluation based on discussions or negotiations and the revised technical proposal. All revised score sheets by each panel member must be included.

(2) The BEP shall deliver a supplemental BEP report to the Contracting Officer at the completion of evaluation of revised proposals and prior to final selection. The supplemental report shall include, for each offeror in the competitive range:

(i) A detailed cost analysis of the business proposal. For contracts valued at $500,000 or less, EPA encourages the contract specialist to perform the cost analysis. However, the contract specialist may seek the assistance of a cost/price analyst when necessary;

(ii) An evaluation of the offeror's proposed management structure to be utilized for performance;

(iii) An evaluation of the offeror's subcontracting program as it relates to small businesses, labor surplus area concerns, and socially and economically disadvantaged business enterprises;

(iv) An evaluation of the offeror's record of performance under prior EPA contracts as it relates to timely performance, history of cost control, requests for changes, and quality of the end product. The BEP should obtain this information from the Contractor Performance Evaluation System. Where the offeror is known to have performed contracts with other Government agencies for comparable work, the BEP should contact those agencies for a record of past performance; and

(v) An evaluation of those business elements submitted with each proposal which could lead to a determination of nonresponsibility by the Contracting Officer.

(d) *Safeguarding information.* The following procedures are prescribed for protecting source selection information.

(1) Offerors' identities, offer contents, and prices shall be treated with the utmost discretion to avoid compromising the evaluation results or giving any offeror an unfair competitive advantage. Any questions regarding the receipt and distribution of offers, status of the proceedings, or other matters shall be referred to the Contracting Officer or designated contract specialist.

(2) After receipt of proposals, the contract specialist shall serially number all proposal copies received, distribute the required number of proposal copies to the TEP and BEP, and be responsible for the collection and final disposal of proposal copies. The panel chairpersons shall maintain a log of proposal distribution within the TEP and BEP. The contract specialist shall destroy all excess copies of proposals in a timely manner. The original copy of each unsuccessful proposal should be retained by the contract specialist as a reference in conducting debriefings. A minimum of two copies of the successful proposal should be retained (contract file copy/Project Officer file copy) for reference in administering the contract. Final disposition of the file shall be accomplished in accordance with FAR Subpart 4.8, and the EPA "Records Management Manual."

1515.609 Competitive range.

(a) The Contracting Officer shall prepare the determination of the competitive range for the subsequent approval of the SSO. Where there is reasonable doubt regarding the inclusion of a particular offer within the competitive range, that doubt should be resolved in favor of inclusion. All determinations must be completely documented to support the competitive range decision.

(b) When the procurement action is expected to exceed $5,000,000, the SSO may call for an oral briefing by the Contracting Officer prior to granting approval of the competitive range decision.

(c) When only one offer is determined to be in the competitive range, the Contracting Officer shall review the solicitation document to assure that it did not unduly restrict competition. The competitive range determination shall include the Contracting Officer's determination that the solicitation is not restrictive. The determination shall include a discussion of the relevant aspects of the solicitation.

1515.610-70 Limited discussions vs full negotiations.

(a) To satisfy the varying nature of its acquisitions, EPA encourages the Contracting Officer to suit the negotiation strategy to the circumstances of the procurement. Factors which influence this decision include the number of proposals and relative closeness of technical scores and costs.

(b) After determination of the competitive range, the Contracting Officer may proceed with limited cost/full technical discussions with the firms in the competitive range, generally through interrogatories, and final in-depth negotiations with one or more firm(s) still within the competitive range after evaluation of revised proposals; complete/full cost and technical negotiations with all firms comprising the competitive range; or a variation of these two approaches as the circumstances of the procurement dictate. Regardless of which approach is used, the Contracting Officer is encouraged to raise cost questions as early as possible and not defer them to final negotiations. Discussions/negotiations with contractors in the competitive range shall include questions on past performance [Government and non-Government] that was less than satisfactory. Information on past performance may be obtained from program personnel who have served as Project Officers on relevant contracts, and/or from the contractor performance evaluations maintained by the Procurement and Contracts Management Division.

1515.611 Best and final offers.

The Contracting Officer shall establish a common cut-off date for receipt of revised proposals and/or confirmations of negotiations (best and final offers) upon completion of limited discussions or full negotiations.

1515.612 Formal source selection.

(a) *Responsibilities for evaluation and selection.* The Source Selection Official (SSO) shall appoint the SEB, TEP, and BEP members prior to issuance of the solicitation to allow the members to participate in the development and review of the solicitation document. Appointments should be recommended in the source selection plan prepared by the Contracting Officer in accordance with FAR 15.612(c). Individuals involved in the evaluation and selection process shall be at the levels specified below.

(1) *Acquisitions having a potential value exceeding $5,000,000:*

(i) SSO—HCA.

(ii) SEB Chairperson—HCA or his/her designee (must be a procurement official).

(iii) SEB Membership—Chief of the Contracting Office, TEP chairperson, BEP chairperson, and other specialists as assigned by the SSO.

(iv) TEP Chairperson—Project Officer (PO).

(v) TEP Membership—At least two members in addition to the Project Officer who are knowledgeable of the procurement's technical aspects.

(vi) BEP Chairperson—Contracting Officer (CO).

(vii) BEP Membership—Contract specialist and cost/price analyst.

(2) *Acquisitions having a potential value of $5,000,000 or less:*

(i) SSO—To be determined by the Chief of the Contracting Office, unless

otherwise restricted in his/her delegation of procurement authority.

(ii) SEB—An SEB need be established only when requested by the program office or determined necessary by the SSO. The SSO shall determine the organizational levels of the individuals to serve on the SEB.

(iii) TEP and BEP chairpersons and memberships shall be constituted as in paragraph (a)(1)(iv) through (vii) of this section. (For contracts valued at $500,000 or less, the Project Officer may be the only member of the TEP and the Contracting Officer or contract specialist may be the only member of the BEP.)

(b) *Source selection decision.*

(1) *Source Evaluation Board Report.* In procurements where an SEB is convened, the SEB shall provide the SSO with a report on its findings. The report shall be submitted after completion of discussions or full negotiations, depending on the source selection method employed, and shall include:

(i) A description of the acquisition;

(ii) A summary of the significant strengths, weaknesses, and risks associated with each offer still in the competitive range. This summary shall generally be an independent assessment of the facts and findings appearing in the TEP and BEP reports. The SEB report contains recommendations for selection; and

(iii) A statement that the SEB members are free from actual or potential personal conflicts of interest.

(2) *Source selection.* (i) The Contracting Officer shall prepare the source selection decision for the SSO's subsequent approval. The decision shall document the consideration given to price or cost, technical merit, and other factors contained in the solicitation. These other factors (e.g., record of prior performance, the offeror's subcontracting plan, etc.) may be used as the unscored discriminating elements for determining the selection of a source between two otherwise substantially equal offers from both a cost and technical standpoint.

(ii) The SEB report to the SSO may serve as the source selection decision provided the recommendation of the SEB is accepted by the SSO and the SEB report includes the information required by 1515.612(b)(2)(i).

Subpart 1515.8—Price Negotiation

1515.804 Cost or pricing data.

1515.804-3 Exemptions from or waiver of submission of certified cost or pricing data.

The Head of the Contracting Activity (HCA) is delegated the authority to waive, in exceptional cases, the requirement for submission of certified cost or pricing data.

Subpart 1515.9—Profit

1515.900 Scope of subpart.

This subpart implements FAR Subpart 15.9 and prescribes the EPA structured approach for determining profit or fee prenegotiation objectives.

1515.902 Policy.

(a) *EPA structured approach.* FAR 15.902 requires that agencies use a structured approach for determining the profit or fee objective in those acquisitions that require cost analysis. The structured approach prescribed in 1515.970 shall be used by EPA Contracting Officers in developing a prenegotiation profit or fee objective except as provided in paragraph (b)(1) of this section. The purpose of the structured approach is:

(1) To provide a standard method of evaluation;

(2) To ensure consideration of all relative factors;

(3) To provide a basis for documentation and explanation of the profit negotiation objective;

(4) To allow Contractors to earn profits commensurate with the assumption of risk;

(5) To reward Contractors who provide their own facilities, financing and personnel; and

(6) To reward Contractors who undertake more difficult work requiring higher risks.

(b)(1) *Other methods.* Contracting Officers may use methods other than those prescibed in 1515.970 for estabishing profit or fee objectives under the following circumstances.

(i) Architect-engineering contracts;

(ii) Personal or professional service contracts;

(iii) Management contracts, e.g., for maintenance or operation of Government facilities;

(iv) Termination settlements;

(v) Engineering services, labor-hour, time and materials contracts which provide for payment on a man-hour, man-day, or man-month basis, and where the contribution by the Contractor constitutes the furnishing of personnel rather than the output of an integrated research, engineering, or manufacturing operation;

(vi) Contruction contracts; and

(vii) Cost-plus-award-fee contracts.

(2) Generally, it is expected that such methods will:

(i) Provide the Contracting Officer with a technique that will ensure consideration of the relative value of the appropriate profit factors described under "Profit Factors," and

(ii) Serve as a basis for documentation of the objective.

(c) Under unusual circumstances, the Head of the Contracting Activity (HCA) may specifically waive the requirement for the use of the guidelines. Such exceptions shall be justified in writing and authorized only in situations where the guidelines method is determined to be unsuitable.

(d) *Limitations.* In the event that any of the methods used would result in establishing a fee objective in violation of limitations established by statute (see FAR 15.903(d), the maximum fee objective bshall be the percentage allowed pursuant to such limitations. No administrative ceilings on profits or fees shall be established.

1515.905 Profit-anaylsis factors.

Profit-analysis factors prescribed in the EPA structured approach in analyzing profit or fee include those prescribed by FAR 15.905-1 and additional factors authorized by FAR 15.905-2 to foster achievement of program objectives. These profit or fee factors are prescribed in 1515.970-2.

1515.970 EPA structured approach for developing profit or fee objectives.

1515.970-1 General.

(a) It is the policy of the Agency to utilize profit to attract Contractors who possess talents and skills necessary to the accomplishment of the objectives of the EPA and to stimulate efficient contract performance. In negotiating profit/fee, it is necessary that all relative factors be considered, and that fair and reasonable amounts be negotiated which give the Contractor a profit objective commensurate with the nature of the work to be done, the Contractor's input to the total performance, and the risks assumed by the Contractor.

(b) To properly reflect differences among contracts and the circumstances relating thereto and to select an appropriate relative profit/fee in consideration of these differences and circumstances, weightings have been developed for application by the Contracting Officer to standard measurement bases representative of the prescribed profit factors cited in FAR 15.905 and paragraph 1515.970-2(a)(1). Each profit factor or subfactor, or component thereof, has been assigned weights relative to their value to the contract's overall effort and the range of weights to be applied to each profit factor.

1515.970–2 EPA structured system.

(a)(1) *Profit factors.* The factors set forth below and the weighted ranges listed after each factor shall be used in all instances where the profit is to be specifically negotiated.

CONTRACTOR'S INPUT TO TOTAL PERFORMANCE

Direct materials	Weight range (percent)
Purchases	1 to 4
Subcontracts	1 to 5
Equipment	1 to 2
Engineering labor	8 to 15
Engineering overhead	6 to 9
Manufacturing labor	5 to 9
Manufacturing overhead	4 to 7
Consultants	2 to 5
Other direct costs	1 to 3
General and administrative expenses	5 to 8
Contractor's assumptions of contract cost risk	8 to 6
Record of contractor's performance	−2 to +2
Cost efficiency	
Management	
Extent of investment	
Reliability of cost estimates	
Inventive and developmental contributions	
Timely performance	
Small business participation	
Labor surplus area participation	
Extent of Government assistance	
Effect of competition	

(2) The Contracting Officer shall first measure the "Contractor's Input to Total Performance" by the assignment of a profit percentage within the designated weight ranges to each element of contract cost recognized by the Contracting Officer. Such costs are multiplied by the specific percentages to arrive at specific dollar profits. The amount calculated for facilities capital cost of money shall not be included as part of the cost base for the computation of profit or fee. A complete discussion of how facilities capital cost of money is determined and how it is applied and administered is set forth in FAR 31.205–10.

(3) After computing a total dollar profit for the Contractor's Input to Total Performance, the Contracting Officer shall calculate the specific profit dollars assigned for cost risk and performance. This is accomplished by multiplying the total Government cost objective, exclusive of any facilities capital cost of money, by the specific weight assigned to cost risk and performance. The Contracting Officer shall then determine the profit or fee objective by adding the total profit dollars for the Contractor's Input to Total Performance to the specific dollar profits assigned to cost risk and performance. The profit or fee objective shall then be reduced by an amount equal to the amount of facilities capital cost of money allowed. EPA Form 1900–2 shall be used to facilitate the calculation of this profit or fee objective.

(4) The weight factors shown are designed for arriving at profit or fee objectives for other than nonprofit and not-for-profit organizations. Adjustments as explained below are to be made to reflect differences between profit and nonprofit organizations.

(i) For purposes of this subparagraph, nonprofit and not-for-profit organizations are defined as those business entities organized and operated exclusively for charitable, scientific or educational purposes, no part of the net earnings of which inure to the benefit of any private shareholder or individual, no substantial part of the activities of which is carrying on propaganda or otherwise attempting to influence legislation or participating in any political campaign on behalf of any candidate for public office, and which are exempt from Federal income taxation under section 51 of the Internal Revenue Code.

(ii) For contracts with nonprofit and not-for-profit organizations where fees are involved, the following adjustments are required:

(A) A special factor of −3 percent shall be assigned in all cases.

(B) The weighted ranges from "Record of Contractor's Performance" shall be halved, i.e., −1 percent to +1 percent rather than −2 percent to +2 percent.

(b) *Assignment of values to specific factors*—(1) *General.* In making his/her judgment of the value of each factor, the Contracting Officer should be governed by the definition, description, and purpose of the factors together with considerations for evaluating them as set forth herein.

(2) *Contractor's input to total performance.* This factor is a measure of how much the Contractor itself is expected to contribute to the overall effort necessary to meet the contract performance requirements in an efficient manner. This factor, which is apart from the Contractor's responsibility for contract performance, takes into account what resources are necessary and what the Contractor itself must do to accomplish a conversion of ideas and materials into the final item called for in the contract. This is a recognition that within a given performance output, or within a given sales dollar figure, necessary efforts on the part of individual contractors can vary widely in both value and quantity, and that the profit objective should reflect the extent and nature of the Contractor's contribution to total performance. Greater profit opportunity should be provided under contracts requiring a high degree of professional and managerial skill and to prospective contractors whose skills, facilities, and technical assets can be expected to lead to efficient and economical contract performance. The evaluation of this factor requires an analysis of the cost content of the proposed contract as follows:

(i) *Direct materials (purchased parts, subcontracted items, and other material).* Analysis of these cost items shall include an evaluation of the managerial and technical effort necessary to obtain the required purchased parts, subcontracted items, and other materials. This evaluation shall include consideration of the number of orders and suppliers, and whether established sources are available or new sources must be developed. The Contracting Officer shall also determine whether the Contractor will, for example, obtain the materials by routine orders or readily available supplies (particularly those of substantial value in relation to the total contract costs), or by detailed subcontracts for which the prime Contractor will be required to develop complex specifications involving creative design or close tolerance manufacturing requirements. Consideration should be given to the managerial and technical efforts necessary for the prime Contractor to administer subcontracts, and select subcontractors, including efforts to break out subcontracts from sole sources, through the introduction of competition. These determinations should be made for purchases of raw materials or basic commodities, purchases of processed material including all types of components of standard or near-standard characteristics, and purchases of pieces, assemblies, subassemblies, special tooling, and other products special to the end-item. In the application of this criterion, it should be recognized that the contribution of the prime Contractor to its purchasing program might be substantial. This might be applicable in the management of subcontracting programs involving many sources, involving new complex components and instrumentation, incomplete specifications, and close surveillance by the prime Contractor's representative. Recognized costs proposed as direct material cost such as scrap charges shall be treated as material for profit evaluation. If intracompany transfers are accepted at price, in accordance with FAR 31.205–26(e), they should be excluded from the fee computation. Other intracompany transfers shall be evaluated by individual components of cost, i.e., material, labor, and overhead. Normally, the lowest weight for direct

material is 2 percent. A weighting of less than 2 percent and would be appropriate only in unusual circumstances when there is a minimal contribution by the Contractor in relation to the total cost of the material.

(ii) *Equipment.* It is the policy of the Agency to contract with individuals or firms who have special capabilities relative to the needs of the EPA. These capabilities include personnel with particular skills, or talents, and facilities (plant and equipment) necessary to complete the contract objectives. For the purpose of profit/fee analysis, equipment includes purchased items which are not to be an integral part of the final product. It would generally consist of production or test equipment. Where the EPA has to provide equipment to be Contractor either as Government-furnished equipment or Contractor-acquired equipment, appropriate profit/fee adjustments are necessary. Generally, a low weight range shall be assigned to the cost of such equipment (1 to 2 percent).

(iii) *Engineering labor and manufactuirng labor.* Analysis of the engineering labor and manufacturing labor items of the cost content of the contract should include evaluation of the comparative quality and level of the engineering talents, manufacturing skills, and experience to be employed. In evaluating engineering labor for the purpose of assigning profit dollars, consideration should be given to the amount of notable scientific talent or unusual or source engineering talent needed in contrast to journeyman engineering effort or supporting personnel. The diversity, or lack thereof, of scientific and engineering specialties required for contract performance and the corresponding need for engineering supervision and coordination should be evaluated. Similarly, the variety of manufacturing labor skills required and the Contractor's manpower resources for meeting these requirements should be considered. For the purpose of profit/fee computation, manufacturing labor includes all nonprofessional labor, e.g., secretaries, technicians and carpenters, etc.

(iv) *Engineering overhead, manufacturing overhead, and general and administrative expenses.* (A) Where practicable, analysis of these overhead items of costs should include the evaluation of the make up of the expenses and how much they contribute to contract performance. This analysis should include a determination of the amount of labor within these overhead pools and how this labor would be treated if it were considered as direct labor under the contract. The allocable labor elements should be given the same profit consideration that they would receive if they were treated as direct labor. The other elements of these overhead pools should be evaluated to determine whether they are routine expenses such as utilities, depreciation, and maintenance, and hence given lesser profit consideration given the pools as a whole.

(B) It is not necessary that the Contractor's accounting system break down its overhead expenses within the classification of engineering overhead, manufacturing overhead, and general and administrative expenses. The Contractor whose accounting system only reflects one overhead rate on all direct labor need not change its system to correspond with all the above classifications. Where practicable, the Contracting Officer in his/her evaluation of such a Contractor's overhead rate should break out the applicable sections of the composite rate which could be classified as engineering overhead, manufacturing overhead, and general and administrative expenses and follow the appropriate evaluation technique. When it is not practicalbe to evaluate the elements of the burden pool, the following rates should usually apply:

	Percent
Engineering overhead	7.5
Manufacturing overhead	5.5
Composite overhead	6.5
G&A	6.5

(C) It is not necessary for the Contracting Officer to make a separate profit evaluation of overhead expenses in connection with each procurement action for substantially the same product with the same contractor. Once an analysis of the profit weight to be assigned the overhead pool has been made, the weight assigned may be used for future procurements with the same contractor until there is a change in the cost composition of the overhead pool or the contract circumstances.

(v) *Consultants.* Consultant costs, whether related to an individual consultant or consulting firm should be analyzed from the standpoint of what talents and skills the consultants have and how they will be used on the contract. The analysis should consider if the Contractor normally should be expected to have people with comparable expertise employed as full-time staff or if the contract requires skills not normally available on an employer-employee relationship. Where the Contractor is using consultants to perform services which could normally be expected to be done in-house, the rating factor should be generally below 2 to 3 percent. Where noted experts are retained for consultation on the contract, the rating will generally be higher.

(vi) *Other direct costs.* Items of costs, such as travel, subsistence, printing, and computers should generally be assigned a rating of 1 to 3 percent. The analysis of these costs should be similar to the analysis of direct materials.

(3) *Contractor's assumption of contract cost risk.* (i) It is the policy of the Administration to shift the risk of contract costs to the fullest extent practicable to contractors and to compensate them for the assumption of this risk. Evaluation of this risk requires a determination of: (A) The degree of cost responsibility the Contractor assumes, (B) the reliability of the cost estimates in relation to the task assumed, and (C) the chance of the Contractor's success or failure. This factor is specially limited to the risk of contract costs. Thus, such risks of losing potential profits in other fields are not within the scope of this factor.

(ii) The first and basic determination of the degree of cost responsibility assumed by the Contractor is related to the sharing of total risk of contract cost by the Government and the Contractor through the selection of contract type. The extremes are a cost-plus-fixed-fee contract requiring only that the Contractor use its best efforts to perform a task, and a firm-fixed-price contract for a complex item. Such cost-plus-fixed-fee contract would reflect a minimum assumption of cost responsibility, whereas such firm-fixed-price contract would reflect a complete assumption of cost responsibility. Therefore, in the first step of determining what value is to be given for the Contractor's assumption of contract cost risk, a zero rating shall be given to a proposed cost-plus-fixed-fee best efforts contract, and a higher rating shall be given to a closely priced firm-fixed-price contract for a new, complex item.

(iii) The second determination is that of the reliability of the cost estimates. Sound price negotiation requires well-defined contract objectives and reliable cost estimates. An excessive cost estimate reduces the possibility that the cost of performance will exceed the contract price, thereby reducing the Contractor's assumption of contract cost risk.

(iv) The third determination is that of the difficulty of the Contractor's task. The Contractor's task can be difficult or easy, regardless of the tyne of contract.

(v) Contractors are likely to assume greater cost risks only if the Contracting Officers objectively analyze the risk incident to proposed contracts and are willing to compensate Contractors for it. Generally, a cost-plus-fixed-fee contract would not justify a reward for risk in excess of 1 percent, nor would a firm-fixed-price contract justify a reward of less than 4 percent. Where proper contract type selection has been made, the reward for risk by contract type would usually fall into the following percentages ranges:

Type of contract	Percentage ranges
Cost-plus-fixed-fee	0 to 1.
Cost-plus-incentive-fee including cost incentives only.	1 to 2.
Cost-plus-incentive-fee including cost, performance, and delivery incentives	2½ to 3.
Fixed-price-incentive including cost incentives only	2 to 4.
Fixed-price-incentive including cost, performance, and delivery incentives.	3 to 5.
Prospective price determination	4 to 5.
Firm-fixed-price	4 to 6.

(A) These ranges may not be appropriate for all procurement situations. For instance, a fixed-price-incentive contract which is closely priced with a low ceiling price and a high incentive share may be tantamount to a firm-fixed-price contract. In this situation, the Contracting Officer might determine that a basis exists for high confidence in the reasonableness of the estimate, and that little opportunity exists for cost reduction without extraordinary efforts. The Contractor's willingness to accept ceilings on their burden rates should be considered as a risk factor for cost-plus-fixed-fee contracts.

(B) In making a contract cost risk evaluation in a procurement action that involves definitization of a letter contract, consideration should by given to the effect on total contract cost risk as a result of haivng partial performance under a letter contract. Under some circumstances, it may be reasoned that the total amount of cost risk has been effectively reduced by the existence of a letter contract. Under other circumstances, it may be apparent that the Contractor's cost risk remained substantially as great as though a letter contract had not been used. Where a Contractor has begun work under an anticipatory cost letter, the risk assumed is greater than the normal situation. To be equitable the determination of a profit weight for application to the total of all recognized costs, both those incurred and those yet to be expended, must be made with consideration to all attendant circumstances, not just to the portion of costs incurred or percentages of work completed, prior to definitization.

(4) *Record of contract performance.* (i) The purpose of this factor is to motivate Contractors to improve their performance by rewarding them for excellent past performance and penalizing them for poor performance. Effective use of this factor requires that: (A) Reports on the various aspects of past performance be obtained and evaluated; and (B) this information be used in such a way as to motivate Contractors to improve their performance.

(ii) The evaluation of a particular Contractor's past performance and the importance placed upon the various subfactors listed below should be done in such a way as to motivate the Contractor to improve its performance. For instance, it might be pointless, in evaluating the performance of an autonomous division of a multidivisional contractor, to place emphasis on the performance of another autonomous division. Under such circumstances, the management of the division being evaluated might have no means of controlling the performance of the other division; therefore, emphasis on this performance by assigning a plus or minus rating to this factor might have a negative effect upon motivation to improve.

(iii) The weight to be assigned to this factor is arrived at on a judgment basis rather than an arithmetical averaging of weights assigned to all factors, depending upon the particular procurement situation, and the relative importance of the various factors. For example, an evaluation of a particular Contractor may indicate that its performance was satisfactory in most areas, except that it showed a preference for doing all work in-house and a disinclination to support Government small business objectives. In such a case the Contracting Officer may feel that the importance of these factors might justify the assignment of a lower overall rating for the record of past performance.

(iv) As stated above, the purpose of this factor is to reward a Contractor for excellent past performance and penalize it for poor performance. Therefore, performance which is rated as merely satisfactory should generally be assigned a weight of zero. However, a Contractor who has consistently met contractual requirements may be awarded a plus.

(v) The following factors are to be considered in evaluating a Contractor's performance record:

(A) *Cost efficiency.* Low cost performance reflecting economic use of facilities and manpower, sound purchasing methods and subcontracting procedures, and effective inventory control are criteria for consideration. Improvement in efficiency through investment in plant modernization, past efficiencies, or lack thereof, effectiveness of the Contractor's make-or-buy program, purchasing and subcontracting system and inventory control should be evaluated.

(B) *Management.* Stability and competence of managment personnel, their willingness and ability to adjust company resources to meet peculiarly difficult and changing control requirements are criteria for consideration. The degree of cooperation by the Contractor with the objectives of the Government should be considered.

(C) *Extent of the contractor's investment.* The extent of a Contractor's total investment (i.e., both equity and borrowed capital) in the performance of the contract will be taken into consideration in determining the amount of the fee or profits.

(D) *Reliability of cost estimates.* Accuracy and reliability of previous cost estimates should be considered. Where substantial overruns have occurred, the Contracting Officer should attempt to determine the reasons.

(E) *Inventive and developmental contributions.* Extent and nature of Contractor-initiated and financed research, development, design work, product engineering, quality control, and manufacturing processes and techniques in the areas of concern to the EPA should be analyzed.

(F) *Timely performance.* The Contractor's performance record, considering excusable delays and the Contractor's efforts to overcome delays, should be analyzed.

(G) *Small business participation.* The Contractor's policies and procedures which energetically support Government small business programs pursuant to FAR Subpart 19.7 should be given favorable consideration. Any unusual effort which the Contractor displays in subscontracting with small concerns, particularly for development type work likely to result in later production opportunities, and overall effectiveness of the Contractor in subcontracting with and furnishing assistance to small concerns should be considered. Conversely, failure or unwillingness on the part of the Contractor to support Government small business policies should be viewed as evidence of poor

performance for the purpose of establishing a profit objective.

(H) *Labor surplus area participation.* A similar review and evaluation (as required in paragraph (b)(4)(v)(G) of this section) should be given to the Contractor's policies and procedures supporting the Government's labor surplus area program pursuant to FAR Part 20. Particular favorable consideration should be given to a Contractor who: (1) Makes a significant effort to help find jobs and provide training for the hardcore unemployed, or (2) promotes maximum subcontractor utilization of certified-eligible concerns, as defined in FAR 20.101.

