

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 420

[WH-FRL 2033-5]

Iron and Steel Manufacturing Point Source Category Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is today issuing a final regulation to limit effluent discharges to waters of the United States and the introduction of pollutants into publicly owned treatment works from facilities engaged in manufacturing steel. The Clean Water Act and a consent decree require EPA to issue this regulation.

The purpose of this regulation is to specify effluent limitations for "best practicable technology," "best available technology," "best conventional technology," and "new source performance standards" for direct dischargers and to establish pretreatment standards for indirect dischargers.

DATE: This regulation shall become effective May 27, 1982.

ADDRESSES: Technical information and copies of technical document may be obtained from Mr. Ernst P. Hall, at: Effluent Guidelines Division (WH-552), Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460. The economic analysis may be obtained from Mr. Robert Greene, Office of Policy Analysis (PM 220), at the same address.

FOR FURTHER INFORMATION CONTACT: Ernst P. Hall, (202) 426-2586.

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I. Legal Authority

The regulation described in this notice is promulgated under authority of sections 301, 304, 306, 307, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 USC §§ 1251 *et seq.*, as amended by the Clean Water Act of 1977, P.L. 92-517) (the "Act"). This regulation is also promulgated in compliance with 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).

II. Background

The Clean Water Act

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). By July 1, 1977, existing industrial dischargers were required to achieve "effluent limitations requiring the application of the best practicable control technology currently available" ("BPT"), section 301(b)(1)(A); and by July 1, 1983, these dischargers were required to achieve "effluent limitations requiring the application of the best available technology economically achievable * * * which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants" ("BAT"), section 301(b)(2)(A). New industrial direct dischargers were required to

comply with section 306 new source performance standards ("NSPS"), based upon best available demonstrated technology; and new and existing dischargers to publicly owned treatment works ("POTWs") were subject to pretreatment standards under sections 307 (b) and (c) of the Act. While the requirements for direct dischargers were to be incorporated into National Pollutant Discharge Elimination System (NPDES) permits issued under section 402 of the Act, pretreatment standards were made enforceable directly against dischargers to POTWs (indirect dischargers).

Although section 402(a)(1) of the 1972 Act authorized the setting of requirements for direct dischargers on a case-by-case basis, Congress intended that, for the most part, control requirements would be based upon regulations promulgated by the Administrator of EPA. Section 304(b) of the Act required the Administrator to promulgate regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of BPT and BAT. Moreover, sections 304(c) and 306 of the Act required promulgation of regulations for NSPS, and sections 304(f), 307(b), and 307(c) required promulgation of regulations for pretreatment standards. In addition to these regulations for designated industry categories, section 307(a) of the Act required the Administrator to promulgate effluent standards applicable to all dischargers of toxic pollutants. Finally, section 501(a) of the Act authorized the Administrator to prescribe any additional regulations "necessary to carry out his functions" under the Act.

The EPA was unable to promulgate many of these regulations by the dates specified in the Act. In 1976, EPA was sued by several environmental groups, and in settlement of 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 to promulgate, for 21 major industries, BAT effluent limitations guidelines, pretreatment standards, and new source performance standards for 65 "priority" pollutants and classes of pollutants. See *Natural Resources Defense Council, Inc. v. Train*, 8 ERC 2120 (D.D.C. 1976), modified, 12 ERC 1833 (D.D.C. 1979).

On December 27, 1977, the President signed into law the Clean Water Act of 1977. Although this law makes several important changes in the Federal water pollution control program, its most

significant feature is the incorporation into the Act of several basic elements of the Settlement Agreement program for toxic pollution control. Sections 301(b)(2)(A) and 301(b)(2)(C) of the Act now require the achievement by July 1, 1984 of effluent limitations requiring application of BAT for "toxic" pollutants, including the 65 "priority" pollutants and classes of pollutants which Congress declared "toxic" under section 301(b) of the Act. Likewise, the EPA programs for new source performance standards and pretreatment standards are now aimed principally at toxic pollutant controls. Moreover, to strengthen the toxics control program, Congress added section 304(e) to the Act, authorizing 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.

In keeping with its emphasis on toxic pollutants, the Clean Water Act of 1977 also revises the control program for nontoxic pollutants. Instead of BAT for "conventional" pollutants identified under section 304(a)(4) (including total suspended solids, biological oxygen demand, oil and grease and, fecal coliform, and pH), the new section 301(b)(2)(E) requires achievement by July 1, 1984, of "effluent limitations requiring the application of the best conventional pollutant control technology" ("BCT"). The factors considered in assessing BCT for an industry include the costs of attaining a reduction in effluents and the effluent reduction benefits derived compared to the costs and effluent reduction benefits from the discharge of publicly owned treatment works (section 304(b)(4)(B)). For nontoxic, nonconventional pollutants, sections 301(b)(2)(A) and (b)(2)(F) require achievement of BAT effluent limitations within three years after their establishment or July 1, 1984, whichever is later, but not later than July 1, 1987.

The purpose of this regulation is to provide effluent limitations for BPT, BAT and BCT, and to establish NSPS, pretreatment standards for existing sources (PSES), and pretreatment standards for new sources (PSNS), under sections 301, 304, 306, 307, and 501 of the Clean Water Act. Based upon recent court rulings which remanded the BCT methodology to the Agency for further consideration, BCT limitations for those subcategories of the steel

industry where BAT limitations more stringent than the respective BPT limitations are promulgated are reserved at this time and not included in this regulation. When a revised BCT methodology is adopted, the Agency will consider whether BCT limitations more stringent than the respective BPT limitations are appropriate for the reserved subcategories.

Prior EPA Regulations

On June 28, 1974, EPA promulgated effluent limitations guidelines for BPT and BAT, NSPS, and PSNS for the basic steelmaking operations (Phase I) within the integrated steel industry. 39 FR 24114-24133, 40 CFR Part 420, Subparts A-L. That regulation covered 12 subcategories of the industry: By-Product Cokemaking, Beehive Cokemaking, Sintering, Blast Furnace (Iron), Blast Furnace (Ferromanganese), Basic Oxygen Furnace (Semi-Wet Air Pollution Control Methods), Basic Oxygen Furnace (Wet Air Pollution Control Methods), Open Hearth Furnace, Electric Arc Furnace (Semi-Wet Air Pollution Control Methods), Vacuum Degassing, and Continuous Casting.

In response to several petitions for review, the United States Court of Appeals for the Third Circuit remanded that regulation to the Agency on November 7, 1975. *American Iron and Steel Institute, et al. v. EPA*, 526 F.2d 1027 (3rd Cir. 1975) ("AISI I"). While the Court rejected all technical challenges to the BPT limitations, it held that the BAT effluent limitations and NSPS for certain subcategories were "not demonstrated." In addition, the court questioned all of the regulation on the grounds that EPA had failed to consider adequately the impact of plant age on the cost or feasibility of retrofitting pollution control equipment, to assess the impact of the regulations on water scarcity in arid and semi-arid regions of the country, and to make adequate "net/gross" provisions for pollutants found in intake water supplies.¹

On March 29, 1976, EPA promulgated BPT effluent limitations guidelines and proposed BAT limitations, NSPS and PSNS for steel forming and finishing operations (Phase II) within the iron and steel industry. 39 FR 12990-13030, 40 CFR Part 420, Subparts M-Z. That regulation covered 14 subcategories of the industry: Hot Forming—Primary; Hot Forming—Section; Hot Forming—Flat;

Hot Forming—Pipe & Tube; Pickling—Sulfuric Acid—Batch and Continuous; Pickling—Hydrochloric Acid—Batch and Continuous; Cold Rolling; Hot Coatings—