(I) *Extent of Government assistance.* The Government encourages its Contractors to perform their contracts with the minimum of financial, facilities, or other assistance from the Government. Where extraordinary financial, facilities, or other assistance must be furnished to a Contractor by the Government, such extraordinary assistance should have a modifying effect in determining what constitutes a fair and reasonable profit or fee.

(J) *Effect of competition.* When competition is effective and proposals are on a firm-fixed-price basis, the Contracting Officer normally need not consider in detail the amount of estimated profit included in a price. When effective competition is lacking, and in all cases where cost analysis is performed in accordance with FAR Subpart 15.8, the estimate for profit, target profit or fee, or the proposed fixed fee should be analyzed in the same manner as all other elements of price.

1515.970-3 Documentation.

Determination of the profit or fee objective, in accordance with this subpart shall be fully documented. Since the profit objective is the Contracting Officer's pre-negotiation evaluation of a total profit allowance for the proposed contract, the amounts developed for each category of cost will probably change in the course of negotiation. Furthermore, the negotiated profit will probably vary from the profit objective and from the prenegotiation detailed application of the weights to each element of the Contractor's input to total performance. Since the profit objective is viewed as a whole rather than as its component parts, insignificant variations from the prenegotiation profit objective, as a result of changes to the Contractor's input to total performance, need not be documented in detail. Conversely, significant deviations from the profit objective necessary to reach a final agreement on profit or fee shall be explained in the record of negotiation prepared in accordance with FAR 15.808.

Subpart 1515.10—Preaward and Postaward Notifications, Protests, and Mistakes

1515.1002 Debriefing of unsuccessful offerors.

Debriefings of unsuccessful offerors shall be conducted by the Source Selection Official (SSO), or his/her designee, with participation of the Project Officer and such other specialists as the SSO or designee deems necessary. All debriefings shall be held after contract award.

PART 1516—TYPE OF CONTRACTS

Sec.

1516.000 Scope of part.

Subpart 1516.3—Cost-Reimbursement Contracts

1516.307 Contract clauses.

Subpart 1516.4—Incentive Contracts

1516.404-2 Cost-plus-award-fee contracts.
1516.404-270 Scope.
1516.404-271 Applicability.
1516.404-272 Objectives.
1516.404-273 Limitations.
1516.404-274 Fee limitations.
1516.404-275 Definitions and responsibilities.
1516.404-276 Appointment of personnel.
1516.404-277 Preparation of the award fee plan.
1516.404-278 Operation of the evaluation system.
1516.404-279 Simplified procedures.
1516.404-2710 Deviation.
1516.405 Contract clauses.

Subpart 1516.5—Indefinite-Delivery Contracts

1516.505 Contract clauses.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1516.000 Scope of part.

This Part implements and supplements FAR Part 16. It provides policy and procedures for cost-plus-award-fee type contracts and prescribes additional contract clauses for use with cost-reimbursement and indefinite-delivery type contracts.

Subpart 1516.3—Cost-Reimbursement Contracts

1516.307 Contract clauses.

The Contracting Officer shall insert the clause in 1552.216-71, Date of Incurrence of Cost, in cost-reimbursement contracts when an anticipatory cost letter has been issued on the project.

Subpart 1516.4—Incentive Contracts

1516.404-2 Cost-plus-award-fee contracts.

1516.404-270 Scope.

This subsection establishes the EPA policy and procedures for cost-plus-award-fee (CPAF) type contracts.

1516.404-271 Applicability.

(a) The provisions of this subsection apply to all CPAF type contracts. Contracting Officers shall consider all contract actions conforming to the limitations of FAR 16.404-2(c) and 1516.404-273, which have a potential value of $5,000,000 or more as candidates for award as a CPAF contract. Contracting Officers may utilize CPAF contracts for requirements whose estimated value is less than $5,000,000 when considered appropriate.

(b) The formal procedures established in this subpart apply to contract acquisitions with a potential value exceeding $2,000,000. The simplified procedures prescribed in 1516.404-279 are authorized for CPAF contracts with a potential value of $2,000,000 or less.

1516.404-272 Objectives.

The award fee contract, when determined suitable for use, is a combination of at least three EPA contracting objectives: (a) It provides for the reimbursement of allowable, allocable, and reasonable costs; (b) it fixes a dollar amount beyond the initial estimate of costs that represents the compensation for risk (base fee); and (c) it motivates performance throughout the life of a contract where success breeds additional income (award fee). The CPAF contract is used when the work to be performed is such that specific quantitative objective measurement is not feasible and the required performance extends over a sufficient period of time for the award fee features to be used effectively.

1516.404-273 Limitations.

Contracting Officers should use the CPAF contract in acquiring supplies or nonpersonal services only where the contract amount, period of performance, and expected benefits warrant the additional effort and costs involved in administering this type of contract. Contracting Officers should use the CPAF contract only for those acquisitions where:

(a) The Contracting Officer determines a cost-reimbursement contract is necessary in accordance with FAR 16.301-2 and FAR 16.301-3;

(b) The period of performance is more than one year;

(c) The nature of the work cannot be specifically described and is of a continuous service or level of effort susceptible to monitoring; or

(d) The requirement is of such a nature that the Contractor's performance is susceptible to monitoring.

1516.404-274 Fee limitations.

The base fee should normally be not more than three percent of the estimated cost of the contract. (See FAR 15.903(d), for maximum fee limitations.) At the time of award, the Contracting Officer shall obligate the total amount of base and award fee. However, in incrementally funded contracts, the Contracting Officer shall separate the fee into the base and award fee portions and obligate only the initial increment of cost, base fee, and award fee. The Contracting Officer shall award the total award fee earned for the period being evaluated. The Contracting Officer shall not carry forward into a subsequent evaluation period any award fee not awarded in a previous evaluation period.

1516.404-275 Definitions and responsibilities.

"Award Fee Plan" means a plan, developed by the PEB, which identifies various categories of performance and clearly describes the criteria used by the PEB to evaluate Contractor performance. The plan also allocates the award fee pool among performance categories.

"Award Fee Pool" means that portion of the contract fee set forth in the contract as the amount of fee available to be awarded for Contractor performance in accordance with the criteria contained in the Award Fee Plan.

"Evaluation Coordinator" means a Government official appointed to receive, code, validate, and assess Performance Monitor reports; and to present such Contractor performance information and data to the PEB.

"Fee Determination Official (FDO)" means the Chief of the Contracting Office who reviews the recommendation of the Performance Evaluation Board and makes the final determination of the award fee.

"PEB Executive Secretary" means a Government official who prepares the official PEB report.

"Performance Evaluation Board (PEB)" means a board of Government officials, which performs the in-depth review of all aspects of Contractor performance and recommends an appropriate fee to the FDO.

"Performance Event" means a discrete happening or series of related happenings occurring during the course of performance which indicate or represent Contractor performance. Performance events shall be reported by the performance monitors on EPA Form No. 1900-41B. The Contractor may report performance events directly to the PEB through the Evaluation Coordinator either as they occur or as a summary report of the evaluation period.

"Performance Monitor(s)" means those Government employees designated to observe, assess, and report the performance of the Contractor on a close, continuous day-to-day basis. Performance monitors are of two categories: Technical and business. The technical performance monitors report on the Contractors performing the technical requirements of the contract. The business performance monitors report on the business aspects of the Contractor's performance; these individuals will be the Contracting Officer/Contract Specialist and Cost Analyst most familiar with the specific contractual and financial aspects of the contract.

"Period of Evaluation" means a segment of the contract's period of performance specified in the award fee plan which will be evaluated by the PEB for purposes of establishing the award fee for that period.

1516.404-276 Appointment of personnel.

(a) The Head of the Contracting Activity (HCA) will determine, in concert with the responsible program office, the participants in the award fee process. The Contracting Officer shall prepare the formal appointment memorandum and forward it to the HCA prior to issuance of the solicitation. Individuals shall be designated as follows:

(1) "Chairperson, Performance Evaluation Board and Board Members." The Chairperson of the Performance Evaluation Board shall be the laboratory or division director of the program initiating the procurement. A representative of the responsible contracts operation office shall be a voting member of all PEBs. The Chairperson of the PEB and the Contracting Officer shall recommend other board members.

(2) "Evaluation Coordinator." As recommended by the Chairperson of the PEB.

(3) "Executive Secretary." As recommended by the Chairperson of the PEB.

(4) "Performance Monitors." The PEB Chairperson shall assure that adequate performance monitoring capability is available. These individuals need not be designated in the appointment memorandum.

(b) If any changes in the composition of the PEB are necessary, the following approvals shall be obtained:

(1) Chairperson, PEB—by the FDO.

(2) PEB members—by the Chairperson, PEB.

1516.404-277 Preparation of the award fee plan.

The purpose of the award fee plan is to describe in one document the plan for monitoring, assessing, and evaluating Contractor performance to determine any award fee earned. The PEB shall develop and follow an award fee plan which clearly describes the criteria to be used to determine fee. The PEB shall forward the plan through the Contracting Officer to the HCA for approval prior to issuance of the solicitation. The Contracting Officer shall include the award fee plan in the solicitation. A complete award fee plan should include the following elements:

(a) The base fee amount.

(b) The total award fee pool.

(c) Performance areas to be evaluated.

(d) Criteria to be used in evaluations.

(e) Relative weights to be assigned to performance areas and to the evaluation criteria.

(f) Frequency and timing of award fee determination.

(g) Proportion of the total award fee pool to be available for each evaluation period.

(h) Procedure to be followed (the timing involved) in evaluating performance and determining the award fee.

1516.404-278 Operation of the evaluation system.

(a) *Performance Reporting.* Performance Monitors shall report information in the form of one or more individual Performance Event Reports on EPA Form 1900-41B, CPAF Contract Individual Performance Event, directly to the cognizant Evaluation Coordinator in accordance with intervals specified in the award fee plan. The Performance Monitors shall observe the following definitions of Contractor performance in reporting and judging performance events:

(1) Superior—"+" The performance event exceeds the satisfactory level.

(2) Satisfactory—"0" The performance event is acceptable.

(3) Substandard—"−" The performance event is less than satisfactory.

(b) *Performance Information Coordination.* (1) The Evaluation Coordinator shall receive, code, validate, and assess the Performance Events (PE) reports submitted by the monitors and select all those PEs he/she considers to be significant, i.e., above (+) or below (−) satisfactory performance.

(2) The Evaluation Coordinator shall also prepare separate PE summaries for each performance evaluation category. The summaries will be prepared on EPA Form 1900–41A, Summary of Significant Performance Events, and will incorporate all monitor and contractor reported PEs the coordinator considers significant. The Evaluation Coordinator shall be responsible for preparing and presenting all material the PEB requires for its performance assessment. This material will serve: (i) As the PEB's agenda, and (ii) as the complete documentation package which will support the PEB's fee recommendation. It will be organized into separate sections for each performance evaluation category. Each section will consist of the following material:

(A) Summary of Significant Performance Events, EPA Form 1900–41A.

(B) The Individual PE reports, EPA Form 1900–41B.

(c) *Evaluation of Performance.* The PEB shall perform a review of the performance events against each performance evaluation category to arrive at the recommended award fee for each category as well as the total award fee for the period. The PEB must meet within 30 calendar days after the end of each evaluation period. At the initial PEB meeting the board members shall determine what fee the Contractor would normally receive if the work was being undertaken on a Cost-Plus-Fixed-Fee (CPFF) basis. After determining this amount, the Board shall determine what percentage of the available award fee pool that, when added to the base fee, will equal the amount the Contractor would receive under a CPFF contract. This percentage of award fee will set the baseline for satisfactory performance.

(d) *The Period of Evaluation.* The period of evaluation will be at least every six months. The desired period of evaluation will be every four months.

(e) *Performance Evaluation Report.* Following the PEB meeting at which the award fee recommendation is reached, the Executive Secretary will prepare a Performance Evaluation Report and forward this to the Contracting Officer. The Contracting Officer will prepare a letter for signature of the FDO informing the Contractor's general management of the amount and basis of the fee awarded. The Contracting Officer shall forward the Performance Evaluation Report and the fee determination letter (the Performance Evaluation Report shall be an attachment to the fee determination letter) to the FDO for signature. The FDO will review the performance evaluation and fee recommendation and make a final determination of fee.

1516.404–279 Simplified procedures.

The following CPAF procedures are authorized for procurements of $2,000,000 or less which conform to the limitations in paragraph 1516.404–273.

(a) No appointment of a formal PEB is necessary. The Project Officer and Contracting Officer perform the duties and functions of the PEB members. In lieu of performance monitors reporting to an evaluation coordinator, the Project Officer will personally monitor and assess the technical performance of the Contractor for each evaluation period. The Contracting Officer or contract specialist will monitor the business aspects of the Contractor's performance.

(b) The Chief of the Contracting Office shall approve the award fee plan in lieu of the HCA.

(c) The Project Officer and the Contracting Officer shall report performance events on EPA Form 1900–41B. Use of the summary of significant performance events is not required.

(d) The Project Officer, with input from the Contracting Officer, will prepare the performance evaluation report.

1516.404–2710 Deviation.

Deviation from this section shall be as prescribed in subpart 1501.4.

1516.405 Contract clauses.

The Contracting Officer shall insert the clause at 1552.216–70, Award Fee, in solicitations and contracts when a cost-plus-award-fee contract is contemplated.

Subpart 1516.5—Indefinite-Delivery Contracts

1516.505 Contract clauses.

(a) The Contracting Officer shall insert the clause in 1552.216–72, Ordering—By Designated Ordering Officers, in indefinite delivery/indefinite quantity type solicitations and contracts.

(b) The Contracting Officer shall insert the clause in 1552.216–73, Fixed Rates for Services—Indefinite Delivery/Indefinite Quantity Contract, in solicitations and contracts to specify fixed rates for services.

PART 1517—SPECIAL CONTRACTING METHODS

Subpart 1517.2—Options

Sec.

1517.200 Scope of subpart.
1517.202 Use of options.
1517.207 Exercise of options.
1517.208 Solicitation provisions and contract clauses.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

Subpart 1517.2—Options

1517.200 Scope of subpart.

This subpart does not apply to contracts for services involving: (a) Construction, alteration, or repair of real property; (b) architect-engineering services; (c) automatic data processing equipment systems; and (d) telecommunication equipment and services. However, it does not preclude the use of options in those contracts.

1517.202 Use of options.

(a) The use of options for increased quantities of supplies or services which exceed 50 percent of the base quantity specified in the contract for a particular period shall be approved by the Head of the Contracting Activity (HCA) prior to issuing the solicitation. In the case of supplies, the 50 percent limitation applies only to contracts which have a base quantity of more than one.

(b) The use of option periods which, when combined with the base contract period, results in a total contract period of performance exceeding thirty-six (36) months shall be approved by the Chief of the Contracting Office prior to issuing the solicitation. In no event, however, shall the total of the base and option periods exceed sixty (60) months in duration.

1517.207 Exercise of options.

(a) Unless otherwise approved by the Chief of the Contracting Office, contracts for services employing option periods shall require that a preliminary written notice of the Government's intention to exercise the option be furnished to the Contractor a minimum of sixty (60) calendar days prior to the date for the exercise of the option. Failure to provide such preliminary notice within the timeframe established in the contract waives the Government's right to unilaterally exercise the option and requires the negotiation of a bilateral contract modification in order to extend the period of performance, where such an extension is authorized.

(b) When the term of the service contract coincides with the fiscal year and delays in receipt of authority to

obligate funds for the new fiscal year are anticipated, the Contracting Officer, if the contract so provides (see FAR 17.204(d)), may, within 60 days after the end of the fiscal year, unilaterally exercise an option to extend the term of the contract. The option may be exercised only if funds become available within the 60-day period. In the event that sufficient funding is not available within the 60-day period, the Government waives the right to unilaterally exercise the option, thereby rendering any additional requirements subject to normal competitive procurement procedures.

(c) The Contracting Officer, if the contract so provides, may, subject to the conditions in FAR 17.204(d), 32.703-2, and 32.705-1(a), exercise an option contingent upon the availability of funds. To exercise such an option, the contract must contain the clause in FAR 52.232-18, Availability of Funds. Under no circumstances shall any action be taken which could be construed as creating a legal liability on the part of the Government until a formal notice of availability of funds in the form of a contract modification has been issued by the Contracting Officer.

§ 1517.208 Solicitation provisions and contract clauses.

(a) The Contracting Officer shall insert the solicitation provision at 1552.217-70, Evaluation of Contract Options, in Requests for Proposals when options are included.

(b) The Contracting Officer shall insert the clause at 1552.217-71, Option To Extend the Term of the Contract—Cost-Type Contract, when applicable.

(c) The Contracting Officer shall insert the clause at 1552.217-72, Option To Extend the Term of the Contract—Cost-Plus-Award-Fee Contract, when applicable.

(d) The Contracting Officer shall insert the clause at 1552.217-73, Option for Increased Quantity—Cost-Type Contract, when applicable.

(e) The Contracting Officer shall insert the clause at 1552.217-74, Option for Increased Quantity—Cost-Plus-Award-Fee Contract, when applicable.

(f) The Contracting Officer shall insert the clause at 1552.217-75, Option To Extend the Effective Period of the Contract—Time and Materials or Labor Hour Contract, when applicable.

(g) The Contracting Officer shall insert the clause at 1552.217-76, Option To Extend the Effective Period of the Contract—Indefinite Delivery/Indefinite Quantity Contract, when applicable.

SUBCHAPTER D—SOCIOECONOMIC PROGRAMS

PART 1519—SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS CONCERNS

Sec.

1519.000 Scope of part.

Subpart 1519.2—Policies

1519.201 Policy.
1519.201-1 Director of Small and Disadvantaged Business Utilization.
1519.201-2 Small and disadvantaged business utilization specialists.
1519.202-5 Data collection and reporting requirements.

Subpart 1519.5—Set-Asides for Small Business

1519.501 Review of acquisitions.
1519.503 Class set-aside for construction.

Subpart 1519.6—Certificates of Competency and Determinations of Eligibility

1519.602-1 Procedures.

Subpart 1519.7—Subcontracting with Small Business and Small Disadvantaged Business Concerns

1519.705-2 Determining the need for a subcontract plan.
1519.705-4 Reviewing the subcontracting plan.
1519.705-70 Synopsis of contracts containing Pub. L. 95-507 subcontracting plans and goals.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1519.000 Scope of part.

This part implements FAR Part 19 and provides policy and procedures for the development and conduct of the Agency small business and small, disadvantaged business utilization programs; for review of acquisitions for small business set-asides; and for subcontracting with small and small disadvantaged business concerns.

Subpart 1519.2—Policies

1519.201 Policy.

Each program's Assistant or Associate Administrator shall be responsible for developing its socioeconomic goals on a fiscal year basis. The goals shall be developed in collaboration with the supporting Chiefs of Contracting Offices and the local Small and Disadvantaged Business Utilization Specialist (SDBUS), and the Office of Small and Disadvantaged Business Utilization (OSDBU). The goals will be based on advance procurement plans and past performance. The goals shall be submitted to the Director, OSDBU, at least thirty (30) days prior to the start of the fiscal year.

1519.201-1 Director of Small and Disadvantaged Business Utilization.

The Director, OSDBU, provides guidance and advice, as appropriate, to Agency program and contracts officials on small and small disadvantaged business programs. The Director, OSDBU, is the central point of contact for inquiries concerning the small and disadvantaged business programs from industry, the Small Business Administration (SBA), and the Congress, and shall advise the Administrator and staff of such inquiries as required. The Director, OSDBU, shall represent the Agency in the negotiations with the other Government agencies on small and small disadvantaged business matters.

1519.201-2 Small and disadvantaged business utilization specialists.

(a) Small and Disadvantaged Business Utilization Specialists (SDBUS) shall be appointed in writing for each contracting office. The SDBUS will normally be appointed from members of staffs of the appointing authority. The SDBUS is administratively responsible directly to the appointing authority and, on matters relating to small and small disadvantaged business program activities, receives technical guidance from the Director, OSDBU. The appointing authorities are the Chiefs of the Contracting Offices.

(b) A copy of each appointment and termination of all SDBU specialists shall be forwarded to the Director, OSDBU. In addition to performing the duties outlined in paragraph (c) of this section that are normally performed in the activity to which assigned, the SDBUS shall perform such additional functions as may be prescribed from time to time in furtherance of overall small and small disadvantaged business utilization program goals. The SDBUS is not precluded from being assigned the responsibility for the labor surplus area program prescribed by FAR Part 20. The SDBUS may be appointed on either a full- or part-time basis; however, when appointed on a part-time basis, the small business duty shall take precedence over collateral responsibilities.

(c) The SDBUS appointed pursuant to (a) above shall perform the following duties as appropriate:

(1) Maintain a program designed to locate capable small business sources for current and future acquisitions;

(2) Coordinate inquiries and requests for advice from small and small disadvantaged business concerns on acquisition matters;

(3) Review all proposed solicitations over $10,000, assure that small business

concerns will be afforded an equitable opportunity to compete, and, as appropriate, initiate recommendations for small business set-asides, or offers of requirements to the SBA for the 8(a) program, and complete EPA Form 1900-37, "Record of Procurement Request Review," as appropriate:

(4) Take action to assure the availability of adequate specifications and drawings, when necessary, to obtain small business participation in an acquisition. When small business concerns cannot be given an opportunity on a current acquisition, initiate action, in writing, with appropriate technical and contracting personnel to ensure that necessary specifications and/or drawings for future acquisitions are available.

(5) Review proposed contracts for possible breakout of items or services suitable for acquisition from small business and small disadvantaged business concerns;

(6) Advise small businesses with respect to the financial assistance available under existing laws and regulations and assist such concerns in applying for financial assistance;

(7) Participate in the evaluation of a prime contractor's small business subcontracting programs;

(8) Assure that adequate records are maintained, and accurate reports prepared, concerning small business participation in acquisition programs (see 1519.202-5);

(9) Make available to SBA copies of solicitations when so requested;

(10) Act as liaison with the appropriate SBA office or representative in connection with set-asides, certificates of competency, size classification, and any other matter concerning the small or small disadvantaged business programs.

1519.202-5 Data collection and reporting requirements.

(a) As required, monthly reports of factual information, covering acquisition actions and dollars awarded to small businesses, small disadvantaged businesses, women-owned small businesses, the Small Business Administration under the authority of section 8(a) of the Small Business Act, and information on actions and dollars made under small business set-asides shall be submitted by the Procurement and Contracts Management Division, to the Director, OSDBU.

(b) The Financial Management Division will submit to the Director, OSDBU, a copy of the Small Purchase Activity Report that shows by each EPA purchasing activity the following information (cumulative monthly) for small purchases:

(1) Total actions and dollar value of awards;

(2) Total actions and dollar value of awards to all businesses;

(3) Total actions and dollar value of awards to small businesses;

(4) Total actions and dollar value of construction awards to small businesses made by set-aside;

(5) Total actions and dollar value of small business awards made by set-asides, excluding set-asides for construction;

(6) Total actions and dollar value of awards made to the Small Business Administration pursuant to section 8(a) of the Small Business Act; and

(7) Total actions and dollar value of awards made to small disadvantaged businesses.

(c) The reports identified in Paragraphs (a) and (b) of this section are to be submitted to the Director, OSDBU, no later than the 20th day following the end of the reporting period with the exception of the last report of the fiscal year which shall be submitted no later than the 30th day following the end of the fiscal year.

Subpart 1519.5—Set-Asides for Small Business

1519.501 Review of acquisitions.

(a) If no Small Business Administration (SBA) representative is available, the Small and Disadvantaged Business Utilization Specialist (SDBUS) shall initiate recommendations to the Contracting Officer for small business set-asides with respect to individual acquisitions or classes of acquisitions or portions thereof.

(b) When the SDBUS has recommended that all, or a portion, of an individual acquisition or class of acquisitions be set aside for small business, the Contracting Officer shall promptly either: (1) Concur in the recommendation or (2) disapprove the recommendation, stating in writing the reasons for disapproval. If the Contracting Officer disapproves the recommendation of the SDBUS, the SDBUS may appeal to the appropriate appointing authority, whose decision shall be final.

1519.503 Class set-aside for construction.

(a) Each proposed acquisition for construction estimated to cost between $10,000 and $1,000,000 shall be set-aside for exclusive small business participation. Such set-asides shall be considered to be unilateral small business set-asides, and shall be withdrawn in accordance with the procedure of FAR 19.506 only if found not to serve the best interest of the Government.

(b) Small business set-aside preferences for construction acquisitions in excess of $1,000,000 shall be considered on a case-by-case basis.

Subpart 1519.6—Certificates of Competency and Determinations of Eligibility

1519.602-1 Procedures.

A copy of the documentation supporting the determination that a small business concern is not responsible, as required by FAR 19.601-1(a), shall be transmitted to the Director, Office of Small and Disadvantaged Business Utilization, concurrently with the submission of a copy of the documentation to the appropriate Small Business Administration Regional Office.

Subpart 1519.7—Subcontracting With Small Business and Small Disadvantaged Business Concerns

1519.705-2 Determining the need for a subcontract plan.

One copy of the determination required by FAR 19.705-2(c) shall be placed in the contract file and one copy provided the Director, Office of Small and Disadvantaged Business Utilization (OSDBU).

1519.705-4 Reviewing the subcontracting plan.

In determining the acceptability of a proposed subcontracting plan, the Contracting Officer shall obtain advice and recommendations from the OSDBU, which shall in turn coordinate review by the Small Business Administration Procurement Center Representative (if any).

1519.705-70 Synopsis of contracts containing Pub. L. 95-507 subcontracting plans and goals.

the synopsis of contract award, where applicable, shall include a statement identifying the contract as one containing Pub. L. 95-507 subcontracting plans and goals.

PART 1520—LABOR SURPLUS AREA CONCERNS

Subpart 1520.1—General

Sec.

1520.102 Labor surplus area goals.

Subpart 1520.3—Labor Surplus Area Subcontracting Program

1520.303 Review of subcontracting program.

Authority: sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

Subpart 1520.1—General

1520.102 Labor surplus area goals.

Labor surplus area goals shall be developed as prescribed in 1519.201.

Subpart 1520.3—Labor Surplus Area Subcontracting Program

1520.303 Review of subcontracting program.

The Contracting Officer, in conjunction with the Office of Small and Disadvantaged Business Utilization, shall review labor surplus area subcontracting programs.

PART 1522—APPLICATION OF LABOR LAWS TO GOVERNMENT ACQUISITIONS

Sec.

1522.000 Scope of part.

Subpart 1522.1—Basic Labor Policies

1522.103 Overtime.
1522.103–4 Approvals.

Subpart 1522.6—Walsh-Healey Public Contracts Act

1522.608 Procedures.
1522.608–3 Protests against eligibility.
1522.608–4 Award pending final determination.
1522.608–6 Postaward.

Subpart 1522.8—Equal Employment Opportunity

1522.803 Responsibilities.
1522.804 Affirmative action programs.
1522.804–2 Construction.
1522.805 Procedures.

Subpart 1522.10—Service Contract Act of 1965

1522.1003 Applicability.

Subpart 1522.13—Special Disabled and Vietnam Era Veterans

1522.1306 Complaint procedures.

Subpart 1522.14—Employment of the Handicapped

1522.1403 Waivers.
1522.1406 Complaint Procedures.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1522.000 Scope of part.

This part implements FAR Part 22 and provide procedures to be followed in obtaining approvals or deteminations from the Small Business Administration (SBA), the Department of Labor (DOL) or the Office of Contract Compliance Programs (OFCCP) on matters related to the application of labor laws.

Subpart 1522.1—Basic Labor Policies

1522.103 Overtime.

1522.103–4 Approvals.

The Chief of the Contracting Office is the Agency approving official.

Subpart 1522.6—Walsh-Healey Public Contracts Act

1522.608 Procedures.

1522.608–3 Protests against eligibility.

The Contracting Officer shall forward the determination of eligibility, after concurrence by legal counsel, to the Head of the Contracting Activity (HCA) for referral to the Department of Labor (DOL) or to the Administrator of SBA if the offeror is a small business.

1522.608–4 Award pending final determination.

If an offeror's eligibility case is pending review by DOL or SBA, the Contracting Officer shall obtain the concurrence of legal counsel and approval of the HCA prior to making an award.

1522.608–6 Postaward.

The Contracting Officer shall follow the procedures in 1522.608–3.

Subpart 1522.8—Equal Employment Opportunity

1522.803 Responsibilities.

If the applicability of E.O. 11246 and implementing regulations are questioned, the Contracting Officer shall route the matter through the Head of the Contracting Activity (HCA) to the EPA Office of Civil Rights.

1522.804 Affirmative action programs.

1522.804–2 Construction.

Each contracting office having construction contract responsibility shall maintain a list of geographical areas subject to affirmative action requirements. The list can be obtained from the Office of Contract Compliance Programs.

1522.805 Procedures.

(a) Preaward clearance requests cited in FAR 22.805(a) (2), (3), and (5) shall be forwarded to the EPA Office of Civil Rights. The Contracting Officer shall submit requests for clearance cited in FAR 22.805(a)(7) through the EPA Office of Civil Rights.

(b) The Contracting Office shall obtain posters entitled "Equal Opportunity Is the Law" from the EPA Office of Civil Rights.

Subpart 1522.10—Service Contract Act of 1965

1522.1003 Applicability.

Requests for determinations and exemptions shall be submitted to the Head of the Contracting Activity for signature and transmittal to the Department of Labor in accordance with FAR 22.1003(e).

Subpart 1522.13—Special Disabled and Vietnam Era Veterans

1522.1306 Complaint procedures.

The Contracting Officer shall forward complaints received to the Head of the Contracting Activity for referral to the Department of Labor.

Subpart 1522.14—Employment of the Handicapped

1522.1403 Waivers.

Contracting Officers shall submit waiver requests to the Head of the Contracting Activity (HCA) for processing. Such requests shall be coordinated with the EPA Office of Civil Rights.

1522.1406 Complaint procedures.

Complaints regarding the administration of the Act shall be coordinated with the EPA Office of Civil Rights prior to submission to the Office of Contract Compliance Programs.

PART 1523—ENVIRONMENTAL, CONSERVATION, AND OCCUPATIONAL SAFETY

Subpart 1523.3—Hazardous Material and Material Safety Data

Sec.

1523.303 Contract clause.
1523.303–70 Protection of human subjects.
1523.303–71 Decontamination of Government-furnished property.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

Subpart 1523.3—Hazardous Material and Material Safety Data

1523.303 Contract clause.

1523.303–70 Protection of human subjects.

Contracting Officers shall insert the contract clause at 1552.223–70 when the contract involves human test subjects.

1523.303–71 Decontamination of Government-furnished property.

Contracting Officers shall insert the contract clause at 1552.245–70, Decontamination of Government-Furnished Property, when it is anticipated that a Contractor will use Government-furnished or Contractor-

acquired property in the clean-up of hazardous or toxic substances in the environment.

PART 1524—PROTECTION OF PRIVACY AND FREEDOM OF INFORMATION

Subpart 1524.1—Protection of Individual Privacy

Sec.
1524.104 Solicitation provisions.

Subpart 1524.2—Freedom of Information Act

1524.202 Policy.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

Subpart 1524.1—Protection of Individual Privacy

1524.104 Solicitation provisions.

The Contracting Officer shall insert the provision at 1552.224–70, Social Security Numbers of Consultants and Certain Sole Proprietors and Privacy Act Statement, in all solicitations.

Subpart 1524.2—Freedom of Information Act

1524.202 Policy.

The EPA policy on disclosure of EPA records, handling of requests under the Freedom of Information Act, and confidentiality of business information is contained in 40 CFR, Part 2, Public Information.

PART 1525—FOREIGN ACQUISITION

Subpart 1525.1—Buy American Act—Supplies

1525.102 Policy.

The following officials are designated to approve determinations required by FAR 25.102(a)(4):

(a) The Chief of the Contracting Office for contracts estimated not to exceed $1 million; and

(b) The Head of the Contracting Activity (HCA) for contracts estimated to exceed $1 million.

(Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c))

SUBCHAPTER E—GENERAL CONTRACTING REQUIREMENTS

PART 1527—PATENTS, DATA, AND COPYRIGHTS

Subpart 1527.70—Data Requirements

1527.7001 Contract clauses.

The Contracting Officer shall insert the clause at 1552.227–70, Data Requirements, in all contracts where the Government may have a need for background data related to the contract work.

(Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c))

PART 1528—BONDS AND INSURANCE

Subpart 1528.3—Insurance

Sec.
1528.311 Solicitation provision and contract clause on liability insurance under cost-reimbursement contracts.
1528.311–70 Comprehensive Environmental Response, Compensation and Liability Act.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

Subpart 1528.3—Insurance

1528.311 Solicitation provision and contract clause on liability insurance under cost-reimbursement contracts.

1528.311–70 Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

(a) The Contracting Officer shall insert, where appropriate, the contract clause at 1552.228–70, Insurance—Liability to Third Persons—Commercial Organizations, when routine (nonemergency) removal or remedial action is being undertaken pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

(b) The Contracting Officer shall insert, where appropriate, the contract clause at 1552.228–71, Insurance—Liability to Third Persons—State or Local Governments, in contracts with State or local Governments when routine (nonemergency) removal or remedial action is being undertaken pursuant to the CERCLA.

(c) The Contracting Officer shall insert, where appropriate, the contract clause at 1552.228–72, Insurance—Liability to Third Persons—Commercial Organizations (Emergency), in contracts with commercial organizations when emergency response to hazardous substance releases or potential releases are being undertaken pursuant to the CERCLA.

(d) The Contracting Officer shall insert, where appropriate, the contract clause at 1552.228–73, Insurance—Liability to Third Persons—State or Local Governments (Emergency), in contracts with State or local Governments when emergency response to hazardous substance releases or potential releases are being undertaken pursuant to the CERCLA.

PART 1530—COST ACCOUNTING STANDARDS

Subpart 1530.3—CAS Contract Requirements

1530.304 Waiver.

The Head of the Contracting Activity (HCA) has authority to waive Cost Accounting Standards Board requirements.

(Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c))

PART 1531—CONTRACT COST PRINCIPLES AND PROCEDURES

Subpart 1531.1—Applicability

1531.101 Objectives.

Requests for individual and class deviations shall be submitted to the Head of the Contracting Activity (HCA). The HCA approves individual deviations and coordinates approval of class deviations and Agency supplements with the Chairperson of the Civilian Agency Acquisition Council.

(Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c))

PART 1532—CONTRACT FINANCING

Sec.
1532.000 Scope of part.

Subpart 1532.1—General

1532.102 Description of contract financing methods.
1532.111 Contract clauses.
1532.170 Forms.

Subpart 1532.4—Advance Payments

1532.402 General.
1532.407 Interest.
1532.409–2 Recommendation for disapproval.
1532.412 Contract clause.

Subpart 1532.8—Assignment of Claims

1532.805 Procedure.
1532.805–70 Forms.

Subpart 1532.70—Prompt Payment Act

1532.7000 Scope of subpart.
1532.7001 Policy.
1532.7002 Exemptions.
1532.7003 Contract Clauses.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1532.000 Scope of part.

This part implements and supplements FAR Part 32 and provides policies and procedures for contract financing and other payment matters. This includes—

(a) Progress payments;

(b) Advance payments;

(c) Prompt Payment Act implementation;

(d) Assignment of claims; and
(e) Selected clauses and forms.

Subpart 1532.1—General

1532.102 Description of contract financing methods.

Progress payments based on a percentage or stage of completion are authorized for use as a payment method under EPA contracts or subcontracts for construction and alteration of repair of buildings, structures, or other real property. For all other contracts, progress payment provisions shall be based on costs, except that progress payments based on a percentage or stage of completion may be authorized by the Head of the Contracting Activity (HCA) when a determination is made that progress payments based on costs cannot be practically employed and that there are adequate safeguards provided for the administration of the progress payments.

1532.111 Contract clauses.

The Contracting Officer shall insert the clause at 1552.232–73, Payments—Fixed Rate Services Contract, in solicitations and indefinite delivery/indefinite quantity contracts when services are being acquired on a fixed-rate basis.

1532.170 Forms.

(a) EPA Form 1900–10 Contractor's Cumulative Claim and Reconciliation, at 1553.232–74, shall be used for an accounting of the cumulative charges and costs for cost-reimbursement contracts from inception of the contract to completion. It shall be submitted by the Contractor upon submission of the completion voucher.

(b) EPA Form 1900–34, Guide for the Preparation of Contractor's Claims for Reimbursement of Costs and Fees Under Cost-Reimbursement Type Contracts, at 1553.232–75, shall be inserted or incorporated by reference in all cost-reimbursement type contracts.

(c) EPA Form 1900–34A, Guide for the Preparation of Contractor's Claims for Reimbursement Under Cost-Plus-Award-Fee (CPAF) Type Contracts, at 1553.232–76, shall be inserted or incorporated by reference in all CPAF contracts.

Subpart 1532.4—Advance Payments

1532.402 General.

(a) The Chief of the Contracting Office is responsible for making findings and determinations supporting the use of advance payments and approving contract terms concerning advance payments.

(b) The Contracting Officer prepares findings and determinations and other contractual data with respect to advance payments and coordinates proposed advance payment authorizations with the finance office.

1532.407 Interest.

The Chief of the Contracting Office is authorized to approve advance payments without interest.

1532.409–2 Recommendation for disapproval.

The procedures for recommending disapproval of advance payments are the same as that for recommending approval (see 1532.402).

1532.412 Contract clause.

The Chief of the Contracting Office may waive the countersignature requirements. Waivers will be documented in findings and determinations which authorize advance payments.

Subpart 1532.8—Assignment of Claims

1532.805 Procedure.

1532.805–70 Forms.

(a) EPA Form 1900–3, Assignee's Release, at 1553.232–70 is required to be submitted by the assignee for cost-reimbursement contracts prior to final payment under the contract.

(b) EPA Form 1900–4, Assignee's Assignment of Refunds, Rebates, Credits, and Other Amounts, at 1553.232–71 must accompany the assignee's release prior to final payment under cost-reimbursement contracts.

(c) EPA Form 1900–5, Contractor's Assignment of Refunds, Rebates and Credits, at 1553.232–72 must be prepared by the Contractor prior to final payment under cost-reimbursement contracts and must accompany the Contractor's Release.

(d) EPA Form 1900–6, Contractor's Release, at 1553.232–73 must be submitted by the Contractor prior to final payment under cost-reimbursement contracts.

Subpart 1532.70—Prompt Payment Act

1532.7000 Scope of subpart.

This implements the provisions of the Prompt Payment Act (Pub. L. 97–177, May 21, 1982, 31 U.S.C. 1801) and Office of Management and Budget (OBM) Circular A–125. The Act was specifically designed to encourage Federal Government managers to improve their bill paying procedures by authorizing the charging of an interest penalty when agencies fail to pay their bills on time or when discounts are taken after the discount period. It also prescribes contractual clauses designed to implement wire transfer procedures to make contract payments under the Department of Treasury Financial Communications System for making Treasury disbursed vendor payments in excess of $25,000.

1532.7001 Policy.

It is the policy of the Government to include payment terms in contracts and to make payments by the due dates determined in accordance with such terms. Adherence to this policy is intended to result in the avoidance of interest penalties on overdue payments, established better business relationships with suppliers, and increase competition for Government contracts.

1532.7002 Exemptions.

The provisions of this part are not applicable to the following types of contracts:

(a) Contracts when payments are made for financing purposes before receipt of complete delivered items of property or service.

(b) Contracts for utilities (gas, water, electricity, etc.) that include provisions for late payments charges established by tariff or State Regulatory Commissions.

(c) Informal contracts for the purchase of utilities under a tariff when such tariff provides for late payment charges.

1532.7003 Contract clauses

(a) The clause at 1552.232–70 shall be included in all contracts authorizing advance, provisional, or progress payments.

(b) The clause at 1552.232–71 shall be included in all contracts when delivery is on an f.o.b. destination basis and no advance , provisional, or progress payments are involved.

(c) The clause at 1552.232–72 shall be included in all contracts when delivery is on an f.o.b. origin basis and no advance, provisional, or progress payments are involved.

PART 1533—DISPUTES AND APPEALS

Sec.
1533.000 Scope of part.
1533.003 Applicability.
1533.009 Suspected fraudulent claims.
1533.011 Contracting Officer's decision.
1533.012 Contracting Officer's duties upon appeal.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1533.000 Scope of part.

This part implements and supplements FAR Part 33 and prescribes

policies and procedures for processing contract disputes and appeals.

1533.003 Applicability.

Pursuant to an interagency agreement between the EPA and the Department of the Interior Board of Contract Appeals (IBCA), the IBCA will hear appeals from final decisions of EPA Contracting Officers issued pursuant to the "Disputes" clause in EPA contracts. The rules and regulations of the IBCA appear in 43 CFR Part 4.

1533.009 Suspected fraudulent claims.

The Contracting Officer shall refer matters relating to suspected fraudulent claims under the Contract Disputes Act to the Inspector General through the Head of the Contracting Activity (HCA).

1533.011 Contracting Officer's decision.

Final decisions of Contracting Officers under the Contract Disputes Act shall be reviewed by legal counsel and the Chief of the Contracting Office prior to issuance.

1533.012 Contracting Officer's duties upon appeal.

Upon receipt of notice of appeal, the Contracting Officer shall take the following actions:

(a) *Submission of the notice of appeal to IBCA.* (1) When a notice of appeal in any form has been received, the Contracting Officer shall endorse on it the date of the notice's mailing (or the date of receipt if the notice was otherwise conveyed) and within 5 days shall forward the notice of appeal to the IBCA by certified mail. The Contracting Officer shall verbally notify the legal counsel that the appeal has been received.

(2) A notice of appeal, whether filed within the time prescribed by the "Disputes" clause or not, shall be submitted to the IBCA. The Contracting Officer shall forward promptly every notice of appeal to IBCA even if the intention to appeal is only vaguely or indirectly expressed, and regardless of the form of the notice, or of the method by which the notice was furnished to the Contracting Officer.

(3) Copies of the notice of appeal shall be sent simultaneously to the Policy and Quality Assurance Branch, Procurement and Contracts Management Division and to legal counsel.

(b) *Establishment and submission of appeal files to IBCA.* (1) Following receipt of a notice of appeal, or advice that an appeal has been filed, the Contracting Officer shall promptly compile the appeal file (copies of all documents pertinent to the appeal), and four duplicate appeal files. The file shall include the following:

(i) The findings of fact and the decision from which the appeal is taken, and the letter or letters or other documents of claim in response to which the decision was issued;

(ii) The contract, and pertinent plans, specifications, amendments, and change orders;

(iii) Correspondence between the parties and other data pertinent to the appeal;

(iv) Transcripts of any testimony taken during the course of proceedings and affidavits, or statements of any witnesses on the matter in dispute made prior to the filing of the notice of appeal with the Board;

(v) Such additional information as may be considered material.

(2) In addition to the above, the Contracting Officer shall prepare an index listing each document included in the file submitted to the IBCA, and place copies of such index in the submission and duplicate files.

(3) Contracting Officers, in making the submission, may not submit original documents which are a part of the official contract file. Copies of the pertinent documents shall be submitted.

(4) Within 15 days of receipt or advice of a notice of appeal, the official and two duplicate files shall be forwarded through legal counsel to the Procurement and Contracts Management Division for review. The Procurement and Contracts Management Division shall forward the official appeal file to the IBCA within the 30-day time limitation set forth in 43 CFR 4.104(a). One duplicate file shall be retained by the Contracting Officer, one by the Procurement and Contracts Management Division, and one by legal counsel.

(5) If for any reason the Contracting Officer anticipates that a timely submission cannot be made, he/she shall immediately advise legal counsel by telephone of the extent of the anticipated delay and the reasons therefor. However, every effort will be exerted to make timely submissions.

(6) At the time of transmittal of the appeal file to the Board, the Contracting Officer shall notify the appellant of the transmittal and provide a copy of the appeal file to the appellant. Within the transmittal to the IBCA, the Contracting Officer shall indicate that the appellant has been provided with a copy of the appeal file.

SUBCHAPTER F—SPECIAL CATEGORIES OF CONTRACTING

PART 1534—MAJOR SYSTEM ACQUISITION

Sec.

1534.000 Scope of part.
1534.000–70 General requirements of OMB Circular A–109.
1534.000–71 Definitions.
1534.003 Responsibilities.
1534.004 Acquisition strategy.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1534.000 Scope of part.

This part implements and supplements FAR Part 34 and prescribes EPA policies, procedures, and acquisition strategy for use in acquiring major systems consistent with the requirements of OMB Circular A–109, Major System Acquisitions.

1534.000–70 General requirements of OMB Circular A–109.

OMB Circular A–109 establishes policies to be followed by executive branch agencies in the acquisition of major systems. The policies of the Circular are to assure the effectiveness and efficiency of the process of acquiring major systems. Major system acquisition objectives include assuring that each major system fulfills a mission need and that an acquisition strategy is tailored for each program. Management structures are required, with the designation of an acquisition executive, to intergrate and unify the agency's major systems acquisitions. Clear lines of authority, responsibility, and accountability are required. Program managers are to be designated for each major system acquisition program and given a writen charter of his/her authority, responsibility, and accountability for accomplishing program objectives.

1534.000–71 Definitions.

For the purpose of implementing OMB Circular A–109, the following definitions apply:

(a) "Acquisition Executive" is the Assistant Administrator for Administration and Resources Management.

(b) "Agency component" or major organizational subdivision of an agency is hereby construed in EPA to be the Offices of the Assistant Associate, and Regional Administrators.

(c) "Agency Component Head" is the Assistant or Associate Administrator or the Regional Administrator responsible for the Agency component defined in paragraph (b) of this section.

(d) "Major system" is hereby further defined as:

(1) Any system whose estimated cumulative cost to EPA in current year dollars will equal $50 million or more during its research, development, test and evaluation (RDT&E) and/or production (procurement) phases; or

(2) Any acquisition so designated by the Administrator, Deputy Administrator, any one of the Assistant or Associate Administrators, or any one of the Regional Administrators that: (i) Is directed at and critical to fulfilling an Agency mission; (ii) entails the allocation of relatively large resources; (iii) warrants special management attention; and (iv) has been recommended by the head of an operating activity, e.g., laboratory director, office director, division director, and approved by one of the individuals listed in (c) above. Assistant or Associate Administrators or Regional Administrators may designate an acquisition as major only for those acquisitions within their respective programs.

(e) "Program Manager" is that individual meeting the qualifications required by OMB Circular A–109 and receiving a written charter to manage acquisition of a major system.

1534.003 Responsibilities.

As required by OMB Circular A–109, the following responsibilities shall be carried out by the officials designated below.

(a) The Administrator shall:

(1) Ensure general compliance with OMB Circular A–109, as implemented within the Environmental Protection Agency;

(2) Retain the four key decision points identified in paragraph 9. of OMB Circular A–109;

(3) Early in the system acquisition process, communicate to Congress the relationship of major system acquisition programs to Agency needs. This communication should follow the requirements of OMB Circular A–109; and

(4) Ensure compliance with paragraph 14., 51.a., and 15.b. of OMB Circular A–109.

(b) The Deputy Administrator shall:

(1) Establish and maintain clear lines of authority, responsibility, and accountability for management of major system acquisition programs; abolish and preclude management layering and the placing of excessive reporting requirements on program managers and contractors; and

(2) Where more than one Agency component is involved in the acquisition of a major system, determine and assign the roles and responsibilities of each component.

(c) The Assistant Administrator for Administration and Resources Management shall:

(1) Ensure that each major system fulfills a mission need;

(2) Ensure that needs are expressed in mission terms and not equipment terms;

(3) Ensure appropriate trade-offs among investment costs, ownership costs, schedules, and performance characteristics;

(4) Integrate and unify the management process and monitor implementation of the policy and practices set forth in OMB Circular A–109.

(5) Approve program manager designation; and

(6) Ensure compliance with paragraphs 17 a, b, and c of OMB Circular A–109.

(d) The Assistant, Associate, and Regional Administrators, as Component Heads, shall: nominate, to the Acquisition Executive, a program manager for each major system acquisition program and issue a written charter of his/her authority, responsibility, and accountability for accomplishing approved program objectives. The program manager nominated must met the qualification criteria prescribed in OMB Circular A–109 for project managers and the nomination is subject to approval by the Acquisition Executive.

(e) The Agency Comptroller shall:

(1) Provide budget support to the Administrator to ensure implementation of the Administrator's responsibilities under paragraphs (4), (5), and (6) of OMB Circular A–109.

(2) Monitor for compliance with OMB Circular A–76 as applicable.

(3) As part of the Agency budget process, develop, implement, and accomplish acquisition planning built on an analysis of Agency missions.

(f) The Deputy Assistant Administrator for Administration and Resources Management, as Senior Agency Administrative Officer, shall:

(1) Provide to the program manager the business management, procurement, and contracting portions of the acquisition strategy or approve those developed by the program manager;

(2) Provide to the program manager contract placement and procurement management support and necessary procurement training;

(3) Develop system acquisitions orientation program; and

(4) Coordinate cost estimating capability required by paragraph 7g of OMB Circular A–109.

(g) The Program Manager shall:

(1) Express program objectives in mission terms and not in equipment terms;

(2) Place emphasis on the initial activities of the system acquisition process to allow and encourage innovation and competition in creating, exploring, and developing alternative system design concepts to meet needs and achieve objectives;

(3) Ensure that the major system operates effectively in its intended environment and demonstrates an acceptable level of performance and reliability;

(4) Provide strong checks and balances by ensuring adequate system test and evaluation; and

(5) Tailor and acquisition strategy for the major system to be acquired and refine the strategy as the program proceeds. The business management, procurement and contracting portions of the acquisition strategy will be acquired from, or approved by, the Deputy Assistant Administrator for Administration and Resources Management.

1534.004 Acquisition strategy.

(a) OMB Circular A–109 provides that, when acquiring major systems Federal agencies will express needs in mission terms based on an analysis of an agency's mission. For purposes of implementing the Circular, the following guidance on the EPA mission, its research and development mission areas, and possible major system areas is provided.

(1) *Agency mission.* The Environmental Protection Agency is a regulatory agency whose mission is to protect the health and welfare of the American people by controlling pollution hazards. EPA's pollution control responsibilities are generally coordinated with and in partnership with State and local Governments. In carrying out its mission, the Agency:

(i) Sets and enforce hazardous waste management and toxic substances standards;

(ii) Establishes and enforces air and water quality standards and emission limitations for sources of pollutants;

(iii) Monitors the quality of the environment;

(iv) Controls the use and availability of pesticides;

(v) Sets and enforces noise-producing product standards and sets general ambient standards for radiation;

(vi) Endeavors to improve the planning for the management and disposal of environmental pollutants;

(vii) Conducts research and demonstration projects; and

(viii) Provides financial and technical assistance to State and local Governments.

(2) *Research and development mission areas.* In all phases of the planning process, research and

development activities are grouped into five major program areas. These are:

(i) Health and ecological effects;

(ii) Energy;

(iii) Industrial processes;

(iv) Public sector activities; and

(v) Monitoring and technical support.

These will be considered the mission areas for the purposes of this acquisition strategy.

(3) *Possible major system areas in EPA.* The following are major systems to which the acquisition strategy applies when they meet the criteria prescribed in 1534.000–71(d).

(i) Automatic data processing system which results in the continuous and repetitive output of data, reports, charts, etc., and may include hardware, equipment software, construction, or other improvements of real property.

(ii) Federal construction which includes the construction of a facility for the use of the Environmental Protection Agency.

(iii) Improvement which includes improvement(s) to a Federal facility under the complete control and jurisdiction of the Environmental Protection Agency.

(iv) Real property acquisition which includes the acquisition of land and/or facility for the use of the Environmental Protection Agency.

(v) Demonstration project which is a full-scale engineering demonstration of a new or improved pollution control or waste management process.

(b) The following procedures shall be followed in major systems acquisition:

(1) System acquisition process initiation.

(i) The need for a major system acquisition will be initially reflected in the agency budget preview process. The need will be separately and distinctly highlighted as a major system acquisition and will address the following elements.

(A) How does the major system fulfill a mission need?

(B) What is the major system priority in terms of other mission needs, by fiscal year?

(C) What are the resource requirements to initially develop the system as well as to operate and maintain the system; and

(D) What alternative(s) to the major system will be considered?

(ii) In the OMB and congressional submissions, in addition to discussing the needs under the appropriate budget activity, a special section will be included for major system acquisitions.

(iii) There may be situations when there is the need for a major system prior to and after the normal preview and budget process. In such cases, the need will be transmitted separately to OMB and to Congress for the upcoming budget year.

(2) Program manager charter.

(i) *Initiating the charter:* Upon identification of a major system acquisition, the head of the EPA component or the designated component head, when more than one EPA component is involved, shall nominate a program manager for approval by the Acquisition Executive. Upon approval of the program manager by the Acquisition Executive, the head of the component, or the designated component head in the case of a multi-component program, shall prepare, negotiate, and issue a program manager charter. The charter shall be jointly approved by the head of each EPA component when more than one EPA component is involved.

(ii) *Charter outline:* The program manager charter shall, as a minimum, set forth the following:

(A) The name of the individual assigned as the program manager.

(B) The EPA component elements, or parts thereof, for which the program manager will be responsible.

(C) The interface, relationship, and direct communication channels between the program manager and the participating organizations identified that will be required to participate in fulfilling the goals of the major system acquisition.

(D) Provisions for control by the program manager of the allocation and utilization of resources approved by the Acquisition Executive for the major system acquisition. Obligations of the Government resulting from contracts awarded in support of the major system acquisition shall be the responsibility of the Contracting Officer supporting the program manager.

(E) The primary location of the program management office and the identified organizations that will provide the administrative support specified.

(F) Any special delegations of authority within the authority of the component head and the Acquisition Executive that are considered necessary for the program manager.

(G) Program objectives stated in mission terms rather than equipment terms.

(H) Reporting requirements of the program manager to the component head and the Acquisition Executive.

(iii) *Charter implementation.* The program manager in implementing the charter shall, as a minimum, provide to the Acquisition Executive for approval a major system acquisition plan to accomplish the major system objective set forth in the program manager charter. The plan shall, as a minimum, include interim goals, milestones, decision points and projected resource requirements for the entire acquisition process. In addition, the plan should determine the need for contractor participation in the acquisition process and the methodology to be used in monitoring the accomplishment of the acquisition goals such as monitoring:

(A) Schedules and costs input/output;

(B) Contingency trade-off, including shifts in resources and decisions to contract;

(C) The need to refine the plan as the program proceeds; and

(D) Contractor performance.

(iv) *Charter review.* The Acquisition Executive shall periodically review all major system acquisition programs established in EPA, and shall terminate use of this management technique totally, or in stages, as the program achieves the principal goals established in the charter and approved acquisition plan.

(3) Congressional notification.

(i) Congress will be notified in the normal budget process of a major system acquisition, thereby conforming with OMB Circulars A–10 and A–11. This will be applicable to supplemental requests or to budget amendments. Procedures for notifying the authorizing committees of Congress will be arranged by OMB.

(ii) If a decision is made to proceed with the actual acquisition of a system without competitive selection and demonstration, the congressional authorization and appropriation committees will be notified.

(4) Commercial or industrial products or services. In the implementation of a major system, the provisions related to OMB Circular A–76 (Revised) are applicable.

PART 1535—RESEARCH AND DEVELOPMENT CONTRACTING

Sec.

1535.007 Solicitations.

1535.007–70 Contract clauses.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1535.007 Solicitations.

1535.007–70 Contract clauses.

The following clauses are prescribed for research and development (R&D) contracts. They may also be used in other than R&D contracts when applicable (see 1537.110).

(a) The Contracting Officer shall insert the contract clause at 1552.235–70, Screening Business Information for Claims of Confidentiality, in contracts

when the Contracting Officer has determined that during performance of this contract, the Contractor may be required to collect information to perform the work required under this contract. Some of the information may consist of trade secrets or commercial or financial information that would be considered as proprietary or confidential by the business that has the right to the information.

(b) The Contracting Officer shall insert the contract clause at 1552.235–71, Treatment of Confidential Business Information, in contracts when the Contracting Officer has determined that in the performance of a contract EPA may furnish confidential business information to the Contractor that EPA may furnish confidential business information to the Contractor that EPA obtained under the Clean Air Act (42 U.S.C. 7401 et seq.), the Federal Water Pollution Control Act (33 U.S.C. 1251, et seq.), the Safe Drinking Water Act (42 U.S.C. 300f et seq.), the Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. 136 et seq.), the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.), the Resource Conservation and Recovery Act (42 U.S.C. 301 et seq.), of the Toxic Substances Control Act (15 U.S.C. 2601 et seq.). EPA regulations on confidentiality of business information in 40 CFR Part 2, Subpart B require that the Contractor agree to the clause entitled "Treatment of Confidential Business Information" before any confidential business information may be furnished to the Contractor.

(c) The Contracting Officer shall insert the contract clause at 1552.235–72, Data Security—FIFRA and/or TSCA Confidential Business Information, when the contract involves access to confidential business information related to either the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) or the Toxic Substances Control Act (TSCA) and the Treatment of Confidential Business Information clause (1552.235–71) and Screening Business Information for Claims of Confidentiality clause (1552.235–70) are included.

PART 1536—CONSTRUCTION AND ARCHITECT-ENGINEER CONTRACTS

Subpart 1536.2—Special Aspects of Contracting for Construction

Sec.

1536.201 Evaluation of contractor performance.
1536.203 Government estimate of construction costs.
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Subpart 1536.3—Special Aspects of Formal Advertising in Construction Contracts

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1536.303 Invitations for bids.
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Subpart 1536.5—Contract Clauses

1536.521 Specifications and drawings for construction.
1536.570 Additive or deductive items.

Subpart 1536.6—Architect-Engineer Services

1536.602 Selection of firms for architect-engineer contracts.
1536.602–2 Establishment of evaluation boards.
1536.602–4 Selection authority.
1536.602–5 Short selection processes for contracts not to exceed $10,000.
1536.604 Performance evaluation.
1536.605 Government estimate for architect-engineer work.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

Subpart 1536.2—Special Aspects of Contracting for Construction

1536.201 Evaluation of contracting performance.

(a) The Contracting Officer will obtain input from the Project Officer on the contractor's performance. The Contracting Officer will prepare the contractor performance report as prescribed in FAR 36.201 within two weeks after final acceptance of the work or contract termination.

(b) Prior to submitting any report or unsatisfactory performance to the reviewing official, the Contracting Officer will advise the contractor of any proposed unsatisfactory rating (see FAR 36.201(a)(3)).

(c) The official at one level above the Contracting Officer will review each performance report.

(d) The Contracting Officer will forward the original of the performance report to the Quality Assurance Section, Procurement and Contracts Management Division. The Quality Assurance Section will file the form in the contractor performance evaluation files which it maintains.

(e) The Quality Assurance Section will review the report when it is received and compare it with recent evaluations of that contractor. If the Quality Assurance Section discerns a pattern of unsatisfactory performance, it will notify the Contracting Officer for possible action, which may include referral of the matter to the Compliance Staff or to the Inspector General for investigation.

(f) Information from the performance report shall not be released outside of the Agency, except to other Government agencies at their written request, and on condition that the information will not be made available outside the Government. Requests from non-Government sources for information from performance reports shall be processed in accordance with EPA's Freedom of Information Act procedures at 40 CFR Part 2.

1536.203 Government estimate of construction costs.

The overall amount of the Government's estimate shall not be disclosed under any circumstance to persons other than Government personnel whose official duties, in the judgment of the Contracting Officer, require knowledge of the estimate.

1536.209 Construction contracts with architect-engineer firms.

No contract for the construction of a project shall be awarded to the firm that designed the project or its subsidiaries or affiliates, except with the approval of the Head of the Contracting Activity (HCA).

Subpart 1536.3—Special Aspects of Formal Advertising in Construction Contracting

1536.303 Invitations for bids.

1536.303–70 Additive or deductive items.

Prior to the issuance of an Invitation for Bids, the Contracting Officer shall ascertain that adequate funds have been certified as being available for the proposed procurement action. However, if funds available appear to be insufficient for all features of the Government's requirement, the Contracting Officer shall insert in the Invitation provisions for a base bid and for one or more additive or deductive items. If the Invitation provides for additive or deductive items, the Contracting Officer shall state an order of priority for the additive or deductive items in the schedule and, prior to opening of bids, determine and record the amount of funds available (see 1536.570 and 1552.236–71).

Subpart 1536.5—Contract Clauses

1536.521 Specifications and drawings for construction.

The Contracting Officer shall insert the clause at 1552.236–70, Samples and Certificates, in soliciations and contracts when a fixed price construction contract is expected to exceed the small purchase limitation. The clause may be inserted in solicitations and contracts when the contract is expected to be within the small purchase limitation.

1536.570 Additive or deductive items.

As prescribed in 1536.303–70, in those circumstances where funds certified as available appear to be insufficient for all features of the Government's requirement's insert the clause at 1552.236–71.

Subpart 1536.6—Architect-Engineer Services

1536.602 Selection of firms for architect-engineer contracts.

1536.602–2 Establishment of evaluation boards.

(a) The Environmental Protection Agency Architect-Engineer Evaluation Board is established as a central permanent board located at Headquarters EPA under authority delegated to the Director, Procurement and Contracts Management Division. The Board shall perform all architect-engineer evaluations on an agency basis. The Agency Board shall be composed of not less than three nor more than five voting members and one non-voting advisory member from the contracting office. The following constitutes the minimum composition of the Board:

(1) *Member and Chairman.* Chief, Facilities Engineering Section, Facilities Engineering and Real Estate Branch, Facilities and Support Services Division;

(2) *Member.* A professional engineer or architect from EPA Headquarters to be designated by the Chairman;

(3) *Member.* A program official initiating the requirement or a designated representative; and

(4) *Advisory Member.* A Contracting Officer or his/her representative.

(b) The Director, Procurement and Contracts Management Division, may appoint either one or two additional voting members as may be appropriate for a particular project.

(c) In the event of an emergency or extended absence, a member may designate, in writing, with the concurrence of the Chairman, an alternate experienced in architecture, engineering, or construction to serve in his absence.

(d) The duties of the advisory member shall include, but not be limited to, the following:

(1) Assuring that the criteria set forth in the public notice is applied in the evaluation process; and

(2) That actions taken during the evaluation process do not compromise subsequent procurement actions.

1536.602–4 Selection authority.

The Director, Procurement and Contracts Management division, shall serve as the EPA selection authority.

1536.602–5 Short selection processes for contracts not to exceed $10,000.

Authorization is given for use of both short selection processes permitted by FAR 36.602–5.

1536.604 Performance evaluation.

Evaluation of architect-engineer contracts shall be in accordance with the procedures prescribed in 1536.201 and FAR 36.604.

1536.605 Government estimate for architect-engineer work.

The overall amount of the Government's estimate shall not be disclosed under any circumstance to persons other than Government personnel whose official duties, in the judgment of the Contracting Officer, require knowledge of the estimate.

PART 1537—SERVICE CONTRACTING

Subpart 1537.1—Service Contracts—General

Sec.

1537.110 Solicitation provisions and contract clauses.

Subpart 1537.2—Consulting Services

1537.200 Scope of subpart.
1537.202 General.
1537.203 Types of consulting services.
1537.205 Management controls.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

Subpart 1537.1—Service Contracts—General

1537.110 Solicitation provisions and contract clauses.

The following clauses are prescribed for service contracts. They may also be used in research and development contracts when applicable (see 1535.007–70).

(a) The Contracting Officer shall insert the clause at 1552.237–70, Contract Publication Review Procedures, in solicitations and contracts when the products of the contract are subject to contract publication review.

(b) The Contracting Officer shall insert the clause at 1552.237–71, Technical Direction, in cost-reimbursement type solicitations and contracts.

(c) The Contracting Officer shall insert the clause at 1552.237–72, Key Personnel, in solicitations and contracts when it is necessary for contract performance to identify Contractor key personnel.

(d) The Contracting Officer shall insert the clause at 1552.237–73, Consultant Services and Consent, in solicitations and contracts where the services of consultants are required.

(e) The Contracting Officer shall insert the clause at 1552.237–74, Publicity, in solicitations and contracts pertaining to the removal or remedial activities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

(f) The Contracting Officer shall insert the clause at 1552.237–75, Paperwork Reduction Act, in solicitations and contracts requiring the collection of identical information from (10) or more public respondents.

Subpart 1537.2—Consulting Services

1537.200 Scope of subpart

This subpart provides additional examples of services that are considered consulting services and management controls for the acquisition of such services.

1537.202 General.

This subpart applies only to the types of services shown in FAR 37.203 and those shown in 1537.203 below. It does not apply to professional and management services unless the Contracting Officer has defined such service requirements to be consulting services.

1537.203 Types of consulting services.

The following supplements the examples cited in FAR 37.203(a).

(a) Examples of services that are considered consulting services are provided below:

(1) Advice on the feasibility of instituting a transfer pricing system in the Procurement and Contracts Management Division and advice on how such a system could improve management of contracts by procurement personnel.

(2) Analysis of EPA's management and agency services support functions and advice on how to improve the performance of these functions, such as through reorganization of the Office of Administration.

(3) Analysis of alternative strategies for implementing requirements of the Hazardous Substance Response Program regulations and advice on resource needs associated with each alternative strategy.

(4) Analysis of EPA procedures for drafting and issuing permits to municipal and nonmunicipal dischargers and advice on how to simplify these procedures.

(5) Advice on how to coordinate and integrate toxic substance policies and activities with those of other EPA programs.

(6) Advice on the different strategies for implementing merit pay at EPA, and

conduct of one 2-hour training course on one of these strategies. The primary purpose of the contract is to provide advice on the strategies for implementing merit pay.

(7) External peer review of programs, projects, and publications for the Office of Research and Development (ORD) laboratories to assure conceptual soundness of scientific methods and validity of results. The objective is to obtain highly competent technical examinations and analyses of the research planned or performed by ORD laboratories in order to obtain the benefit of additional viewpoints and perspectives and to advise the ORD staff on the state-of-the-art in areas that impact laboratory research programs. Three separate types of reviews are required.

(i) Program reviews and analyses which include critiques of laboratory research programs and advice on upgrading the program direction or management.

(ii) Project reviews and analyses which focus on the scientific/technical details of a single project with an in-depth examination of the project plan and the progress being made in pursuing the plan, a review of the data analyses, and an interpretation of the data analyses.

(iii) Review and analysis of research results for publication clearance in accordance with the "ORD Technical Information Policy and Guide."

(b) Examples of services which are not considered consulting services are provided below:

(1) Regulatory impact analyses, including economic impact analyses of effluent guidelines on specific industries, such as the organic chemicals industry.

(2) Analyses required by the Clean Water Act to determine economically achievable standards.

(3) Design and implementation of a computerized management information system for the Office of Administration.

(4) Development of sampling and analytical techniques to identify and measure pollutants in the ambient air.

(5) Conduct of a training course for Project Officers with particular emphasis on the Project Officer's role in the source evaluation and selection process.

(6) Development of a manual on security procedures for handling confidential business information.

(7) Conduct of a study to assess the consequences of pollutant loadings in the Chesapeake Bay.

(8) Evaluation of the strategy proposed by the Personnel Management Division for implementing merit pay at EPA with the primary purpose being the conduct of 15 separate eight-hour training sesions on how to draft critical job elements and performance standards.

1537.205 Management controls.

(a) In addition to those controls set forth in FAR 37.205(b) the office initiating the Procurement Request/Order (EPA Form 1900–8) for consulting services shall prepare the justification for such services, obtain appropriate approvals, and distribute copies of the approved justification as prescribed in paragraph (b) below. The justification shall be set forth in an attachment to EPA Form 1900–8, Procurement Request/Order. The Agency is required to report on the planned use of consulting services, including planned obligations and justifications of needs, in the Agency's formal budget request to the Office of Management and Budget. If the proposed acquisition was reported in the budget request, the planned obligation for the procurement as set forth in the budget request shall be indicated. Whenever the estimated value of the proposed acquisition varies significantly from the planned obligation set forth in the budget request or in those cases where the proposed acquisition for management consulting services was not reported in the budget request, an explanation shall be included in the justification.

(b) The program office initiating the requirement shall obtain approval for use of consulting services as follows:

(1) Requirements that may be purchased pursuant to the small purchase procedures shall be approved at a level above the organization initating the requirement or at the second level when award is to be made during the fourth fiscal quarter.

(2) All other requirements shall be approved by the Associate, Assistant or Regional Administrator.

(3) Copies of the written justification for consulting services valued at $50,000 or more (including options) shall be forwarded to the EPA Inspector General within 10 days of approval of the justification. The program office shall also forward a copy of the justification, regardless of dollar value, to the Budget Preparation and Control Branch Office of Comptroller, within 10 days of approval of the justification.

SUBCHAPTER G—CONTRACT MANAGEMENT

PART 1542—CONTRACT ADMINISTRATION

Sec.

1542.000 Scope of part.

Subpart 1542.7—Indirect Cost Rates

1542.700 Scope of subpart.
1542.705 Final indirect cost rates.
1542.705–1 Contracting Officer's determination procedure.
1542.705–70 Solicitation and contract clause.
1542.708 Quick-closeout procedures.

Subpart 1542.12—Novation and Change of Name Agreements

1542.1200 Scope of subpart.
1542.1202 Responsibility for executing agreements.
1542.1203 Processing agreements.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1542.000 Scope of part.

This part implements FAR Part 42 and prescribes general policies and procedures for performing contract administration functions and related audit services.

Subpart 1542.7—Indirect Cost Rates

1542.700 Scope of subpart.

This subpart implements and supplements FAR Subpart 42.7 and prescribes policies and procedures for establishing: (a) Billing rates and (b) final indirect costs.

1542.705 Final indirect cost rates.

The EPA shall use the Contracting Officer determination procedure for all business units for which it shall be required to negotiate final indirect cost rates.

1542.705–1 Contracting officer's determination procedure.

(a) *Applicability and responsibility.* The Cost Policy and Rate Negotiation Section (CPRN), Procurement and Contracts Management Division, is responsible for negotiating indirect cost rates in accordance with EPA Contracting Officer determination procedures.

(b) *Procedures.* FAR 42.703 provides that a single agency shall be responsible for establishing indirect cost rates (final and billing) for each business unit, which shall be binding on all Government agencies and their contracting activities. Depending upon the particular contractor involved, EPA may or may not be the cognizant Agency for establishing indirect cost rates. The following procedures shall be followed in establishing and incorporating final indirect cost rates into contracts.

(1) *Where EPA is the cognizant agency.* (i) The Cost Policy and Rate Negotiation Section (CPRN) shall coordinate with the audit activity and the affected Federal Government agencies to develop a negotiation postion, conduct negotiations with the Contractor, prepare the rate agreement, and be responsible for the execution of

the agreement as provided in FAR 42.705–1(b).

(ii) CPRN shall obtain from the Contractor a Certificate of Current Cost or Pricing Data where required by FAR 15.804–4.

(iii) CPRN shall distribute executed copies of the rate agreement to all EPA contracting officers (as applicable), the three cost advisory offices at Headquarters, Research Triangle Park, and Cincinnati, the finance office, other interested parties (e.g., audit offices, Office of the Inspector General), and to each affected Federal agency.

(iv) CPRN shall maintain, as required by FAR 4.801, a file for all indirect cost rates (final and billing).

(v) Upon receipt of the executed agreement, each EPA contracting activity shall place a copy in each official contract file.

(2) *Where EPA is not the cognizant agency.* (i) CPRN shall coordinate with audit and/or the cognizant agency to develop a negotiation positon and to receive a copy of an executed rate agreement.

(ii) CPRN shall distribute copies of the executed rate agreement to all EPA contracting offices (as applicable), the three cost advisory offices, the finance office, and other interested parties (e.g., Office of the Inspector General).

(iii) CPRN shall maintain, as required by FAR 4.801, a file for all indirect cost rates (final and billing).

(iv) Upon receipt of the executed agreement, each EPA contracting office shall place a copy in each official contract file.

(3) *Newly awarded contracts.* The EPA contract specialist, with the assistance of the cost advisory offices, shall place the established billing rate(s) in newly awarded contracts. Billing rates, like final indirect cost rates, may be established or revised by CPRN, the auditing activity, or another Federal Government agency.

1542.705–70 Solicitation and contract clause.

The Contracting Officer shall insert the clause in 1552.242–70, Indirect Costs, in solicitations and contracts where indirect costs apply.

1542.708 Quick-closeout procedures.

(a) The Contracting Officer or contract administrator, as appropriate, may use quick-closeout procedures for settlement of indirect costs on cost-reimbursement contracts prior to a final audit certification when the conditions specified by FAR 42.708(a) (1) through (3) have been met and: (1) The contract has an estimated cost, excluding fee of $500,000, or less, and (2) the cumulative estimated costs of one Contrator's contracts closed out using these quick-closeout procedures do not exceed $1,000,000 per contract office.

(b) Under the quick-closeout procedures, if final rates have been negotiated for all but one of the fiscal years and 25 percent or less of the total costs claimed are for that fiscal year, the Contracting Officer or contract administrator shall close the contract using one of the following rates:

(1) The previous year final rates.

(2) The subsequent year final rates.

(3) Provisional rates, if less than the rates in (b) (1) or (2) above.

(4) Any other rates claimed by the Contractor if they are less than those in (b) (1), (2), or (3) above.

(c) When the final rates have not been negotiated and the procedures in paragraph (b) of this section do not apply, the Contracting Officer or contract administrator shall request the Cost Policy and Rate Negotiation Section (CPRN), Procurement and Contracts Management Division to negotiate or to obtain final rates.

Subpart 1542.12—Novation and Change of Name Agreements

1542.1200 Scope of subpart.

This subpart implements FAR Subpart 42.12 and provides policies and procedures for executing and processing novation and change-of-name agreements.

1542.1202 Responsibility for executing agreements.

(a) Any EPA contracting office upon being notified of a successor in interest to, or change of name of, one of its Contractors shall promptly report such information by memorandum to the Director, Procurement and Contracts Management Division (PCMD).

(b) To avoid duplication of effort on the part of EPA contracting offices in preparing and executing agreements to recognize a change of name or successor in interest, only one supplemental agreement will be prepared to effect necessary changes for all contracts between EPA and the Contractor involved. The Chief of the Policy and Quality Assurance Branch (PCMD) will, in each case, designate the contracting office responsible for taking all necessary and appropriate action with respect to either recognizing or not recognizing a successor in interest, or recognizing a change-of-name agreement.

1542.1203 Processing agreements.

(a) The responsible contracting office shall:

(1) Obtain from the Contractor a list of all affected contracts, the names and addresses of the contracting offices responsible for these contracts, and the required documentary evidence.

(2) Verify the accuracy of the list of contracts through the Contract Information System.

(3) Draft and execute a supplemental agreement to one of the contracts affected but covering all applicable outstanding and incomplete contracts affected by the transfer of assets or change of name. A supplemental agreement number need not be obtained for contracts other than for the one under which the supplemental agreement is written. The supplemental agreement will contain a list of the contracts affected and, for distribution purposes, the names and addresses of the contracting offices having contracts subject to the supplemental agreement.

(b) Agreements and supporting documents covering successors in interest shall be reviewed for legal sufficiency by legal counsel.

(c) After execution of the supplemental agreement, the designated office shall forward an authenticated copy of the supplemental agreement to the Director, Procurement and Contracts Management Division, and to each affected contract office.

PART 1545—GOVERNMENT PROPERTY

Sec.

1545.000 Scope of part.

Subpart 1545.1—General

1545.106 Government property clauses.

Subpart 1545.3—Providing Government Property to Contractors

1545.309 Providing Government production and research property under special restrictions.

Subpart 1545.4—Contractor Use and Rental of Government Property

1545.403 Rental—Use and Charges clause.

Subpart 1545.5—Management of Government Property in the Possession of Contractors

1545.502 Contractor responsibility.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1545.000 Scope of part.

This part implements FAR Part 45, Government Property, and sets forth policy and procedures with respect to providing property for use by contractors in performance of EPA contracts.

Subpart 1545.1—General

1545.106 Government property clauses.

(a) In accordance with 1523.303–71, the Contracting Officer shall insert the contract clause at 1552.245–70 when it is anticipated that a Contractor will use Government-furnished or Contractor-acquired property in the cleanup of hazardous or toxic substances in the environment.

(b) The Contracting Officer shall insert the contract clause at 1552.245–71, Government-Furnished Data, in any contract in which the Government is to furnish data to the Contractor. The data to be provide shall be identified in the clause.

(c) The Contracting Officer shall insert the contract clause at 1552.245–72, Fabrication or Acquisition of Nonexpendable Property, in all cost-reimbursement type contracts or contracts with cost-reimbursement portions.

Subpart 1545.3—Providing Government Property to Contractors

1545.309 Providing Government production and research property under special restrictions.

Government production and research property, other than foundations and similar improvements necessary for installing special tooling, special test equipment, or plant equipment, shall not be installed or constructed on land not owned by the Government in such fashion as to be nonseverable unless the contract under which the property is provided contains—

(a) One of the provisions in FAR 45.309(a);

(b) A requirement that the Government will have the right to abandon in place all nonseverable Government property provided; and

(c) A requirement that the Government will not have any obligation to disassemble or remove the property or to restore or to rehabilitate the premises on which the property is located.

Subpart 1545.4—Contractor Use and Rental of Government Property

1545.403 Rental—Use and Charges clause.

The Head of the Contracting Activity is the designee for determinations that rent may be charged on the basis of use, or some other equitable basis, rather than a rental period for production and research property classes other than plant equipment as indicated in FAR 45.403.

Subpart 1545.5—Management of Government Property in the Possession of Contractors

1545.502 Contractor responsibility.

Guidance regarding Contractor responsibility for management and control of Government property in their possession is contained in the EPA "Guide for Control of Government Property By Contractors," which is available from the Facilities and Support Services Division.

PART 1546—QUALITY ASSURANCE

Sec.
1546.000 Scope of part.

Subpart 1546.2—Contract Quality Requirements

1546.201 General.

Subpart 1546.7—Warranties

1546.704 Authority for use of warranties.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1546.000 Scope of part.

This part implements and supplements FAR Part 46 and provides EPA policy and procedures on contract quality assurance requirements and warranties. It includes selected clauses and guidance on their use.

Subpart 1546.2—Contract Quality Requirements

1546.201 General.

(a) The Contracting Officer shall ensure that Procurement Request/Orders (EPA Form 1900–8) in excess of $25,000 be accompanied by a Quality Assurance (QA) review form for those acquisitions in the object classifications prescribed in Chapter 2 of the "Contracts Management Manual" which covers procurement request preparation.

(b) Where the QA review form provides for the submission of a QA program plan in an offeror's proposal, the Contracting Officer shall use the provision shown in 1552.246–70 in the solicitation.

(c)(1) The Contracting Officer shall include the provision contained in 1552.246–71 in the solicitation when a QA project plan is required as part of the proposal submission. The QA project plan is a specific delineation of an offeror's approach for accomplishing the QA specification in a Statement of Work.

(2) When a QA project plan is not a required part of the technical proposal, the Contracting Officer may require the QA project plan as a deliverable under the contract by use of the clause in 1552.246–72.

Subpart 1546.7—Warranties

1546.704 Authority for use of warranties.

The Contracting Officer shall ensure that the use of a warranty clause in a contract has the concurrence of the Project Officer.

PART 1548—VALUE ENGINEERING

Subpart 1548.1—Policies and Procedures

1548.102 Policies.

The EPA is exempt from the requirements of FAR Part 48 as authorized in FAR 48.102(a).

(Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c))

SUBCHAPTER H—CLAUSES AND FORMS

PART 1552—SOLICITATION PROVISIONS AND CONTRACT CLAUSES

Subpart 1552.2—Texts of Provisions and Clauses

Sec.
1552.203–70 Current/former agency employee involvement certification.
1552.208–70 Printing.
1552.209–70 Organizational conflict of interest notification.
1552.209–71 Organizational conflicts of interest.
1552.209–72 Organizational conflict of interest certification.
1552.210–70 Reports of work.
1552.210–71 Monthly progress report—short form.
1552.210–72 Monthly progress report—cost-type contract.
1552.210–73 Monthly progress report—time and materials or labor hour, or indefinite delivery/indefinite quantity fixed rate services contract.
1552.210–74 Working files.
1552.210–75 Legal analysis.
1552.210–76 Final reports.
1552.210–77 Management consulting services.
1552.212–70 Level of effort—cost-reimbursement term contract.
1552.212–71 Work assignments.
1552.213–70 Notice to suppliers of equipment.
1552.214–70 Past performance.
1552.214–71 Contract award—other factors—formal advertising.
1552.215–70 EPA source evaluation and selection procedures—negotiated procurement.
1552.215–71 Evaluation factors for award.
1552.215–72 Past performance.
1552.215–73 Instructions for the preparation of technical and cost or pricing proposals.
1552.215–74 Cost proposal instructions.
1552.215–75 Additional representations, certifications, and statements of offerors whose proposals are in the competitive range.

Sec.
1552.215–76 General financial and organizational information.
1552.216–70 Award fee.
1552.216–71 Date of incurrence of cost.
1552.216–72 Ordering—by designated ordering officers.
1552.216–73 Fixed rates for services—indefinite delivery/indefinite quantity contract.
1552.217–70 Evaluation of contract options.
1552.217–71 Option to extend the term of the contract—cost-type contract.
1552.217–72 Option to extend the term of the contract—cost-plus-award-fee contract.
1552.217–73 Option for increased quantity—cost-type contract.
1552.217–74 Option for increased quantity—cost-plus-award-fee contract.
1552.217–75 Option to extend the effective period of the contract—time and materials or labor hour contract.
1552.217–76 Option to extend the effective period of the contract—indefinite delivery-indefinite quantity contract.
1552.233–70 Protection of human subjects.
1552.224–70 Social security numbers of consultants and certain sole proprietors and Privacy Act statement.
1552.227–70 Data requirements.
1552.228–70 Insurance—liability to third persons—commercial organizations.
1552.228–71 Insurance—liability to third persons—state or local governments.
1552.228–72 Insurance—liability to third persons—commercial organizations (emergency).
1552.228–73 Insurance—liability to third persons—state or local governments (emergency).
1552.232–70 Application of Prompt Payment Act—contracts with advance, progress, or provisional payments.
1552.232–71 Application of the Prompt Payment Act—contract with f.o.b. destination deliverables.
1552.232–72 Application of the Prompt Payment Act—contracts with f.o.b. origin deliverables.
1552.232–73 Payments—fixed rate services contract.
1552.235–70 Screening business information for claims of confidentiality.
1552.235–71 Treatment of confidential business information.
1552.235–72 Data security—FIFRA and/or TSCA confidential business information.
1552.236–70 Samples and certificates.
1552.236–71 Additive or deductive items.
1552.237–70 Contract publication review procedure.
1552.237–71 Technical direction.
1552.237–72 Key personnel.
1552.237–73 Consultant services and consent.
1552.237–74 Publicity.
1552.237–75 Paperwork Reduction Act.
1552.242–70 Indirect costs.
1552.245–70 Decontamination of government property.
1552.245–71 Government-furnished data.
1552.245–72 Fabrication or acquisition of nonexpendable property.
1552.246–70 Quality assurance (QA) Program Plan.
1552.246–71 Quality Assurance (QA) Project Plan.
Sec.
1552.246–72 Quality Assurance (QA) Project Plan documentation.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

Subpart 1552.2—Texts of Provisions and Clauses

1552.203–70 Current/former agency employee involvement certification.

As prescribed in 1503.603, insert the following solicitation provision in all EPA solicitation documents for noncompetitive procurements.

Current/Former Agency Employee Involvement Certification (Apr 1984)

The offeror (quoter) hereby certifies that:

(a) He is [ ] is not [ ] a former regular or special EPA employee whose EPA employment terminated within one year prior to submission of this offer (quote).

(b) He does [ ] does not [ ] employ or propose to employ a current/former regular or special EPA employee whose EPA employment terminated within one year prior to submission of this offer (quote) and who has been or will be involved, directly or indirectly, in developing or negotiating this offer (quote) for the offeror (quoter), or in the management, administration or performance of any contract resulting from this offer (quote).

(c) He does [ ] does not [ ] employ or propose to employ as a consultant or subcontractor under any contract resulting from this offer (quote) a current/former regular or special EPA employee whose EPA employment terminated within one year prior to submission of this offer (quote).

(d) A former regular or special EPA employee whose EPA employment terminated within one year prior to submission of this offer (quote) or such former employee's spouse or minor child does [ ] does not [ ] own or substantially own or control the offeror's (quoter's) firm.

(e) See EPAAR Part 1503 for definitions of the terms "regular" and "special employee."

(End of provision)

1552.208–70 Printing.

As prescribed in 1508.870, insert the following contract clause in all type contracts which require printing, duplication, binding, reproduction, and related services and are subject to the provisions of the Government Printing and Binding Regulations published by the Joint Committee on Printing, Congress of the United States.

Printing (Apr 1984)

Unless otherwise specified in this contract, the Contractor shall not engage in, nor subcontract for, any printing (as that term is defined in Title I of the Government Printing and Binding Regulations in effect on the effective date of this contract) in connection with the performance of work under this contract. Provided, however, that performance of a requirement under this contract involving the duplication of less than 5,000 units of only one page, or less than 25,000 units in the aggregate of multiple pages, such pages not exceeding a maximum image size of 10¾ by 14¼ inches, will not be deemed to be printing.

(End of clause)

1552.209–70 Organizational conflict of interest notification.

As prescribed in 1509.508(b), insert the following solicitation provision in all solicitations except:

(a) When specific notices or clauses are required per EPAAR Part 1509;

(b) When the procurement is with another federal agency (however, the provision is included in solicitations issued under the Small Business Administration's (SBA) 8(a) program); and

(c) When the procurement is accomplished through small purchase procedures (use is optional for small purchases).

Organizational Conflict of Interest Notification (Apr 1984)

(a) The prospective Contractor certifies, to the best of its knowledge and belief, that it is not aware of any information bearing on the existence of any potential organizational conflict of interest. If the prospective Contractor cannot so certify, it shall provide a disclosure statement in its proposal which describes all relevant information concerning any past, present, or planned interests bearing on whether it (including its chief executives and directors, or any proposed consultant or subcontractor) may have a potential organizational conflict of interest.

(b) Prospective Contractors should refer to FAR Subpart 9.5 and EPAAR Part 1509 for policies and procedures for avoiding, neutralizing, or mitigating organizational conflicts of interest.

(c) If the Contracting Officer determines that a potential conflict exists, the prospective Contractor shall not receive an award unless the conflict can be avoided or otherwise resolved through the inclusion of a special contract clause or other appropriate means. The terms of any special clause are subject to negotiation.

(End of provision)

1552.209–71 Organizational conflicts of interest.

As prescribed in 1509.508(c), insert the following contract clause in all contracts except:

(a) When specific clauses are required per EPAAR Part 1509;

(b) When the procurement is with another Federal agency (however, the provision is included in contracts with SBA and its subcontractor under the 8(a) program); and

(c) When the procurement is accomplished through small purchase procedures (use is optional for small purchases).

Organizational Conflicts of Interest (Apr 1984)

(a) The Contractor warrants that, to the best of the Contractor's knowledge and belief, there are no relevant facts or circumstances which could give rise to an organizational conflict of interest, as defined in FAR Subpart 9.5, or that the Contractor has disclosed all such relevant information.

(b) The Contractor agrees that if an actual or potential organizational conflict of interest is discovered after award, the Contractor will make a full disclosure in writing to the Contracting Officer. This disclosure shall include a description of actions which the Contractor has taken or proposes to take, after consultation with the Contracting Officer, to avoid, mitigate, or neturalize the actual or potential conflict.

(c) Remedies—The EPA may terminate this contract for convenience, in whole or in part, if it deems such termination necessary to avoid an organizational conflict of interest. If the Contractor was aware of a potential organizational conflict of interest prior to award or discovered an actual or potential conflict after award and did not disclose or misprepresented relevant information to the Contracting officer, the Government may terminate the contract for default, debar the Contractor from Government contracting, or pursue such other remedies as may be permitted by law or this contract.

(d) The Contractor further agrees to insert in any subcontract or consultant agreement hereunder, provisions which shall conform substantially to the language of this clause, including this paragraph (d).

(End of clause)

1552.209-72 Organizational conflict of interest certification.

As prescribed in 1509.508(b), insert the following provision in all solicitation documents when applicable.

Organizational Conflict of Interest Certification (Apr 1984)

The offeror [ ] is [ ] is not aware of any information bearing on the existence of any potential organizational conflict of interest. If the offeror is aware of information bearing on whether a potential conflict may exist, the offeror shall provide a disclosure statement describing this information. (See Section L of the solicitation for further information.)

(End of provision)

1552.210-70 Reports of work.

As prescribed in 1510.011-70, insert one of the contract clauses in this subsection when the contract requires the delivery of reports. The basic clause should be used when reports are specified in a contract attachment. Alternate I is to be used to specify reports in the contract schedule.

Reports of Work (Apr 1984)

The Contractor shall prepare and deliver reports in accordance with Attachment.* * *

The OMB clearance number for progress reports delivered under this contract is 2030-0005 with an expiration date of May 31, 1986.

(End of clause)

Reports of Work (Apr 1984) Alternate I (Apr 1984)

The Contractor shall prepare and deliver the below listed reports to the designated addressees. Each report shall cite the contract number and identify the Environmental Protection Agency as the sponsoring agency.

The OMB clearance number for progress reports delivered under this contract is 2030-0005 with an expiration date of May 31, 1986. Required reports are:

Reports description	No. copies	Addressees

(End of clause)

1552.210-71 Monthly progress report—short form.

As prescribed in 1510.011-71, insert the following contract clause when monthly progress reports are required and the duration of the contract is contemplated to be less than six months.

Monthly Progress Report—Short Form (Apr 1984)

The Contractor shall furnish . . . copies of monthly progress reports briefly stating the progress made, including the percentage of the project completed or of work ordered and completed as of the end of the reporting period. Specific discussions shall include difficulties encountered and remedial action taken during the reporting period and anticipated activity during the subsequent reporting period. If this contract includes cost-reimbursement elements, the report shall also provide the cumulative amount of funds expended from the effective date of the contract through the last day of the reporting period, as well as the amount of funds expended expressed as a percentage of the total contract funds. The reports shall be submitted to the following addressees on or before the . . . of each month following the first complete calendar month of the contract. Distribute reports as follows:

No. of copies	Addressee
	Project Officer.
	Contracting Officer.

(End of clause)

1552.210-72 Monthly progress report—cost-type contract.

As prescribed in 1510.001-72, insert the following contract clause in cost-reimbursement contracts when monthly progress reports are required and the duration of the contract is expected to be six months or longer. This clause may also be used in cost-reimbursement contracts with a duration of less than six months.

Monthly Progress Report—Cost-Type Contract (Apr 1984)

The Contractor shall furnish . . . copies of a combined monthly technical and financial progress report briefly stating the progress made, including the percentage of the project completed during the reporting period. If work is ordered using work assignments include the percentage of work ordered and completed during the reporting period. Specific discussions shall include difficulties encountered and remedial action taken during the reporting period and anticipated activity during the subsequent reporting period. In addition, the report shall specify contract financial status as follows:

(a) For term from contracts, provide:

(1) Cumulative costs and direct labor hours expended from the effective date of the contract through the last day of the current reporting month. Include a cumulative incurred cost per direct labor hour average computation and compare the result to the cumulative average cost per direct labor hour derived from the estimated cost of the contract.

(2) Actual costs and direct labor hours expended during the current reporting month.

(3) Estimated costs and direct labor hours to be expended during the next reporting period.

(4) Actual costs and direct labor hours incurred for each work assignment issued and estimates of costs and man hours required to complete each work assignment.

(b) For completion form contracts, provide a graph using a vertical axis for dollars and a horizontal axis for time increments that shows the actual and projected rate of expenditures against the total estimated cost of the contract.

(c) This submission does not change the notification requirements of the "Limitation of Cost" or "Limitation of Funds" clauses requiring separate written notice to the Contracting Officer.

(d) The reports shall be submitted to the following addressees on or before the —— of each month following the first complete calendar month of the contract. Distribute reports as follows:

No. of copies	Addressee
.....	Project Officer.
.....	Contracting Officer.

(End of clause)

1552.210-73 Monthly PROGRESS REPORT-TIME AND MATERIALS OR LABOR HOURS, OR INDEFINITE DELIVERY-INDEFINITE QUANITY FIXED RATE SERVICES CONTRACT. (Apr 1984

As prescribed in 1510.011-73, insert the following clause in all time and materials, labor hour, and indefinite delivery/indefinite quantity type contracts with fixed rates for services that have a period of performance of six months or longer. The clause may also be used in these contract types when the performance period is less than six months.

Monthly Progress Report—Time and Materials or Labor Hour, or Indefinite Delivery/Indefinite Quantity Fixed Rate Services Contract. (Apr. 1984)

The Contractor shall furnish —— copies of a combined monthly technical and financial progress report briefly stating the progress made, including the percentage of the project completed during the reporting period. If the contract is an indefinite delivery/indefinite quantity type, include the percentage of the work ordered and completed during the reporting period. Specific discussions shall include difficulties encountered and remedial action taken during the reporting period and anticipated activity during the subsequent reporting period. In addition, the report shall specify contract financial status by:

(a) Cumulative costs and labor hours expended from the effective date of the contract through the last day of the current reporting month.

(b) Actual costs and labor hours expended during the current reporting month.

(c) Estimated costs and labor hours to be expended during the next reporting period.

(d) For indefinite quantity contracts, actual costs and direct labor hours incurred for each delivery order issued and estimates of costs and man hours required to complete each delivery order.

(e) The reports shall be submitted to the following addressee on or before the—— of each month following the first complete calendar month of the contract. Distribute reports as follows:

No. of copies	Addressee
.....	Project Officer.
.....	Contracting Officer.

(End of clause)

1552.210-74 Working files.

As prescribed in 1510.011-74, insert the following clause in all applicable EPA contracts.

Working Files (Apr 1984)

The Contractor shall maintain accurate working files (by task or work assignment) on all work documentation including calculations, assumptions, interpretations of regulations, sources of information, and other raw data required in the performance of this contract. The Contractor shall provide the information contained in its working files upon request of the Contracting Officer.

(End of clause)

1552.210-75 Legal analysis.

As prescribed in 1510.011-75, insert this contract clause when it is determined that the contract involves legal analysis.

Legal Analysis (Apr 1984)

The Contractor shall furnish to the Project Officer one (1) copy of any draft legal analysis. The Government will provide a response to the Contractor within thirty (30) calendar days after receipt. The Contractor shall not finalize the analysis until the Government has given approval.

(End of clause)

1552.210-76 Final reports.

As prescribed in 1510.011-76, insert this contract clause when a contract requires a draft and a final report.

Final Reports (Apr 1984)

(a) "Draft Report"—The Contractor shall submit to the Project Officer —— copies of the draft final report on or before —— (date) —— The Contractor shall furnish to the Contracsting Officer a copy of the letter transmitting the draft. The draft shall be typed double-spaced or space-and-a-half and shall include all pertinent material required in the final report. The Government will review for approval or disapproval the draft and provide a response to the Contractor within —— calendar days after receipt. If the Government does not provide a response within the allotted review time, the Contractor immediately shall notify the Contracting Officer in writing.

(b) "Final Report"—The Contractor shall deliver a final report on or before the last day of the period of performance specified in the contract. Distribution is as follows:

No. of copies	Addressee
1.....	EPA Library.
1.....	Contracting Officer.
1.....	Project Officer.

(End of clause)

1552.210-77 Management consulting services.

As prescribed in 1510.011-77, insert the following contract clause in all contracts for management consulting services.

Management Consulting Services (Apr 1984)

All reports containing recommendations to the Environmental Protection Agency shall include the following information on the cover of each report: (a) name and business address of the contractor; (b) contract number; (c) contract dollar amount; (d) whether the contract was competitively or non-competitively awarded; (e) name of the EPA Project Officer and the EPA Project Officer's office identification and location; and (f) date of report.

(End of clause)

1552.212-70 Level of effort--cost-reimbursement term contract.

As prescribed in 1512.104(a), insert the following contract clause in cost-reimbursement term contracts including cost contracts without fee, cost-sharing contracts, cost-plus-fixed-fee (CPFF) contracts, cost-plus-incentive-fee contracts (CPIF), and cost-plus-award-fee contracts (CPAF).

Level of Effort—Cost-Reimbursement Term Contract (Apr 1984)

(a) The Contractor shall perform all work and provide all required reports within the level of effort specified below. The Government hereby orders——direct labor hours for the base period, which represents the Government's best estimate of the level of effort to fulfill these requirements.

(b) Direct labor includes personnel such as engineers, scientists, draftsmen, technicians, statisticians, and programmers and not support personnel such as company management, typists, and key punch operators even though such support personnel are normally treated as direct labor by the Contractor. The level of effort specified in paragraph (a) includes Contractor, subcontractor, and consultant labor hours.

(c) If the Contractor provides less than 90 percent of the level of effort specified for the base period or any optional period ordered, an equitable downward adjustment of the fixed fee, if any, for that period will be made. The Government may require the Contractor to provide additional effort up to 110 percent of the level of effort for any period until the estimated cost for that period has been reached. However, this additional effort shall not result in any increase in the fixed fee, if any. If this is a cost-plus-incentive-fee (CPIF) contract, the term "fee" in this paragraph means "base fee and incentive fee." If this is a cost-plus-award-fee (CPAF) contract, the term "fee" in this paragraph means "base fee and award fee."

(d) If the level of effort specified to be ordered during a given base or option period is not ordered during that period, that level of effort may not be acumulated and ordered during a subsequent period.

(e) These terms and conditions do not supersede the requirements of either the "Limitation of Cost" or "Limitation of Funds" clauses.

(End of clause)

1552.212-71 Work assignments.

As prescribed in 1512.104(b), insert the follwing contract clause in cost-

reimbursement type term form contracts when work assignments are to be used.

Work Assignments (Apr 1984)

(a) The contractor shall perform work under this contract as specified in written work assignments issued by the Contracting Officer.

(b) Each work assignment will include (1) a numerical designation, (2) the estimate of required labor hours, (3) the period of performance and schedule of deliverables, and (4) the description of the work.

(c) The Contractor shall acknowledge receipt of each work assignment by returning to the Contracting Officer a signed copy of the work assignment within —— calendar days after its receipt. The Contractor shall begin work immediately upon receipt of a work assignment. Within —— calendar days after receipt of a work assignment, the Contractor shall submit —— copies of a work plan to the Project Officer and —— copies to the Contracting Officer. The work plan shall include a detailed technical and staffing plan and a detailed cost estimate. Within —— calendar days after recipt of the work plan, the Contracting Officer will provide written approval or disapproval of it to the Contractor. If the Contractor has not received approval on a work plan within —— calendar days after its submission, the Contractor shall stop work on that work assignment. Also, if the Contracting Officer disapproves a work plan, the Contractor shall stop work until the problem causing the disapproval is resolved. In either case, the Contractor shall resume work only when the Contracting Officer finally approves the work plan.

(d) This clause does not change the requirements of the "Level of Effort" clause, nor the notification requirements of either the "Limitation of Cost" or "Limitation of Funds" clauses.

(e) Work assignments shall not allow for any change to the terms or conditions of the contract. Where any language in the work assignment may suggest a change to the terms or conditions, the Contractor shall immediately notify the Contracting Officer.

(End of clause)

1552.213-70 Notice to suppliers of equipment.

As prescribed in 1513.507(b), the Contracting Officer shall insert the following contract clause in orders for or lease of commercially available equipment.

Notice to Suppliers of Equipment (Apr 1984)

(a) It is the general policy of the environmental Protection Agency that Contractor or vendor prescribed leases or maintenance agreements for equipment will NOT be executed.

(b) Performance in accordance with the terms and conditions of the vendor's commercial lease, or customer service maintenance agreement, unless specified in the Schedule, may render the vendor's performance unacceptable, thereby permitting the Government to apply such contractual remedies as may be permitted by law, regulation, or the terms of this order.

(End of clause)

1552.214-70 Past performance.

As prescribed in 1514.201-6(a), insert this solicitation provision in all formally advertised solicitation documents.

Past Performance (Apr 1984)

Bidders shall provide as part of their bids submission: a list of Government contracts received during the last two years for identical or similar work to that being procured under this solicitation. For each contract, state the contract number, the Government agency placing the contract, the type of contract, and a brief description of the work.

(End of provision)

1552.214-71 Contract award—other factors—formal advertising.

As prescribed in 1514.201-6(b), insert the following solicitation provision in invitations for bids (IFB) when it is appropriate to describe other factors that will be used in evaluating bids for award. This provision is used to describe the other factors mentioned in the solicitation provisions "Contract Award—Formal Advertising" (FAR 52.214-10), and "Contract Award—Construction" (FAR 52.214-19). All other evaluation provisions in the IFB (e.g., evaluation of options) should be cross-referenced in this provision. The other factors set forth in the provision should represent a consolidated statement of the exact basis upon which bids will be evaluated for award.

Contract Award—Other Factors—Formal Advertising (Apr 1984)

The Government will award a contract resulting from this solicitation as stated in the "Contract Award" provision. The other factors that will be considered are:

_____

_____

_____

(End of provision)

1552.215-70 EPA source evaluation and selection procedures—negotiated procurements.

As prescribed in 1515.605, insert the following solicitation provision in Requests for Proposals.

EPA Source Evaluation and Selection Procedures—Negotiated Procurements (Apr 1984)

(a) The Government will select an offeror for negotiation and award in accordance with FAR Part 15 and the EPA Source Evaluation and Selection Procedures in EPAAR Part 1515 (48 CFR Part 1515). The significant features of this procedure are:

(1) The Government will evaluate cost or price in accordance with FAR Part 31. In addition the Government will evaluate proposals to determine cost realism. Cost realism relates to an offeror's demonstrating that the proposed cost or price provides an adequate reflection of its understanding of the requirements of this solicitation.

(2) The Technical Evaluation Panel will evaluate and score technical proposals against the specified Technical Evaluation Criteria.

(b) In addition to evaluation of the previously discussed elements, the Government will consider in any award decision the responsibility factors set forth in FAR Part 9.

(End of provision)

1552.215-71 Evaluation factors for award.

As prescribed in 1515.605, insert one of the following solicitation provisions in Requests for Proposals. The first provision states that technical quality is more important than cost or price. The Alternate I provision states that cost or price is more important than technical quality provided an offeror's technical proposal establishes that the minimum needs of the Government can be met. The "other factors" listed in paragraph (a) of the provisions may be revised at the discretion of the Contracting Officer. Technical evaluation criteria should be prepared in accordance with FAR 15.605 and inserted into paragraph (b) of the provision.

Evaluation Factors for Award (Apr 1984)

(a) The Government will make award to the responsible offeror(s) whose offer conforms to the solicitation and is most advantageous to the Government, cost or price and other factors considered. For this solicitation, technical quality is more important than cost or price. The Government will consider other factors, as listed below in descending order of importance, secondary to both technical quality and cost or price:

(1) Small business concerns which are also labor surplus area concerns;

(2) Other small business concerns;

(3) Other concerns which are also labor surplus area concerns;

(4) Record of past performance.

As proposals become more equal in their technical merit, the evaluated cost or price becomes more important. As the technical merit and the evaluated cost of price become essentially equal, other factors may become a determining factor.

(b) Technical Evaluation Criteria——

_____

(End of provision)

Evaluation Factors for Award (Apr 1984)

Alternate I (Apr 1984)

(a) The Government will make award to the responsible offeror whose offer conforms to the solicitation and is most advantageous to the Government, cost or price, technical quality and other factors considered. The Government will award a contract only to concerns whose technical proposals establish that they can meet the minimum needs of the Government. However, among concerns in this category, the Government considers cost or price more important than relative technical quality differences.

The Government will consider other factors, as listed below in descending order of importance, secondary to both cost of price or technical quality:

(1) Small business concerns which are also labor surplus area concerns;

(2) Other small business concerns;

(3) Other concerns which are also labor surplus area concern;

(4) Record of past performance.

As the evaluated cost/price becomes more equal, relative technical quality becomes more important. As the evaluated cost/price and technical merit become essentially equal, other factors may become a determining factor.

(b) Technical Evaluation Criteria——

(End of provision)

1552.215-72 Past performance.

As prescribed in 1515.407(a), insert this solicitation provision in all negotiated solicitation documents.

Past Performance (Apr 1984)

Offerors shall provide the following required information as part of their initial submission:

(a) A list of Governmenmt contracts received during the last two years for identical or similar work to that being procured under this solicitation. For each contract, state the contract number, the Government agency placing the contract, the type of contract, and a brief description of the work.

(b) If the offeror has overrun any cost-type Government contract or subcontract in the last two years, list the agency funding the work, the contract number, the amont of the contract, the overrun, and the reason for the overrun.

(End of provision)

1552.215-73 Instructions for the preparation of technical and cost or pricing proposals.

As prescribed in 1515.407(a), insert the following solicitation provision in all negotiated solicitation documents. Enter any special technical proposal instructions in (a)(2) or insert "none."

Instructions for the Preparation of Technical and Cost or Pricing Proposals (Apr 1984)

(a) Technical proposal instructions.

(1) Submit your technical proposal as a separate part of the total proposal package. Omit all cost or pricing details from the technical proposal. Include the following elements in your techical proposal (see also the Statement of Work and the Technical Evaluation Criteria):

(i) Technical approach;

(ii) Technical management;

(iii) Key technical personnel;

(iv) Assumptions, deviations, and exceptions (as necessary); and

(v) Additional information.

(2) Special technical proposal instructions.

(b) Cost or pricing proposal instructions.

Your cost or price proposal shall be specific, complete in every detail, and separate from your technical proposal.

(1) General—Submit cost or pricing data on Standard Form 1411, Contract Pricing Proposal Cover Sheet, prepared in accordance with FAR 15.804-6, FAR Table 15-3, and the following:

(i) Clearly identify separate cost or pricing data associated with any:

(A) Options to extend the term of the contract;

(B) Options for the Government to order incremental quantities; and/or

(C) Major tasks, if required by the special instructions. You may indicate the above cost or price detailed data in narrative form or on a spread sheet, provided that all cost or pricing data is adequately and clearly described. Place recap/summary information on the SF 1411.

(ii) Clearly identify all costs and data in support of the proposed cost/price.

(iii) Submit a current financial statement, including a balance sheet and a statment of profit and loss for the last completed fiscal year. Specify resources available to perform the contract without assistance from any outside source. If sufficient resources are not available, indicate in your proposal the amount required and the anticipated source (i.e., bank loans, letter or lines of credit, etc.).

(iv) If other division, subsidiaries, a parent or affiliated companies will perform work or furnish materials under this proposed contract, please provide the name and location of such affiliate and your intercompany pricing policy.

(v) If the contract schedule includes a "Fixed Rates for Services" clause, please provide in your cost proposal a schedule duplicating the format in the clause and include your proposed fixed hourly rates per labor category for the base and any option contract periods.

(vi) If the contract includes the clause at EPAAR 1552.232-73 "Payments—Fixed-Rate Services Contract," or the clause at FAR 52.232-7 "Payments Under Time and Materials and Labor-Hour Contracts," include in your cost proposal any burden rate you will apply to materials, other direct costs, or subcontracts. The Government will include the burden factor as part of its cost proposal evaluation.

(2) Direct Labor.

(i) Attach support schedules indicating types or categories of labor together with labor hours for each category, indicating rate of compensation. Indicate the method used in computing the labor rate. If individual labor rates are proposed, give employee names.

(ii) Indicate whether current rates or escalated rates are used. If excalation is included, state the degree (percent) and methodology.

(iii) State whether any additional direct labor (new hires) will be required during the performance period of this acquisition. If so, state the number required.

(iv) With respect to educational institutions, include the following information for those professional staff members whose salary is expected to be covered by a stipulated salary support agreement pursuant to OMB Circular A-21.

(A) Individual's name;

(B) Annual salary and the period for which the salary is applicable;

(C) List of other research projects or proposals for which salary is allocated, and the proportionate time charged to each; and

(D) Other duties, such as teaching assigments, adminstrative assigments, and other institutional activities. Show the proportionate time charged to each.

(3) Indirect costs (overhead, general, and administrative expenses). Unless your proposed indirect rate(s) have recently been accepted by a contracting agency of the Government, provide detailed supporting computations. These computations may include historical as well as budgeted data. Indicate whether your computations are based upon historical or projected data.

(4) Travel expense.

Attach a schedule illustrating how travel was computed.

(5) Consultant service.

Identify the contemplated consultants. State the amount of service estimated to be required and the consultant's quoted daily or hourly rate.

(6) When the cost of a subcontract is substantial (25 percent of the estimated contract value or $10,000, whichever is less), include details of subcontract costs in the same format as the prime Contractor's costs.

(7) Other direct costs.

Attach a schedule illustrating how other direct costs were computed.

(c) Facilities and special equipment, including tooling.

(1) If special purpose facilities or equipment is being proposed, provide a description of the items, details of the proposed cost including competitive prices, and a justification as to why the Government should furnish the equipment or allow its purchase with contract funds.

(2) If fabrication by the prime Contractor is contemplated, include details of material, labor, and overhead.

(3) Identify Government-owned property in the possession of the offeror or proposed to be used in the performance of the contract, and the Government agency which has cognizance over the property.

(End of provision)

§ 1552.215-74 Cost proposal instructions.

As prescribed in 1515.407(c), insert a provision substantially as follows in negotiated procurement solicitation documents when cost or pricing data is required in an offeror's proposal and it is necessary to obtain the detailed cost data specified in the provision. While designed to obtain cost data for procurements under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) ("Super Fund") program, the provision may be used in other negotiated solicitations.

Cost Proposal Instructions (Apr 1984)

Offerors are instructed to prepare their cost proposals in sufficient detail to permit thorough and complete evaluation by the Government. Categories of labor to be

employed, for example, and the associated number of estimated hours per category, shall be clearly identified. All items of equipment, together with estimated usage hours, shall be set forth. All material costs, travel and per diem costs, analysis costs, and tansportation and disposal costs shall be identified as well. Where proposed rates are not based upon catalog or list prices, the basis for the proposed rates shall be identified. Equipment rates may be proposed on any basis (e.g., hourly, daily, weekly, monthly).

The cost proposal shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet, prepared in accordance with general instructions in FAR 15.804-6 and FAR Table 15-3. Summary data should be placed on SF 1411, and the following format should be followed in preparing the detailed cost proposal. All items which are subcontracted should be clearly identified and should include the name and address of the proposed subcontractor. Written quotations for all subcontracted services must accompany your cost proposal.

(a) Labor.

Labor categories	Estimated hours	Rate per hour (dollars)	Total (dollars)
Labor cost subtotal			

(b) Equipment.

Item description	Estimated usage	Rate (dollars)	Total (dollars)
Equipment cost subtotal			

(c) Travel and Subsistence.

(1) Travel.

Number of persons	From	To	Mileage	Cost per trip (dollars)	Total (dollars)

(2) Subsistence.

Number of persons	Number of days	Rate per day (dollars)	Total (dollars)
Travel and per diem subtotal			

(d) Materials and Safety Equipment.

Item description	Estimated quantity	Unit price (dollars)	Total (dollars)
Material cost subtotal			

(e) Sampling and Analytical Services.

Type of analysis	Number of analyses	Price per analysis (dollars)	Total (dollars)
Analytical cost subtotal			

(f) Transportation.

Type of material	Size of load	Number of miles	Estimated number of loads	Dollar per mile or dollar per load	Total (dollars)
Transportation cost subtotal					

(g) Disposal.

Type of material	Method of disposal	Estimated quantity	Dollar per gallon or dollar per ton	Total (dollars)
Disposal cost subtotal				

(h) Other Miscellaneous Services or Charges.

Include in this category any costs associated with mobilization and/or demobilization, handling charges on materials or subcontracts, and any other estimated costs not included in the above categories.

(Please Itemize and Provide Breakdowns Where Applicable)

Other Costs Subtotal $ ———

(End of provision)

1552.215-75 Additional representations, certifications, and statements of offerors whose proposals are in the competitive range.

As prescribed in 1515.407(a), insert the following provision in all negotiated solicitations.

Additional Representations, Certifications, and Statements of Offerors Whose Proposals are in the Competitive Range (Apr 1984)

An offeror whose proposal is determined to be within the competitive range will be requested to:

(a) Certify the validity of all General Financial and Organizational Information (GFOI) currently on file at EPA;

(b) Update all outdated GFOI on file at EPA; or

(c) Provide all GFOI which may be required and which has not been previously provided.

(End of provision)

1552.215-76 General financial and organizational information.

As prescribed in 1515.407(b), insert the following provision in documentation to offerors (quoters) of negotiated solicitations who are in the competitive range.

General Financial and Organizational Information (Apr 1984)

Offerors or quoters are requested to provide information regarding the following items in sufficient detail to allow a full and complete business evaluation. If the question indicated is not applicable or the answer is none, it should be annotated. If the offeror has previously submitted the information, it should certify the validity of that data currently on file at EPA or update all outdated information on file.

(a) Contractor's Name: ———.

(b) Address (If financial records are maintained at some other location, show the address of the place where the records are kept):

(c) Telephone Number: ———.

(d) Individual(s) to contact re this proposal:

(e) Cognizant Government:
Audit Agency: ———
Address: ———
Auditor: ———

(f)(1) Work Distribution for the Last Completed Fiscal Accounting Period:

Sales:
Government cost-reimbursement type prime contracts and subcontracts ..... $.....
Government fixed-price prime contracts and subcontracts ..... $.....
Commercial Sales ..... $.....
Total Sales ..... $.....

(2) Total Sales for first and second fiscal years immediately preceding last completed fiscal year.

Total Sales for first Preceding Fiscal Year ..... $.....
Total Sales for Second Preceding Fiscal Year ..... $.....

(g) Is company a separate entity or division?

If a division or subsidiary corporation, name parent company:

(h) Date Company Organized: ———.

(i) Manpower:
Total Employer: ———

Direct: ———
Indirect: ———
Standard Work Week (Hours): ———
(j) Commercial Products: ———.
(k) Attach a current organizational chart of the company.
(l) Description of Contractor's system of estimating and accumulating costs under Government contracts. (Check appropriate blocks.)

	Estimated/actual cost	Standard cost
Estimating System:		
Job Order		
Process		
Accumulating System:		
Job Order		
Process		

Has your cost estimating system been approved by any Government agency?
Yes —— No ——
If yes, give name and address of agency:

Has your cost accumulation system been approved by any Government agency?
Yes —— No ——
If yes, give name and address of agency:

(m) What is your fiscal year period? (Give month-to-month dates):

What were the indirect cost rates for your last completed fiscal year?

Fiscal year	Indirect cost rate	Basis of allocation
Fringe Benefits		
Overhead		
G&A Expense		
Other		

(n) Have the proposed indirect cost rate(s) been evaluated and accepted by any Government agency?
Yes —— No ——
If yes, name and location of the Government agency:

Date of last preaward audit review by a Government agency: ———.
(If the answer is no, data supporting the proposed rates must accompany the cost or price proposal. A breakdown of the items comprising overhead and G&A must be furnished.)
(o) Cost estimating is performed by:
Accounting Department———
Contracting Department ———
Other ———

(describe).

(p) Has system of control of Government property been approved by a Government agency?
Yes —— No ——
If yes, name and location of the Government agency:

(q) Purchasing Procedures:
Are purchasing procedures written?
Yes —— No ——
Has your purchasing system been approved by a Government agency?
Yes —— No ——
If yes, name and location of the Government agency

(r) Does your firm have an established written incentive competition or bonus plan?
Yes —— No ——

(End of provision)

1552.216-70 Award fee.

As prescribed in 1516.405, insert the following contract clause in cost-plus-award-fee contracts.

Award Fee (Apr 1984)

The amount of award fee the Contractor earns, if any, is based on a subjective evaluation by the Government of the quality of the Contractor's performance in accordance with the award fee plan. The Government will determine the amount of award fee every ——— months beginning ———. The fee Determination Official (FDO) will unilaterally determine the amount of award fee. The FDO's determination will be in writing to the Contractor and is not subject to the "Disputes" clause. The Government may unilaterally change the award fee plan at any time and will provide such changes in writing to the Contractor prior to the beginning of the applicable evaluation period. The Contractor may submit a voucher for the earned award fee. Available award fee not earned during one period does not carry over to subsequent periods.

(End of clause)

1552.216-71 Date of incurrence of cost.

At prescribed in 1516.307, insert the following contract clause in cost-reimbursement contracts when an anticipatory cost letter has been issued on the project. The beginning dates and the not-to-exceed amount to be inserted in the clause should be those in the anticipatory cost letter.

Date of Incurrence of Cost (Apr 1984)

The Contractor is entitled to reimbursement for allowable, allocable costs incurred during the period of ——— to the award date of this contract in an amount not to exceed
$ ———
All terms and conditions of this contract are in effect from ———

(End of clause)

1552.216-72 Ordering—by designated ordering officers.

As prescribed in 1516.505(a), insert the following in indefinite delivery/indefinite quantity contracts.

Ordering—By Designated Ordering Officers (Apr 1984)

(a) The Government will order any supplies and services to be furnished under this contract by issuing delivery orders on Optional Form 347, or any agency prescribed form, from ——— through ———. In addition to the Contracting Officer, the following individuals are authorized ordering officers.

———
———

(b) A Standard Form 30 will be the method of amending delivery orders.
(c) The Contractor shall acknowledge receipt of each order and shall prepare and forward to the Ordering Officer within ten (10) calendar days the proposed staffing plan for accomplishing the assigned task within the period specified.
(d) If the Contractor considers the estimated labor hours or specified work completion date to be unreasonable, he/she shall promptly notify the Ordering Officer and Contracting Officer in writing within 10 calendar days, stating why the estimated labor hours or specified completion date is considered unreasonable.
(e) Each delivery order will have a ceiling price, which the Contractor may not exceed. When the Contractor has reason to believe that the labor payment and support costs for the order, which will accrue in the next thirty (30) days, will bring total cost to over 85 percent of the ceiling price specified in the order, the Contractor shall notify the Ordering Officer.
(f) Paragraphs (c), (d), and (e) of this clause apply only when services are being ordered.

(End of clause)

1552.216-73 Fixed rates for services—indefinite delivery/indefinite quantity contract.

As prescribed in 1516.505(b), insert the following clause to specify fixed rates for services in indefinite delivery/indefinite quantity contracts. When the contract contains options, the clause should be modified to reflect the information and data for the base period and any option periods.

Fixed Rates for Services—Indefinite Delivery/Indefinite Quantity Contract (Apr 1984)

The following fixed rates shall apply for payment purposes for the duration of the contact.

Personnel classification	Skill level	Estimated direct labor hours	Fixed hourly rate	Total

The rate, or rates, set forth above cover all expenses, including report preparation, salaries, overhead, general and administrative expenses, and profit.
The Contractor shall voucher for only the time of the personnel whose services are applied directly to the work called for in individual Delivery Orders and accepted by the EPA Project Officer. The Government shall pay the Contractor for the life of a delivery order at rates in effect when the delivery order was issued, even if performance under the delivery order crosses into another period. The Contractor shall maintain time and labor distribution records

for all employees who work under the contract. These records must document time worked and work performed by each individual on all Delivery Orders.

(End of clause)

1552.217-70 Evaluation of contract options.

As prescribed in 1517.208(a), insert the following solicitation provision in Requests for Proposals when the solicitation contains options.

Evaluation of Contract Options (Apr 1984)

For award purposes, in addition to an offeror's response to the basic requirement, the Government will evaluate its response to all options, both technical and cost. Evaluation of options will not obligate the Government to exercise the options. For this solicitation the options are as specified in Section H.

(End of provision)

1552.217-71 Option to extend the term of the contract—cost-type contract.

As prescribed in 1517.208(b), insert this contract clause in cost-reimbursement type term form contracts when applicable. If only one option period is used, enter "NA" in the proper places of the clause. If more than two option periods apply, the clause may be modified accordingly.

Option to Extend the Term of the Contract—Cost-Type Contract (Apr 1984)

The Government has the option to extend the term of this contract for ——— additional period(s). If more than 60 days remain in the contract period of performance, the Government, without prior written notification, may exercise this option by issuing a contract modification. To exercise this option within the last 60 days of the period of performance, the Government must provide to the Contractor written notification prior to that last 60-day period. This preliminary notification does not commit the Government to exercising the option. The Government's estimated level of effort is ——— direct labor hours for the first option period and ——— for the second. Use of an option will result in the following contract modifications:

(a) The "Period of Performance" clause will be amended to cover a base period from —— to —— and option periods from —— to —— and —— to ——.

(b) Paragraph (a) of the "Level of Effort" clause will be amended to reflect a new and separate level of effort of —— for the first option period and a new and separate level of effort of —— for the second option period.

(c) The "Estimated Cost and Fixed Fee" clause will be amended to reflect increased estimated costs and fixed fee for each option period as follows:

	Option 1	Option 2
Estimated cost		
Fixed fee		
Total		

(d) If the contract contains "not to exceed amounts" for elements of other direct costs (ODC), those amounts will be increased as follows:

Other direct cost item	Option 1	Option 2

(End of clause)

1552.217-72 Option to extend the term of the contract—cost-plus-award-fee contract.

As prescribed in 1517.208(c), insert this contract clause in cost-plus-award-fee term contracts when applicable. If only one option period is used, enter "NA" in the proper places of the clause. If more than two option periods apply, modify the clause accordingly.

Option To Extend the Term of the Contract—Cost-Plus-Award-Fee Contract (Apr 1984)

(a) The Government has the option to extend the term of this contract for ——— additional periods. If more than 60 days remain in the contract period of performance, the Government, without prior written notification, may exercise this option by issuing a contract modification. To exercise this option within the last 60 days of the period of performance, the Government must provide to the Contractor written notification prior to that last 60-day period. This preliminary notification does not commit the Government to exercising the option. The Government's estimated level of effort is ——— direct labor hours for the first option period and ——— for the second. Use of an option will result in the following contract modifications:

(b) The "Period of Performance" clause will be amended to cover a base period from —— to —— and option periods from —— to —— and —— to ——.

(c) Paragraph (a) of the "Level of Effort" clause will be amended to reflect a new and separate level of effort of —— for the first option period and a new and separate level of effort of —— for the second option period.

(d) The "Estimated Cost Base Fee and Award Fee" clause will be amended by reflect increased estimated costs and base fee and award fee pool for each option period as follows:

	Option 1	Option 2
Estimated cost		
Base fee		
Award fee pool		
Total		

(e) If this contract contains "not to exceed amounts" for elements of other direct costs (ODC), those amounts will be increased as follows:

Other direct cost item	Option 1	Option 2

(End of clause)

1552.217-73 Option for increased quantity—cost-type contract.

As prescribed in 1517.208(d), insert this contract clause in cost-reimbursement type term form contracts when applicable. If only one option period is used, enter "NA" in the proper places of the clause. If more than two option periods apply, modify the clause accordingly.

Option for Increased Quantity—Cost-Type Contract (Apr 1984)

By issuing a contract modification, the Government may increase the estimated level of effort by ——— direct labor hours during the base period, ——— during the first option period, and ——— during the second option period. The Government may issue a maximum of ——— orders to increase the level of effort in blocks of ——— hours during any given period. The estimated cost and fixed fee of each block of hours is as follows:

	Base period	Option 1	Option 2
Estimated cost			
Fixed fee			
Total			

When these options are exercised, paragraph (a) of the "Level of Effort" clause and the "Estimated Cost and Fixed Fee" clause will be modified accordingly.

(End of clause)

1552.217-74 Option for increased quantity—cost-plus-award-fee contract.

As prescribed in 1517.208(e), insert this contract clause in cost-plus-award-fee term contracts when applicable. If only one option period is used, enter "NA" in the proper places of the clause. If more than two option periods apply, the clause may be modified accordingly

Option for Increased Quantity—Cost-Plus-Award-Fee Contract (Apr 1984)

By issuing a contract modification, the Government may increase the estimated level of effort by ——— direct labor hours during the base period, ——— during the first option period, and ——— during the second option period. The Government may issue a maximum of ——— orders to increase the level of effort in blocks of ——— hours during any given period. The estimated cost, base fee, and award fee pool of each block of hours is as follows:

	Base period	Option 1	Option 2
Estimated cost			
Base fee			
Award fee pool			
Total			

When these options are exercised, paragraph (a) of the "Level of Effort" clause and the "Estimated Cost, Base Fee, and Award Fee" clause will be modified accordingly.

(End of clause)

1552.217-75 Option to extend the effect period of the contract—time and materials or labor hour contract.

As prescribed in 1517.208(f), insert this clause in time and materials or labor hour type contracts when applicable. This clause will be modified to eflect the actual number of option periods for the acquisition. If only one option period is used, modify (c) accordingly.

Option to Extend the Effective Period of the Contract—Time and Materials or Labor Hour Contract (Apr 1984)

(a) The Government has the option to extend the effective period of this contract for ——— additional period(s). If more than sixty (60) days remain in the contract effective period, the Government, without prior written notification, may exercise this option by issuing a contract modification. To unilaterally exercise this option within the last 60 days of the effective period, the Government must issue written notification of its intent to exercise the option prior to that last 60-day period. This preliminary notification does not commit the Government to exercising the option.

(b) If the option(s) are exercised, the "Ceiling Price" clause will be modified to reflect a new and separate ceiling price of $—— for the first option period and a new and seperate ceiling price of $—— for the second option period.

(c) The "Effective Period of the Contract" clause will be modified to cover a base period from ——— to ——— and option periods from ——— to ——— and ——— to ———.

(End of clause)

1552.217-76 Option to extend the effective period of the contract—indefinite delivery/indefinite quantity contract.

As prescribed in 1517.208(g), the following is used in indefinite delivery/indefinite quantity type contracts with options to extend the effective period of the contract. The clause may be adjusted depending upon the number of options. If only one option period is used, modify (b) and (c) accordingly.

Option to Extend the Effective Period of the Contract—Indefinite Delivery/Indefinite Quantity Contract

(a) The Government has the option to extend the effective period of this contract for ——— additional period(s). If more than sixty (60) days remain in the contract effective period, the Government, without prior written notification, may exercise this option by issuing a contract modification. To unilaterally exercise this option within the last 60 days of the effective period, the Government must issue written notification of its intent to exercise the option prior to that last 60-day period. This preliminary notification does not commit the Government to exercising the option.

(b) If the options are exercised, the "Minimum and Maximum Contract Amount" clause will be modified to reflect new and separate minimums of ——— for the first option period and ——— for the second option period, and new and separate maximums of ——— for the first option period and ——— for the second option period.

(c) The "Effective Period of the Contract" clause will be modified to cover a base period from ——— to ——— and option periods from ——— to ——— and ——— to ———.

(End of clause)

1552.223-70 Protection of human subjects.

As prescribed in 1523.303-70, insert the following contract clause when the contract involves human test subjects.

Protection of Human Subjects (Apr 1984)

(a) The Contractor shall protect the rights and welfare of human subjects in accordance with the procedures specified in its current Institutional Assurance on file with the Agency. The Contractor shall certify at least annually that an appropriate institutional committee has reviewed and approved the procedures which involve human subjects in accordance with the appliable Institutional Assurance accepted by the Agency.

(b) The Contractor shall bear full responsibility for the proper and safe performance of all work and services involving the use of human subjects under this contract.

(End of clause)

1552.224-70 Social security numbers of consultants and certain sole proprietors and Privacy Act statement.

As prescribed in 1524.104, insert the following provision in all solicitations.

Social Security Numbers of Consultants and Certain Sole Proprietors and Privacy Act Statement (Apr 1984)

(a) Section 6041 of Title 26 of the U.S. Code requires EPA to file Internal Revenue Service (IRS) Form 1099 with respect to individuals who receive payments from EPA under purchase orders or contracts. Section 6109 of Title 26 of the U.S. Code authorizes collection by EPA of the social security numbers of such individuals for the purpose of filing IRS Form 1099. Social security numbers obtained for this purpose will be used by EPA for the sole purpose of filing IRS Form 1099 in compliance with Section 6041 of Title 26 of the U.S. Code.

(b) If the offeror or quoter is an individual, consultant, or sole proprietor and has no Employer Identification Number, insert the offeror's or quoter's social security number on the following line.

(End of provision)

1552.227-70 Data requirements.

As prescribed in 1527.7001, insert the following contract clause in all types of contracts as required.

Data Requirements (Apr 1984)

(a) To the extent that the following data is not elsewhere required to be furnished to the Government under this contract, and is of the type customarily retained in the normal course of business, the Contractor, upon written request of the Contracting Officer at any time during contract performance or within one year after final payment, shall furnish the following:

(1) A set of engineering drawings which will be sufficient to enable the manufacture of items or equipment furnished under this contract (other than components or items of standard commercial design, or items fabricated heretofore) by a firm skilled in the art of manufacturing items or equipment of the general type and character of the items or equipment furnished under this contract or a set of flow sheets and engineering drawings which will be sufficient to enable performance of any process developed with this contract by a firm skilled in the art of practicing processes of the general type and character of such process. Such set or sets of drawings and flow sheets shall be reproducible copies incorporating all changes made in the equipment or process in the form in which it was delivered to the Government.

(2) Any of the following data which is necessary to explain or help Government technical personnel understand any equipment, items, or process developed under the contract and furnished to the Government.

(i) A copy (which shall be a reproducible master if one is so requested) of drawings and other technical data used in or prepared in connection with the development, practice, and testing of any process or processes required under the contract, or with the development, fabrication, and testing of prototype models of equipment or items (other than items of standard commercial design or items fabricated heretofore), if required under the contract.

(ii) A report of all studies made in planning the work, and in developing background research for the work, including citation references to all such background research, and a copy of all compilations, digests, or analyses of such background research compiled in connection with the performance of this contract.

(iii) A copy (which shall be a reproducible master if one is so requested) of design studies, research notes, parameter and tolerance studies, drawings, including Contractor's identification of symbols and markings, specifications, test results, and any other technical information used in any research, development, design, engineering, and testing required in the performance of this contract, including test equipment and related items, together with any information as to safety precautions which may be

necessary in connection with the manufacture, storage, or use of the equipment, material, or process, if any, in the event that equipment, material, or process is the subject of research under this contract.

The Contractor shall not be required to furnish any background data which may be described in (ii) and (iii) above unless such data is essential and closely related to the contract work.

(b) Nothing contained in this "Data Requirements" clause shall require the Contractor to deliver data previously developed by parties other than the Contractor, independently of this contract and acquired by the Contractor prior to this contract under conditions restricting the Contractor's right to disclose the same. Unless otherwise directed by the Contracting Officer if any of the data requested is in the public domain or copyrighted, it will be sufficient for the Contractor to identify the data and furnish a citation as to where it may be found.

(c) Any reproducible copies requested under this "Data Requirements" clause shall be of a type and prepared in accordance with good commercial practice.

(d) In the event the Contracting Officer requests the delivery of data by the Contractor, as contemplated by (a) above, prior to final payment, such request shall be treated as a change under the clause of this contract entitled "Changes" and an equitable adjustment in the price, if this is a fixed-price contract, or estimated cost and any fee, if this is a cost-type contract, shall be made to cover the cost of preparing drawings called for in (a)(1) above, and of collecting, preparing, editing, duplicating, assembling, and shipping the data requested under (a) above, but only to the extent that the Contractor warrants that such costs were not included in the price (or estimated cost and fixed fee) of the contract. The Contractor shall comply with requests of the Contracting Officer made under (a) above, within one year following final payment, provided that suitable provision is made for reimbursement of the additional costs of complying with such request, together with a reasonable fee or profit thereon, such additional costs being limited to the costs set forth above, and warranted to have been excluded from the price (or estimated cost and fixed fee) of the contract. Any adjustment or payment under this paragraph shall not include any amount for the value of the data, as distinguished from the costs set forth above.

(End of clause)

1552.228-70 Insurance—liability to third persons—commercial organizations.

As prescribed in 1528.311-70, insert the following contract clause in contracts with commercial organizations when routine (nonemergency) removal or remedial action is being undertaken pursuant to the Comprehensive Environmental Response, Compensation and Liability Act.

Insurance—Liability to Third Persons—Commercial Organizations (Apr 1984)

(a) The Contractor shall procure and maintain such insurance as is required by law or regulation, including that required by FAR Part 28, in effect as of the date of execution of this contract, and any such insurance as the Contracting Officer may, from time to time, require with respect to performance of this contract.

(b) At a minimum, the Contractor shall procure and maintain the following types of insurance:

(1) Workmen's compensation and occupational disease insurance in amounts to satisfy State law;

(2) Employer's liability insurance in the minimum amount of $100,000 per occurrence;

(3) Comprehensive general liability insurance for bodily injury, death or loss of or damage to property of third persons in the minumum amount of $1,000,000 per occurrence;

(4) When vessels are used in the performance of the contract, vessel collision liability and protection and indemnity liability insurance in such amounts as the Contracting Officer may require or approve: provided, that the Contractor may, with the approval of the contracting Officer, maintain a self-insurance program. All insurance required pursuant to the provisions of this paragraph shall be in such form and for such periods of time as the Contracting Officer may, from time to time, require or approve and with insurers approved by the Contracting Officer.

(c) The Contractor agrees, to the extent and in the manner required by the contracting Officer, to submit for the approval of the contracting Officer any other insurance maintained by the contractor in connection with the performance of this contract and for which the Contractor seeks reimbursement hereunder.

(d) The Contractor shall be reimbursed, for the portion allocable to this contract, the reasonable cost of insurance (including reserves for self-insurance) as required or approved pursuant to the provisions of this contract clause.

(e) The Government will hold harmless and indemnify the contractor against claims (including expenses of litigation or settlement) by third persons (including employees of the Contractor) for death, bodily injury, or loss of or damage to property arising out of performance of this contract, to the extent that such a claim is not compensated by insurance or otherwise. Any such claim within deductible amounts of the Contractor's insurance will not be covered under this contract clause. Reimbursement for such liabilities to third persons will not cover liabilities for which the contractor has failed to insure as required or to maintain insurance as approved by the Contracting Officer. The Contractor shall not be reimbursed for liabilities (and expenses incidental to such liabilities) that result from willful misconduct or lack of good faith on the part of any of the Contractor's directors, officers, managers, superintendents, or other representatives who have supervision or direction of—

(i) All or substantially all of the Contractor's business;

(ii) All or substantially all of the Contractor's operations at any one plant or separate location in which this contract is being performed; or

(iii) A separate and complete major industrial operation in connection with the performance of this contract.

(f) The Government may discharge its liability under this contract clause by making payments directly to the Contractor or directly to parties to whom the Contractor may be liable.

(g) With the prior written approval of the Contracting Officer, the Contractor may include in any subcontract under this contract the same provisions in this clause whereby the Contractor shall indemnify the subcontractor. Such a subcontract shall provide the same rights and duties and the same provisions for notice, furnishings of evidence or proof, and the like, between the Contractor and the subcontractor as are established by this clause. Similar indemnification may be provided for subcontractors at any time upon the same terms and conditions. Subcontracts providing for indemnification within the purview of this contract clause shall provide for prompt notification to the Contractor which is covered by this contract clause, and shall entitle the Government, at its election, to control or assist in the settlement or defense of any such claim or action. The Government will indemnify the Contractor with respect to his obligations to subcontractors under such subcontract provisions. The Government may discharge its obligations under this paragraph by making payments directly to subcontractors or to parties to whom the subcontractors may be liable.

(h) If insurance coverage required or approved by the Contracting Officer is reduced without the Contracting Officer's approval, the liability of the Government under this contract clause will not be increased by reason of such reduction.

(i) The Contractor shall:

(1) Promptly notify the Contracting Officer of any claim or action against the Contractor or any subcontractor which reasonably may be expected to involve indemnification under this contract clause;

(2) Furnish evidence or proof of any claim covered by this contract clause in the manner and form required by the Government; and

(3) Immediately furnish the Government copies of all pertinent papers received by the Contractor. The Government may direct, control, or assist the settlement or defense of any such claim or action. The Contractor shall comply with the Government's directions, and execute any authorizations required in regard to such settlement or defense.

(j) Reimbursement for any liabilities under this contract clause will not exceed appropriations available at the time such liabilities are represented by final judgments or by settlements approved in writing by the Government. This agreement to reimburse the Contractor for certain liabilities will not be interpreted as implying that Congress will, at a later date, appropriate funds sufficient to meet deficiencies.

(End of clause)

1552.228-71 Insurance—liability to third persons—state or local governments.

As prescribed in 1528.311-70, insert the following contract clause in contracts with State or local Governments when routine (nonemergency) removal or remedial action is being undertaken pursuant to the Comprehensive Environmental Response, Compensation and Liability Act.

Insurance—Liability to Third Persons—State or Local Governments (Apr 1984)

(a) The Contractor shall procure and maintain such insurance as the Contracting Officer may, from time to time, require with respect to performance of this contract.

(b) The Contractor agrees, to the extent and in the manner required by the Contracting Officer, to submit for the approval of the Contracting Officer any other insurance maintained by the Contractor in connection with the performance of this contract (including any self-insurance) and for which the Contractor seeks reimbursement hereunder.

(c) The Contractor shall be reimbursed, for the portion allocable to this contract, the reasonable cost of insurance (including reserves for self-insurance) as required or approved pursuant to the provisions of this contract clause.

(d) The Federal Government will hold harmless and indemnify the Contractor against claims (including expenses of litigation or settlement) by third persons (including employees of the Contractor) for death, bodily injury, or loss of or damage to property arising out of performance of this contract, to the extent that such a claim is not compensated by insurance or otherwise. Any such claim within deductible amounts of the Contractor's insurance will not be covered under this contract clause. Reimbursement for such liabilities to third persons will not cover liabilities for which the Contractor has failed to insure as required or to maintain insurance as approved by the Contracting Officer. The Contractor shall not be reimbursed for liabilities (and expenses incidental to such liabilities) that result from willful misconduct or lack of good faith on the part of any of the Contractor's directors, officers, managers, superintendents, or other representatives who have supervision or direction of—

(i) All or substantially all of the Contractor's business;

(ii) All or substantially all of the Contractor's operations at any one plant or separate location in which this contract is being performed; or

(iii) A separate and complete major industrial operation in connection with the performance of this contract.

(e) The Federal Government may discharge its liability under this contract clause by making payments directly to the Contractor or directly to parties to whom the Contractor may be liable.

(f) With the prior written approval of the Contracting Officer, the Contractor may include in any subcontract under this contract the same provisions in this contract clause whereby the Contractor shall indemnify the subcontractor. Such a subcontract shall provide the same rights and duties and the same provisions for notice, furnishing of evidence or proof, and the like, between the Contractor and the subcontractor as are established by this contract clause. Similar indemnification may be provided for subcontractors at any tier upon the same terms and conditions. Subcontracts providing for indemnification within the purview of this contract clause shall provide for prompt notification to the Contracting Officer of any claim or action against the subcontractor which is covered by this contract clause, and shall entitle the Government, at its election, to control or assist in the settlement or defense of any such claim or action. The Federal Government will indemnify the Contractor with respect to its obligations to subcontractors under such subcontract provisions. The Federal Government may discharge its obligations under this paragraph by making payments directly to subcontractors or to parties to whom the subcontractors may be liable.

(g) If insurance coverage required or approved by the Contracting Officer is reduced without the Contracting Officer's approval, the liability of the Government under this contract clause will not be increased by reason of such reduction.

(h) The Contractor shall:

(1) Promptly notify the Contracting Officer of any claim or action against the Contractor or any subcontractor which reasonably may be expected to involve indemnification under this contract clause;

(2) Furnish evidence or proof of any claim covered by this contract clause in the manner and form required by the Federal Government; and

(3) Immediately furnish the Federal Government copies of all pertinent papers received by the Contractor. The Government may direct, control, or assist the settlement or defense of any such claim or action. The Contractor shall comply with the Federal Government's directions, and execute any authorizations required in regard to such settlement or defense.

(i) Reimbursement for any liabilities under this contract clause will not exceed appropriations available at the time such liabilities are represented by final judgments or by settlements approved in writing by the Federal Government. This agreement to reimburse the Contractor for certain liabilities will not be interpreted as implying that Congress will, at a later date, appropriate funds sufficient to meet deficiencies.

(End of clause)

1552.228-72 Insurance—liability to third persons—commercial organizations (emergency).

As prescribed in 1528.311-70, insert the following contract clause in contracts with commercial organizations when emergency response to hazardous substance releases or potential releases are being undertaken pursuant to the Comprehensive Environmental Response, Compensation and Liability Act.

Insurance—Liability to Third Persons—Commercial Organizations (Emergency) (Apr 1984)

(a) The Contractor shall procure and maintain such insurance as is required by law or regulation, including that required by FAR Part 28 in effect as of the date of execution of this contract, and any such insurance as the Contracting Officer may, from time to time, require with respect to performance of this contract.

(b) At a minimum, the Contractor shall procure and maintain the following types of insurance:

(1) Workmen's compensation and occupational disease insurance in amounts to satisfy state law;

(2) Employer's liability insurance;

(3) Comprehensive general liability (bodily injury) insurance;

(4) Comprehensive automobile liability (bodily injury and property damage) insurance;

(5) When aircraft are used in the performance of the contract, aircraft public and passenger liability insurance; and

(6) When vessels are used in the performance of the contract, vessel collision liability and protection and indemnity liability insurance: Provided, that the Contractor may maintain a self-insurance program.

(c) The Contractor shall be reimbursed, for the portion allocable to this contract, the reasonable cost of insurance maintained by the Contractor, including reserves for self-insurance.

(d) The Government will hold harmless and indemnify the Contractor against claims (including expenses of litigation or settlement) by third persons (including employees of the Contractor) for death, bodily injury, or loss of or damage to property arising out of performance of this contract, to the extent that such a claim is not compensated by insurance or otherwise. Any such claim within deductible amounts of the Contractor's insurance will not be covered under this contract clause. The Contractor shall not be reimbursed for liabilities (and expenses incidental to such liabilities) that result from willful misconduct or lack of good faith on the part of any of the Contractor's directors, officers, managers, superintendents, or other representatives who have supervision or direction of—

(i) All or substantially all of the Contractor's business;

(ii) All or substantially all of the Contractor's operations at any one plant or separate location in which this contract is being performed; or

(iii) A separate and complete major industrial operation in connection with the performance of this contract.

(e) The Government may discharge its liability under this contract clause by making payments directly to the Contractor or directly to parties to whom the Contractor may be liable.

(f) The Contractor may include in any subcontract under this contract the same provisions in this contract clause whereby the Contractor shall indemnify the subcontractor. Such a subcontract shall provide the same rights and duties and the same provisions for notice, furnishing of evidence or proof, and the like, between the Contractor and the subcontractor as are established by this contract clause. Similar indemnification may be provided for subcontractors at any tier upon the same terms and conditions. Subcontracts providing for indemnification within the purview of this contract clause shall provide for prompt notification to the Contracting Officer of any claim or action against the subcontractor which is covered by this contract clause, and shall entitle the Government, at its election, to control or assist in the settlement or defense of any such claim or action. The Government will idemnify the Contractor with respect to his obligations to subcontractors under such subcontract provisions. The Government may may discharge its obligations under this paragraph by making payments directly to subcontractors or to parties to whom the subcontractors may be liable.

(g) If insurance maintained by the Contractor is reduced, the liability of the Government under this contract clause will not be increased by reason of such reduction.

(h) The Contractor shall:

(1) Promptly notify the Contracting Officer of any claim or action against the Contractor or any subcontractor which reasonably may be expected to involve indemification under this contract clause;

(2) Furnish evidence or proof of any claim covered by this contract clause in the manner and form required by the Government; and

(3) Immediately furnish the Government copies of all pertinent papers received by the Contractor. The Government may direct, control, or assistant the settlement or defense of any such claim or action. The Contractor shall comply with the Government's directions, and execute any authorizations required in regard to such settlement or defense.

(i) Reimbursement for any liabilities under this contract clause will not exceed appropriations available at the time such liabilties are represented by final judgments or by settlements approved in writing by the Government. This agreement to reimburse the Contractor for certain liabilities shall not be interpreted as implying that Congress will, at a later date, appropriate funds sufficient to meet deficiencies.

(End of clause)

1552.228-73 Insurance—Liability to third persons—state or local governments (emergency).

As prescribed in 1528.311-70, insert the following contract clause in contracts with State or local governments when emergency response to hazardous substance releases or potential releases are being undertaken pursuant to the Comprehensive Environmental Response, Compensation and Liability Act.

Insurance—Liability to Third Persons—State or Local Governments (Emergency) (Apr 1984)

(a) The Contractor shall be reimbursed, for the portion allocable to this contract, the reasonable cost of insurance maintained by the Contractor, including reserves for self-insurance.

(b) The Federal Government will hold harmless and indemnify the Contractor against claims (including expenses of litigation or settlement) by third persons (including employees of the Contractor) for death, bodily injury, or loss of or damage to property arising out of performance of this contract, to the extent that such a claim is not compensated by insurance or otherwise. Any such claim within deductible amounts of the Contractor's insurance will not be covered under this contract clause. The Contractor shall not be reimbursed for liabilities (and expenses incidental to such liabilities) that result from willful misconduct or lack of good faith on the part of any of the Contractor's directors, officers, managers, superintendents, or other representatives who have supervision or direction of—

(i) All or substantially all of the Contractor's business;

(ii) All or substantially all of the Contractor's operations at any one plant or separate location in which this contract is being performed; or

(iii) A separate and complete major industrial operation in connection with the performance of this contract.

(c) The Federal Government may discharge its liability under this contract clause by making payments directly to the Contractor or directly to parties to whom the Contractor may be liable.

(d) The Contractor may include in any subcontract under this contract the same provisions in this contract clause whereby the Contractor shall indemnify the subcontractor. Such a subcontract shall provide the same rights and duties and the same provisions for notice, furnishing of evidence or proof, and the like, between the Contractor and the subcontractor as are established by this contract clause. Similar indemnification may be provided for subcontractors at any tier upon the same terms and conditions. Subcontracts providing for indemnification within the purview of this contract clause shall provide for prompt notification to the Contracting Officer of any claim or action against the subcontractor which is covered by this contract clause, and shall entitle the Government, at its election, to control or assist in the settlement or defense of any such claim or action. The Federal Government will indemnify the Contractor with respect to its obligations to subcontractors under such subcontract provisions. The Federal Government may discharge its obligations under this paragraph by making payments directly to subcontractors or to parties to whom the subcontractors may be liable.

(e) If insurance maintained by the Contractor is reduced, the liability of the Federal Government under this contract clause shall not be increased by reason of such reduction.

(f) The contractor shall:

(1) Promptly notify the Contracting Officer of any claim or action against the Contractor or any subcontractor which reasonably may be expected to involve indemnification under this contract clause;

(2) Furnish evidence or proof of any claim covered by this contract clause in the manner and form required by the Federal Government; and

(3) Immediately furnish the Federal Government copies of all pertinent papers received by the Contractor. The Government may direct, control, or assist the settlement or defense of any such claim or action. The Contractor shall comply with the Federal Government's directions, and execute any authorizations required in regard to such settlement or defense.

(g) Reimbursement for any liabilities under this contract clause will not exceed appropriations available at the time such liabilities are represented by final judgments or by settlements approved in writing by the Federal Government. This agreement to reimburse the Contractor for certain liabilities will not be interpreted as implying that Congress will, at a later date, appropriate funds sufficient to meet deficiencies.

(End of clause)

1552.232-70 Application of Prompt Payment Act—contracts with advance, progress, or provisional payments.

As prescribed in 1532.7003(a), insert the following contract clause in contracts authorizing advance, progress, or provisional payments.

Application of Prompt Payment Act—Contracts With Advance, Progress, or Provisional payments (Apr 1984)

The provisions of the Prompt Payment Act, Pub. L. 97-177 (96 Stat. 84, 31 U.S.C. 1801-06) apply only to the final payment to be made following completion of the services required by the Statement of Work. Provisional and progress payments made during performance of the contract are not subject to interest on overdue payments.

(a) Payment due date.

(1) A final voucher for the balance of the contract shall be submitted by the Contractor together with appropriate contractor releases of claims. This final voucher, if a proper voucher, shall be paid within 30 days of actual receipt in the office designated to review the invoice.

(2) The date of the check issued in payment or the date of payment by wire transfer through the Treasury Financial Communications System shall be considered to be the date payment is made.

(b) Invoices.

(1) An invoice is a written request for payment under the contract for supplies delivered or for services rendered. In order to be proper, an invoice under a cost-reimbursement contract must be proper in accordance with EPA Form 1900-34, "Guide for the Preparation of Contractor's Claims for Reimbursement of Costs and Fees Under Cost-Reimbursement Type Contracts" or EPA Form 1900-34A, "Guide for the Preparation of Contractor's Claims for Reimbursement of

Costs and Fees Under Cost-Plus-Award-Fee (CPAF) Type Contracts," and include as applicable the following:

(i) Invoice date;

(ii) Name of contractor;

(iii) Contract number (including order number, if any), contract line item number, contract description of supplies or services, quantity, contract unit of measure or unit price, and extended total;

(iv) Shipment number and date of shipment (bill of lading number and weight of shipment will be shown for shipments on Government bills of lading);

(v) Name and address to which payment is to be sent (which must be the same as that in the contract or on a proper notice of assignment);

(vi) Any other information or documentation required by other provisions of the contract (such as evidence of shipment);

(vii) If a cost-reimbursement term form contract with work assignments, a summary of amounts claimed against each work assignment;

(viii) If an indefinite delivery/indefinite quantity contract, a summary of amounts claimed against each delivery order.

(2) Invoices shall be prepared and submitted in quadruplicate (one copy shall be marked "original") unless otherwise specified.

(c) For purposes of determining if interest begins to accrue under the Prompt Payment Act (Pub. L. 97-177):

(1) A proper invoice will be deemed to have been received when it is received by the office designated in the contract for receipt of invoices and acceptance of the supplies delivered or services rendered has occurred;

(2) Payment terms (e.g., "net 20") offered by the Contractor will not be deemed "required payment dates"; and

(3) The following periods of time will not be included:

(i) After receipt of an imporper invoice and prior to notice of any defect or impropriety, but not to exceed fifteen (15) days (or any lesser period established by this contract);

(ii) Between the date of a notice of any defect or impropriety and the date a proper invoice is received. (When the notice is in writing, it shall be considered made on the date shown on the notice.)

(End of clause)

1552.232-71 Application of the Prompt Payment Act—contract with f.o.b. destination deliverables.

As prescribed in 1532.7003(b), insert the following contract clause in contracts when there is an f.o.b. destination deliverable and no progress payments are involved. The 30th calendar day in (a)(1) of the clause may be altered to reflect the need for some other number of days. The number of days necessary for inspection, acceptance, and other necessary actions should be inserted in (a)(2).

Application of the Prompt Payment Act—Contract With f.o.b. Destination Deliverables (Apr 1984)

(a) Payment due date.

(1) Payments under this contract will be due on the 30th calendar day after the later of:

(i) The date of actual receipt of a proper invoice in the office designated to receive the invoice; or

(ii) The date the supplies, reports, and/or services are accepted by the Government.

(2) For the purposes of determining the due date for payment and for no other purpose, acceptance will be deemed to occur on the _____ calendar day after the date of delivery of the supplies in accordance with the terms of the contract.

(3) If the supplies are rejected for failure to conform to the technical requirements of the contract, or for damage in transit or otherwise, the provisions in paragraph (2) of this contract clause will apply to the new delivery of replacement supplies.

(4) The date of the check issued in payment or the date of payment by wire transfer through the Treasury Financial Communications System shall be considered to be the date payment is made.

(b) Invoices.

(1) An invoice is a written request for payment under the contract for supplies delivered or for services rendered. In order to be proper, an invoice must include as applicable the following:

(i) Invoice date;

(ii) Name of contractor;

(iii) Contract number (including order number, if any), contract line item number, contract description of supplies or services, quantity, contract unit of measure or unit price, and extended total;

(iv) Shipment number and date of shipment (bill of lading number and weight of shipment will be shown for shipments on Government bills of lading);

(v) Name and address to which payment is to be sent (which must be the same as that in the contract or on a proper notice of assignment);

(vi) Any other information or documentation required by other provisions of the contract (such as evidence of shipment).

(2) Invoices shall be prepared and submitted in quadruplicate (one copy shall be marked "original") unless otherwise specified to the accounting operations specified in block (12 of SF 26 or 25 on SF 33). The Contractor should submit any questions concerning payment of invoices to the accounting operations officer.

(c) For purposes of determining if interest begins to accrue under the Prompt Payment Act (Pub. L. 97-177):

(1) A proper invoice will be deemed to have been received when it is received by the office designated in the contract for receipt of invoices and acceptance of the supplies delivered or services rendered has occurred;

(2) Payment terms (e.g., "net 20") offered by the Contractor will not be deemed "required payment dates"; and

(3) The following periods of time will not be included: after receipt of an improper invoice and prior to notice of any defect or impropriety, but not to exceed fifteen (15) days (or any lesser period established by this contract); or between the date of a notice of any defect or impropriety and the date a proper invoice is received. (When the notice is in writing, it shall be considered made on the date shown on the notice.)

(End of clause)

1552.232-72 Application of the Prompt Payment Act—contracts with f.o.b. origin deliverables.

As prescribed in 1532.7003(c), insert the following contract clause in contracts when there is an f.o.b. origin deliverable and no advance, provisional, or progress payments are involved.

Application of the Prompt Payment Act—Contracts With f.o.b. Origin Deliverables (Apr 1984)

(a) Payments under this contract will be due on the 30th calendar day after the date of actual receipt of a proper invoice in the office designated to receive the invoice.

(b) The date of the check issued in payment shall be considered to be the date payment is made.

(End of clause)

1552.232-73 Payments—fixed-rate services contract.

As prescribed in 1532.111, insert the following in indefinite delivery/indefinite quantity contracts with fixed services rates.

Payments—Fixed-Rate Services Contract (Apr 1984)

The Government shall pay the Contractor as follows upon the submission of invoices or vouchers approved by the Contracting Officer:

(a) Hourly rate.

(1) The amounts shall be computed by multiplying the appropriate hourly rates prescribed in the Schedule by the number of direct labor hours performed. The rates shall include wages, indirect costs, general and administrative expenses, and profit. Fractional parts of an hour shall be payable on a prorated basis. Vouchers may be submitted once each month (or at more frequent intervals, if approved by the Contracting Officer) to the paying office. The Contractor shall substantiate vouchers by evidence of actual payment and by individual daily job, timecards, or other substantiation approved by the Contracting Officer. Promptly after receipt of each substantiated voucher, the Government shall, except as otherwise provided in this contract and subject to the terms of (e) below, pay the voucher as approved by the Contracting Officer.

(2) Unless otherwise prescribed in the Schedule, the Contracting Officer shall withhold 5 percent of the amounts due under this paragraph (a), but the total amount withheld shall not exceed $50,000. The amounts withheld shall be retained until the execution and delivery of a release by the Contractor as provided in paragraph (f) below.

(3) Unless the Schedule prescribes otherwise, the hourly rates in the Schedule shall not be varied by virtue of the Contractor having performed work on an overtime basis.

If no overtime rates are provided in the Schedule and overtime work is approved in advance by the Contracting Officer, overtime rates shall be negotiated. Failure to agree upon these overtime rates shall be treated as a dispute under the "Disputes" clause of this contract. If the Schedule provides rates for overtime the premium portion of those rates will be reimbursable only to the extent the overtime is approved by the Contracting Officer.

(b) Materials, other direct costs, and subcontracts.

(1) The allowability of direct materials and other direct costs shall be determined by the Contracting Officer in accordance with Subpart 31.2 of the Federal Acquisition Regulation (FAR) in effect on the date of this contract. Reasonable and allocable material handling costs or indirect costs may be included in the charge for material or other direct costs to the extent they are clearly excluded from the hourly rate. Material handling and/or indirect cost rates are specified in the "Indirect Costs" clause. Material handling costs are comprised of indirect costs, including, when appropriate, general and administrative expense allocated to direct materials in accordance with the Contractor's usual accounting practices consistent with Subpart 31.2 of the FAR. The Contractor shall be reimbursed for items and services purchased directly for the contract only when cash, checks, or other forms of actual payment have been made for such purchased items or services. Direct materials or other direct costs, as used in this clause, are those items which enter directly into the end product, or which are used or consumed directly in connection with the furnishing of the end product.

(2) Subcontracted effort may be included in the fixed hourly rates discussed in paragraph (a)(1) above and will be reimbursed as discussed in that paragraph. Otherwise, the cost of subcontracts that are authorized under the subcontracts clause of this contract shall be reimbursable costs under this clause provided that the costs are consistent with subparagraph (3) below. Reimbursable costs in connection with subcontracts shall be limited to the amounts paid to the subcontractor in the same manner as for items and services purchased directly for the contract under subparagraph (1) above; however, this requirement shall not apply to a Contractor that is a small business concern. Reimbursable costs shall not include any costs arising from the letting, administration, or supervision of performance of the subcontract, if the costs are included in the hourly rates payable under (a)(1) above.

(3) To the extent able, the Contractor shall (i) obtain materials at the most advantageous prices available with due regard to securing prompt delivery of satisfactory materials; and (ii) take all cash and trade discounts, rebates, allowances, credits, salvage, commissions, and other benefits. When unable to take advantage of the benefits, the Contractor shall promptly notify the Contracting Officer and give the reasons. Credit shall be given to the Government for cash and trade discounts, rebates, allowances, credits, salvage, the value of any appreciable scrap, commissions, and other amounts that have accrued to the benefit of the Contractor, or would have accrued except for the fault or neglect of the Contractor. The benefits lost without fault or neglect on the part of the Contractor, or lost through fault of the Government, shall not be deducted from gross costs.

(4) If the nature of the work to be performed requires the Contractor to furnish material which is regularly sold to the general public in the normal course of business by the Contractor, the price to be paid for such material, notwithstanding (b)(1) above, shall be on the basis of an established catalog or list price, in effect when the material is furnished, less all applicable discounts to the Government; provided, that in no event shall such price be in excess of the Contractor's sales price to its most favored customer for the same item in like quantity, or the current market price, whichever is lower.

(c) Contracting Officer notification. For contract administration purposes, the Contractor shall notify the Contracting Officer in writing when the total value of all delivery orders issued exceeds 85 percent of the maximum price specified in the schedule.

(d) Maximum amount. The Government shall not be obligated to pay the Contractor any amount in excess of the maximum amount in the Schedule, and the Contractor shall not be obligated to continue performance if to do so would exceed the maximum amount set forth in the Schedule, unless or until the Contracting Officer shall have notified the Contractor in writing that the maximum amount has been increased and shall have specified in the notice a revised maximum that shall constitute the maximum amount for performance under this contract. When and to the extent that the maximum amount set forth in the Schedule has been increased, any hours expended, and material or other direct costs incurred by the Contractor in excess of the maximum amount before the increase, shall be allowable to the same extent as if the hours expended and material costs had been incurred after the increase in the maximum amount.

(e) Audit. At any time before final payment under this contract, the Contracting Officer may request audit of the invoices or vouchers and substantiating material. Each payment previously made shall be subject to reduction to the extent of amounts, on preceding invoices or vouchers, that are found by the Contracting Officer not to have been properly payable and shall also be subject to reduction for overpayments or to increase for underpayments. Upon receipt and approval of the voucher or invoice designated by the Contractor as the "completion voucher" or "completion invoice" and substantiating material, and upon compliance by the Contractor with all terms of this contract (including, without limitation, terms relating to patents and the terms of (f) and (g) below), the Government shall promptly pay any balance due the Contractor. The completion invoice or voucher, and substantiating material, shall be submitted by the Contractor as promptly as practicable following completion of the work under this contract, but in no event, later than one year (or such longer period as the Contracting Officer may approve in writing) from the date of completion.

(f) Assignment. The Contractor, and each assignee under an assignment entered into under this contract and in effect at the time of final payment under this contract, shall execute and deliver, at the time of and as a condition precedent to final payment under this contract, a release discharging the Government, its officers, agents, and employees of and from all liabilities, obligations, and claims arising out of or under this contract, subject only to the following exceptions:

(1) Specified claims in stated amounts, or in estimated amounts if the amounts are not susceptible of exact statement by the Contractor.

(2) Claims, together with reasonable incidental expenses, based upon the liabilities of the Contractor to third parties arising out of performing this contract, that are not known to the Contractor on the date of the execution of the release, and of which the Contractor gives notice in writing to the Contracting Officer not more than 6 years after the date of the release or the date of any notice to the Contractor that the Government is prepared to make final payment, whichever is earlier.

(3) Claims for reimbursement of costs (other than expenses of the Contractor by reason of its indemnification of the Government against patent liability), including reasonable incidental expenses, incurred by the Contractor under the terms of this contract relating to patents.

(g) Refunds. The Contractor agrees that any refunds, rebates, or credits (including any related interest) accruing to or received by the Contractor or any assignee, that arise under the materials portion of this contract and for which the Contractor has received reimbursement, shall be paid by the Contractor to the Government. The Contractor and each assignee, under an assignment entered into under this contract and in effect at the time of final payment under this contract, shall execute and deliver, at the time of and as a condition precedent to final payment under this contract, an assignment to the Government of such refunds, rebates, or credits (including any interest) in form and substance satisfactory to the Contracting Officer.

(End of clause)

1552.235-70 Screening business information for claims of confidentiality.

As prescribed in 1535.007-70(a), insert the following contract clause in all types of contracts when the Contracting Officer has determined that during performance of this contract, the Contractor may be required to collect information to perform the work required under this contract. Some of the information may consist of trade secrets or commercial or financial information that would be considered as proprietary or confidential by the business that has the right to the information. The following clause enables EPA to resolve any claims of confidentiality concerning the

information that the Contractor will furnish under a contract. The clause entitled "Treatment of Confidential Business Information" shall also be included in the contract:

Screening Business Information for Claims of Confidentiality (Apr 1984)

(a) Whenever collecting information under this contract, the Contractor agrees to comply with the following requirements:

(1) If the Contractor collects information from public sources, such as books, reports, journals, periodicals, public records, or other sources that are available to the public without restriction, the Contractor shall submit a list of these sources to the appropriate program office at the time the information is initially submitted to EPA. The Contractor shall identify the information according to source.

(2) If the Contractor collects information from a State or local Government or from a Federal agency, the Contractor shall submit a list of these sources to the appropriate program office at the time the information is initially submitted to EPA. The Contractor shall identify the information according to source.

(3) If the Contractor collects information directly from a business or from a source that represents a business or businesses, such as a trade association:

(i) Before asking for the information, the Contractor shall identify itself, explain that it is performing contractual work for the U.S. Environmental Protection Agency, identify the information that it is seeking to collect, explain what will be done with the information, and give the following notice:

(A) You may, if you desire, assert a business confidentiality claim covering part or all of the information. If you do assert a claim, the information will be disclosed by EPA only to the extent, and by means of the procedures, set forth in 40 CFR Part 2, Subpart B.

(B) If no such claim is made at the time this information is received by the Contractor, it may be made available to the public by the Environmental Protection Agency without further notice to you.

(C) The contractor shall, in accordance with FAR Part 9, execute a written agreement regarding the limitations of the use of this information and forward a copy of the agreement to the Contracting Officer.

(ii) Upon receiving the information, the Contractor shall make a written notation that the notice set out above was given to the source, by whom, in what form, and on what date.

(iii) At the time the Contractor initially submits the information to the appropriate program office, the Contractor shall submit a list of these sources, identify the information according to source, and indicate whether the source made any confidentiality claim and the nature and extent of the claim.

(b) The Contractor shall keep all information collected from nonpublic sources confidential in accordance with the clause in this contract entitled "Treatment of Confidential Business Information" as if it had been furnished to the Contractor by EPA.

(c) The Contractor agrees to obtain the written consent of the Contracting Officer, after a written determination by the appropriate program office, prior to entering into any subcontract that will require the subcontractor to collect information. The Contractor agrees to include this clause, including this paragraph (c), and the clause entitled "Treatment of Confidential Business Information" in all subcontracts awarded pursuant to this contract that require the subcontractor collect information.

(End of clause)

1552.235-71 Treatment of confidential business information.

As prescribed in 1535.007-70(b), insert the following contract clause in all types of contracts when the Contracting Officer has determined that in the performance of a contract, EPA may furnish confidential business information to the Contractor that EPA obtained under the Clean Air Act (42 U.S.C. 7401 et seq.), the Federal Water Pollution Control Act (33 U.S.C. 1251, et seq.), the Safe Drinking Water Act (42 U.S.C. 300f et seq.), the Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. 136 et seq.), the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.), the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.), or the Toxic Substances Control Act (15 U.S.C. 2601 et seq.). EPA regulations on confidentiality of business information in 40 CFR Part 2 Subpart B require that the Contractor agree to the clause entitled "Treatment of Confidential Business Information" before any confidential business information may be furnished to the Contractor:

Treatment of Confidential Business Information (Apr 1984)

(a) The Contracting Officer, after a written determination by the appropriate program office, may disclose confidential business information to the Contractor necessary to carry out the work required under this contract. The Contractor agrees to use the confidential information only under the following conditions:

(1) The Contractor and Contractor's Employees shall: (i) use the confidential information only for the purposes of carrying out the work required by the contract; (ii) not disclose the information to anyone other than EPA employees without the prior written approval of the Assistant General Counsel for Contracts and Information Law; and (iii) return to the Contracting Officer all copies of the information, and any abstracts or excerpts therefrom, upon request by the Contracting Officer, whenever the information is no longer required by the Contractor for the performance of the work required by the contract, or upon completion of the contract.

(2) The Contractor shall obtain a written agreement to honor the above limitations from each of the Contractor's employees who will have access to the information before the employee is allowed access.

(3) The Contractor agrees that these contract conditions concerning the use and disclosure of confidential information are included for the benefit of, and shall be enforceable by, both EPA and any affected business having a proprietary interest in the information.

(4) The Contractor shall not use any confidential information supplied by EPA or obtained during performance hereunder to compete with any business to which the confidential information relates.

(b) The Contractor agrees to obtain the written consent of the Contracting Officer, after a written determination by the appropriate program office, prior to entering into any subcontract that will involve the disclosure of confidential business information by the Contractor to the subcontractor. The Contractor agrees to include this clause, including this paragraph (b), in all subcontracts awarded, pursuant to this contract, that require the furnishing of confidential business information to the subcontractor.

(End of clause)

1552.235-72 Data security—FIFRA and/or TSCA confidential business information.

As prescribed in 1535.007-70(c), insert the following contract clause when the contract involves access to confidential business information related to either the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) or the Toxic Substances Control Act (TSCA) and the "Treatment of Confidential Business Information" clause (1552.235-71) and the "Screening Business Information for Claims of Confidentiality" clause (1552.235-70) are also used.

Data Security—FIFRA and/or TSCA Confidential Business Information (Apr 1984)

The Contractor shall handle Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) and/or Toxic Substances Control Act (TSCA) confidential business information in accordance with the contract clause entitled "Treatment of Confidential Business Information" and "Screening Business Information for Claims of Confidentiality," the provisions set forth below, and the Contractor's approved detailed security plan.

(a) The Contracting Officer, after a written determination by the appropriate program office, may disclose confidential business information to the Contractor necessary to carry out the work required under this contract. The Contractor shall protect the confidential business information and confidential business information used in its computer operations in accordance with the following requirements.

(1) The Contractor and Contractor's employees shall follow the security procedures set forth in the Contractor's security plan(s) approved by EPA.

(2) The Contractor shall, upon request by the Contracting Officer, permit access to and inspection of the Contractor's facilities in use under this contract by representatives of

EPA's Assistant Administrator for Administration and Resources Management, EPA's Program Support Division of the Office of Pesticide Programs, EPA's Management Support Division of the Office of Toxic Substances, EPA's Management Information System Division or by the Project Officer.

(3) The Contractor Document Control Officer (DCO) shall obtain a signed copy of the FIFRA/TSCA "Contractor Employee Confidentiality Agreement" from each of the Contractor's employees who will have access to the information before the employee is allowed access.

(b) The Contractor agrees that these requirements concerning protection of confidential business information are included for the benefit of, and shall be enforceable by, both EPA and any affected business having a proprietary interest in the information.

(c) The Contractor understands that confidential business information obtained by EPA under the Fungicide, Insecticide, and Rodenticide Act and/or the Toxic Substances Control Act may not be disclosed except as authorized by the Act(s), and that any unauthorized disclosure by the Contractor or the Contractor's employees may subject the Contractor and the Contractor's employees to the criminal penalties specified in FIFRA [7 U.S.C. 136h(f)] and/or TSCA [15 U.S.C. 2613(d)]. For purposes of this contract, the only disclosures that EPA authorizes the Contractor to make are those disclosures set forth in the clause entitled "Treatment of Confidential Business Information."

(d) The Contractor agrees to include the provisions of this clause, including this paragraph (d), in all subcontracts awarded pursuant to this contract that require the furnishing of confidential business information to the subcontractor.

(e) The Contractor shall return all logs and employee confidentiality agreements to EPA at the end of the contract.

(f) If, subsequent to the date of this contract, the Government changes the security requirements, the Contracting Officer shall equitably adjust affected provisions of this contract in accordance with the "Changes" clause when:

(1) The Contractor submits a timely written request for an equitable adjustment; and

(2) The facts warrant an equitable adjustment.

(End of clause)

1552.236-70 Samples and certificates.

As prescribed in 1536.521, insert the following contract clause in construction contracts.

Samples and Certificates (Apr 1984)

When required by the specifications or the Contracting Officer, samples, certificates, and test data shall be submitted after award of the contract, prepaid, in time for proper action by the Contracting Officer or his/her designated representative. Certificates and test data shall be submitted in triplicate to show compliance of materials and construction specified in the contract performance requirements. Samples shall be submitted in duplicate by the Contractor, except as otherwise specified, to show compliance with the contract requirements. Materials or equipment for which samples, certifications or test data are required shall not be used in the work until approved in writing by the Contracting Officer.

(End of clause)

1552.236-71 Additive or deductive items.

As prescribed in 1536.570, insert the following solicitation provision in Invitations for Bids for construction that provides for additive or deductive items.

Additive or Deductive Items (Apr 1984)

The low bidder for purposes of award shall be the conforming responsible bidder offering the low aggregate amount for the base bid item, plus or minus (in the order of priority listed in the schedule) those additive or deductive bid items providing the most features of the work within the funds determined by the Government to be available before bids are opened. If addition of another bid item in the listed order of priority would make the award exceed such funds for all bidders, it shall be skipped and the next subsequent additive bid item in a lower amount shall be added if award thereon can be made within such funds.

For example, when the amount available is $100,000 and a bidder's base bid and four successive additives are $85,000, $10,000, $8,000, $6,000, and $4,000, the aggregate amount of the bid for purposes of award would be $99,000 for the base bid plus the first and fourth additives, the second and third additives being skipped because each of them would cause the aggregate bid to exceed $100,000. In any case, all bids shall be evaluated on the basis of the same additive or deductive bid items, determined as above provided. The listed order or priority need be followed only for determining the low bidder. If the amount of funds determined and recorded in the contract file by the Contracting Officer as available for the project prior to the opening of bids proves insufficient so as to preclude an award, the low bidder for purposes of award shall be the conforming responsible bidder offering the low amount for the base bid item, exclusive of any additive or deductive items. After determination of the low bidder as stated, award in the best interests of the Government may be made on the selected base bid and any combination of additive or deductive items for which funds are determined to be available at the time of the award, provided that award on such combination of bid items does not exceed the amount offered by any other conforming responsible bidder for the same combination of bid items. After the contract has been awarded, any work which should have been part of the contract offered by the solicitation originally (i.e., any additive or deductive item) may be procured by any one of the following methods of procurement listed in descending order of priority:

(a) Competition resulting in a new contract.

(b) Negotiation of a supplemental agreement to the existing contract.

(c) Negotiation of a new contract pursuant to 41 U.S.C. 252(c)(10)(a)(15) as implemented by FAR 15.210(b)(17).

(End of provision)

1552.237-70 Contract publication review procedures.

As prescribed in 1537.110, insert the following contract clause when the products of the contract are subject to contract publication review.

Contract Publication Review Procedures (Apr 1984)

(a) Material generated under this contract intended for release to the public is subject to the Agency's publication review process in accordance with the EPA Order on this subject and the following.

(b) Except as indicated in paragraph (c) below, the Contractor shall not independently publish or print material generated under this contract until after completion of the EPA review process. The Project Officer will notify the Contractor of review completion within —— calendar days after the Contractor's transmittal to the Project Officer of material generated under this contract. If the Contractor does not receive Project Officer notification within this period, the Contractor shall immediately notify the Contracting Officer in writing.

(c) The Contractor may publish, in a scientific journal, material resulting directly or indirectly from work performed under this contract, subject to the following:

(1) The Contractor shall submit to the Contracting Officer and the Project Officer, at least 30 days prior to publication, a copy of any paper, article, or other dissemination of information intended for publication.

(2) The Contractor shall include the following statement in a journal article which has not been subjected to EPA review: "Although the research described in this article has been funded wholly or in part by the United States Environmental Protection Agency contract (number) to (Name of Contractor), it has not been subject to the Agency's review and therefore does not necessarily reflect the views of the Agency, and no official endorsement should be inferred."

(3) Following publication of the journal article, the Contractor shall submit five copies of the journal article to the Project Officer, and one copy to the Contracting Officer.

(d) If the Government has completed the review process and agreed that the contract material may be attributed to EPA, the Contractor shall include the following statement in the document:

This material has been funded wholly or in part by the United States Environmental Protection Agency under contract (number) to (name). It has been subject to the Agency's review, and it has been approved for publication as an EPA document. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

(e) If the Government has completed the review process, but decides not to publish the material, the Contractor may independently publish and distribute the material for its own use and its own expense, and shall

include the following statement in any independent publication:

Although the information described in this article has been funded wholly or in part by the United States Environmental Protection Agency under contract (number) to (name), it does not necessarily reflect the views of the Agency and no official endorsement should be inferred.

(End of clause)

1552.237-71 Technical direction.

As prescribed in 1537.110, insert the following contract clause in cost-reimbursement contracts.

Technical Direction (Apr 1984)

(a) The Project Officer will provide technical direction on contract performance. Technical direction includes:

(1) Direction to the Contractor which assists him in accomplishing the Statement of Work.

(2) Comments on and approval of reports or other deliverables.

(b) Technical direction must be within the contract Statement of Work. The Project Officer does not have the authority to issue technical direction which (1) institutes additional work outside the scope of the contract; (2) constitutes a change as defined in the "Changes" clause; (3) causes an increase or decrease in the estimated cost of the contract; (4) alters the period of performance; or (5) changes any of the other express terms or conditions of the contract.

(c) Technical direction will be issued in writing by the Project Officer or confirmed by him in writing within five (5) calendar days after verbal issuance.

(End of clause)

1552.237-72 Key personnel.

As prescribed in 1537.110, insert the following contract clause when it is necessary for contract performance to identify Contractor key personnel.

Key Personnel (Apr 1984)

(a) The Contractor shall assign to this contract the following key personnel:

(b) During the first ninety (90) days of performance, the Contractor shall make no substitutions of key personnel unless the substitution is necessitated by illness, death, or termination of employment. The Contractor shall notify the Contracting Officer within 15 calendar days after the occurrence of any of these events and provide the information required by paragraph (c) below. After the initial 90-day period, the Contractor shall submit the information required by paragraph (c) to the Contracting Officer at least 15 days prior to making any permanent substitutions.

(c) The Contractor shall provide a detailed explanation of the circumstances necessitating the proposed substitutions, complete resumes for the proposed substitutes, and any additional information requested by the Contracting Officer. Proposed substitutes should have comparable qualifications to those of the persons being replaced. The Contracting Officer will notify the Contractor within 15 calendar days after receipt of all required information of the decision on substitutions. This clause will be modified to reflect any approved changes of key personnel.

(End of clause)

1552.237-73 Consultant services and consent.

As prescribed in 1537.110, insert the following contract clause in contracts where the services of consultants are required. Enter "none" in paragraph (b) if consent is not given for one or more consultants at the time of award.

Consultant Services and Consent (Apr 1984)

(a) The Contractor shall obtain the consent of the Contracting Officer prior to using any consultant on this contract. The Contractor shall determine whether any consultant that is used has in effect an agreement with another Federal agency for similar or like services and, if so, shall notify the Contracting Officer.

(b) The Contractor may use the following consultants for the period of time at the rate shown.

Name	Number of (days) (hours)	Not to exceed the (daily) (hourly) rate of
		$.....
		$.....

(End of clause)

1552.237-74 Publicity.

As prescribed in 1537.110, insert the following contract clause in contracts pertaining to the removal or remedial activities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) ("Super Fund") program. The term "on-scene coordinator" may be substituted with "Project Officer."

Publicity (Apr 1984)

(a) The Contractor agrees to notify and obtain the verbal approval of the on-scene coordinator (or Project Officer) prior to releasing any information to the news media regarding the removal or remedial activities being conducted under this contract.

(b) It is also agreed that the Contractor shall acknowledge EPA support whenever the work funded in whole or in part by this contract is publicized in any news media.

(End of clause)

1552.237-75 Paperwork Reduction Act.

As prescribed in 1537.110, insert this contract clause in any contract requiring the collection of identical information from ten (10) or more public respondents.

Paperwork Reduction Act (Apr 1984)

If it is established at award or subsequently becomes a contractual requirement to collect identical information from ten (10) or more public respondents, the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq. applies. In that event, the Contractor shall not take any action to solicit information from any of the public respondents until notified in writing by the Contracting officer that the required Office of Management and Budget (OMB) final clearance was received.

(End of Clause)

1552.242-70 Indirect costs.

As prescribed in 1542.705-70, insert the following clause in all cost-reimbursement type contracts. If ceilings are not being established, enter "not applicable" in (c).

Indirect Costs (Apr 1984)

(a) In accordance with paragraph (d) of the "Allowable Cost and Payment" clause, the final indirect cost rates applicable to this contract shall be established between the Contractor and the appropriate Government representative (EPA, other Government agency, or auditor), as provided by FAR 42.703(a). EPA's procedures require a Contracting Officer determination of indirect cost rates for its contracts. In those cases where EPA is the cognizant agency (see FAR 42.705-1), the final rate proposal shall be submitted to the cognizant audit activity and to the following designated Contracting Officer: Environmental Protection Agency, Chief, Cost Policy and Rate Negotiation Section (PM-214-F), Procurement and Contracts Management Division, Washington, DC 20460.

Where EPA is not the cognizant agency, the final rate proposal shall be submitted to the above-cited address, to the cognizant audit agency, and to the designated Contracting Officer of the cognizant agency. Upon establishment of the final indirect cost rates, the Contractor shall submit an executed Certificate of Current Cost or Pricing Data (see FAR 15.804-4) applicable to the data furnished in connection with the final rates to the cognizant audit agency. The final rates shall be contained in a written understanding between the Contractor and the appropriate Government representative. Pursuant to the "Allowable Cost and Payment" clause, the allowable indirect costs under this contract shall be obtained by applying the final agreed upon rate(s) to the appropriate bases.

(b) Until final annual indirect cost rates are established for any period, the Government shall reimburse the contractor at billing rates established by the appropriate Government representative in accordance with FAR 42.704, subject to adjustment when the final rates are established. The established billing rates are currently as follows:

Cost center	Period	Rate	Base

These billing rates may be prospectively or retroactively revised by mutual agreement, at the request of either the Government or the

Contractor, to prevent substantial overpayment or underpayment.

(c) Notwithstanding the provisions of paragraphs (a) and (b) above, ceilings are hereby established on indirect costs reimbursable under this contract. The Government shall not be obligated to pay the Contractor any additional amount on account of indirect costs in excess of the ceiling rates listed below:

Cost center	Period	Rate	Base

(End of clause)

1552.245-70 Decontamination of government property.

As prescribed in 1545.106(a) and 1545.303-71, insert the following contract clause when it is anticipated that a Contractor will use Government-furnished or Contractor-acquired property in the cleanup of hazardous or toxic substances in the environment.

Decontamination of Government Property (Apr 1984)

In addition to the requirements of the "Government Property" clause, the Contractor shall certify in writing that any Government-furnished property or Contractor-acquired property is returned to the Government free from contamination by any hazardous or toxic substances.

(End of clause)

1552.245-71 Government-furnished data.

As prescribed in 1545.106(b), insert the following contract clause in any contract that the Government is to furnish the Contractor data. Identify in the clause the data to be provided.

Government-furnished data (Apr 1984)

(a) The Government shall deliver to the Contractor the Government-furnished data described in the contract. If the data, suitable for its intended use, is not delivered to the Contractor, the Contracting Officer shall equitably adjust affected provisions of this contract in accordance with the "Changes" clause when:

(1) The Contractor submits a timely written request for an equitable adjustment; and

(2) The facts warrant an equitable adjustment.

(b) Title to Government-furnished data shall remain in the Government.

(c) The Contractor shall use the Government-furnished data only in connection with this contract.

(d) The following data will be furnished to the Contractor on or about the time indicated:

_____

_____

_____

(End of clause)

1552.245-72 Fabrication or acquisition of nonexpendable property.

As prescribed in 1545.106(c), insert the following contract clause in all cost-reimbursement type contracts or contracts with cost-reimbursement portions.

Fabrication or acquisition of nonexpendable property (Apr 1984)

The Contractor shall not fabricate nor acquire under this contract, either directly or indirectly through a subcontract, any item of nonexpendable property without written approval from the Contracting Officer.

(End of clause)

1552.246-70 Quality Assurance (QA) Program plan.

As prescribed in 1546.201(b), insert the following solicitation provision in Requests for Proposals if a program plan is required. A QA program plan is a general statement of an offeror's capability for QA.

Quality Assurance (QA) Program Plan (Apr 1984)

Each offeror, as a separate and identifiable part of its technical proposal, shall submit a Quality Assurance (QA) program plan setting forth the offeror's capability for quality assurance. The plan shall address the following:

(a) A statement of policy concerning the organization's commitment to implement a Quality Control/Quality Assurance program to assure generation of measurement data of adequate quality to meet the requirements of the Statement of Work.

(b) An organizational chart showing the position of a QA function or person within the organization. It is highly desirable that the QA function or person be independent of the functional groups which generate measurement data.

(c) A delineation of the authority and responsibilities of the QA function or person and the related data quality responsibilities of other functional groups of the organization.

(d) The type and degree of experience in developing and applying Quality Control/Quality Assurance procedures to the proposed sampling and measurement methods needed for performance of the Statement of Work.

(e) The background and experience of the proposed personnel relevant to accomplish the QA specifications in the Statement of Work.

(f) The offeror's general approach for accomplishing the QA specifications in the Statement of Work.

(End of provision)

1552.246-71 Quality Assurance (QA) Project Plan.

As prescribed in 1546.201(c)(1), insert the following solicitation provision in Requests for Proposals when a QA project plan is required as part of the proposal submission. A QA project plan is a specific delineation of an offeror's approach for accomplishing the QA specifications in a Statement of Work. When offerors are required to submit a project plan, a program plan may or may not be required. The project plan may be a part of an offeror's technical proposal, or a deliverable under the contract.

Quality Assurance (QA) Project Plan (Apr 1984)

The offeror, as a separate and identifiable part of its technical proposal, shall submit a Quality Assurance (QA) project plan which shall prescribe specific procedures and responsibilities needed to accomplish the QA specifications in the Statement of Work. The project plan shall consist of the following form and content:

(a) Title page, with provision for approval signatures.

(b) Table of contents.

(c) Project description.

(d) Project organization(s) and responsibilities.

(e) Quality Assurance objectives for measurement data, in terms of precision, accuracy, completeness, representativeness and comparability.

(f) Sampling procedures.

(g) Sample custody.

(h) Calibration procedures, references, and frequency.

(i) Analytical procedures.

(j) Data reduction, validation, and reporting.

(k) Internal quality control checks and frequency.

(l) Quality assurance performance audits, system audits, and frequency.

(m) Quality Assurance reports to management.

(n) Preventive maintenance procedures and schedules.

(o) Specific procedures to be used in routinely assessing data precision and accuracy, representativeness, comparability, and completeness of the specific measurement parameters involved.

(p) Correction action.

(End of provision)

1552.246-72 Quality Assurance (QA) Project Plan documentation.

As prescribed in 1546.201(c)(2), insert the following clause in negotiated contracts when QA Project Plan Documentation is needed. A QA project plan is a specific delineation of an offeror's approach for accomplishing the QA specifications in a Statement of Work. When offerors are required to submit a project plan, a program plan may or may not be required. When a QA project plan was not a required part of the technical proposal, the project plan may be required as a deliverable under the contract by use of the following. However, the Statement of Work must contain a specification for the form and content of the project plan before this paragraph may be used.

Quality Assurance (QA) Project Plan Documentation (Apr 1984)

(a) The Contractor shall submit to the Project Officer —— copies of a Draft Project Plan for Quality Assurance within —— days after the effective date of the contract.

(b) The Government will review and return the Draft Project Plan indicating approval or disapproval, and comments, if necessary, within ——— calendar days. In the event the government delays review and return of the Draft Project Plan beyond the period specified, the Contractor shall immediately notify the Contracting Officer in writing. The Contractor shall deliver the Final Project Plan within ——— days after the effective date of the contract.

(c) The Contracting Officer will incorporate the approved Quality Assurance Project Plan into the contract.

(End of clause)

PART 1553—FORMS

Sec.

1553.000 Scope of part.

Subpart 1553.2—Prescription of Forms

1553.209 Contractor qualifications.
1553.209–70 EPA Form 1900–26, Contracting Officer's Evaluation of Contractor Performance.
1553.209–71 EPA Form 1900–27, Project Officer's Evaluation of Contractor Performance.
1553.213 Small purchases and other simplified purchase procedures.
1553.213–70 EPA Form 1900–8, Procurement Request/Order.
1553.216 Types of contracts.
1553.216–70 EPA Form 1900–41A, CPAF Contract Summary of Significant Performance Observation.
1553.216–71 EPA Form 1900–41B, CPAF Contract Individual Performance Event.
1553.232 Contract financing.
1553.232–70 EPA Form 1900–3, Assignee's Release.
1553.232–71 EPA Form 1900–4, Assignee's Assignment of Refunds, Rebates, Credits and Other Amounts.
1553.232–72 EPA Form 1900–5, Contractor's Assignment of Refunds, Rebates, and Credits.
1553.232–73 EPA Form 1900–6, Contractor's Release.
1553.232–74 EPA Form 1900–10, Contractor's Cumulative Claim and Reconciliation.
1553.232–75 EPA Form 1900–34, Guide for the Preparation of Contractor's Claims for Reimbursement of Costs and Fees Under Cost-Reimbursement Type Contracts.
1553.232–76 EPA Form 1900–34A, Guide for the Preparation of Contractor's Claims for Reimbursement Under Cost-Plus-Award-Fee (CPAF) Type Contracts.

Authority: Sec. 205(c), 63 Stat. 390, as amended, 40 U.S.C. 486(c).

1553.000 Scope of part.

This Part prescribes Agency forms for use in acquisitions and contains requirements and information generally applicable to the forms.

Subpart 1553.2—Prescription of Forms

1553.209 Contractor qualifications.

1553.209–70 EPA Form 1900–26, Contracting Officer's Evaluation of Contractor Performance.

As prescribed in 1509.170–4(a), EPA Form 1900–26 shall be used by the Contracting Officer to record his/her evaluation of Contractor performance.

1553.209–71 EPA Form 1900–27, Project Officer's Evaluation of Contractor Performance.

As prescribed in 1509.170–4(a), EPA Form 1900–27 shall be used by the Project Officer to record his/her evaluation of Contractor performance.

1553.213 Small purchases and other simplified purchase procedures.

1553.213–70 EPA Form 1900–8, Procurement Request/Order.

As prescribed in 1513.505–2, EPA Form 1900–8 may be used in lieu of Optional Forms 347 and 348 for individual purchases.

1553.216 Types of contracts.

1553.216–70 EPA Form 1900–41A, CPAF Contract Summary of Significant Performance Observation.

As prescribed in 1516.404–278, EPA Form 1900–41A shall be used to document significant performance observations under CPAF contracts

1553.216–71 EPA Form 1900–41B, CPAF Contract Individual Performance Event.

As prescribed in 1516.404–278, EPA Form 1900–41B shall be used to document individual performance events under CPAF contracts.

1553.232 Contract financing.

1553.232–70 EPA Form 1900–3, Assignee's Release.

As prescribed in 1532.805–70(a), the EPA Form 1900–3 is required to be submitted by the assignee for cost-reimbursement contracts prior to final payment under the contract.

1553.232–71 EPA Form 1900–4, Assignee's Assignment of Refunds, Rebates, Credits and Other Amounts.

As prescribed in 1532.805–70(b), the EPA Form 1900–4 must accompany the assignee's release prior to final payment under cost-reimbursement contracts.

1553.232–72 EPA Form 1900–5, Contractor's Assignment of Refunds, Rebates, and Credits.

As prescribed in 1532.805–70(c), the EPA Form 1900–5 must be prepared by the Contractor prior to final payment under cost-reimbursement contracts and must accompany the Contractor's release.

1553.232–73 EPA Form 1900–6, Contractor's Release.

As prescribed in 1532.805–70(d), the EPA Form 1900–6 must be submitted by the Contractor under cost-reimbursement contracts prior to final payment thereunder.

1553.232–74 EPA Form 1900–10, Contractor's Cumulative Claim and Reconciliation.

As prescribed in 1532.170(a), the EPA Form 1900–10 shall be used for an accounting of the cumulative charges and costs for cost-reimbursement contracts from the inception of the contract to completion. It shall be submitted by the Contractor along with the completion voucher.

1553.232–75 EPA Form 1900–34, Guide for the Preparation of Contractor's Claims for Reimbursement of Costs and Fees Under Cost-Reimbursement Type Contracts.

As prescribed in 1532.170(b), the Contracting Officer shall insert EPA Form 1900–34 in all cost-reimbursement type contracts awarded to Contractors unfamiliar with the Guide.

1553.232–76 EPA Form 1900–34A, Guide for the Preparation of Contractor's Claims for Reimbursement Under Cost-Plus-Award-Fee (CPAF) Type Contracts.

As prescribed in 1532.170(c), the Contracting Officer shall insert EPA Form 1900–34A in all CPAF contracts awarded to Contractors unfamiliar with the Guide.

[FR Doc. 84–5952 Filed 3–7–84; 8:45 am]

BILLING CODE 6560–50–M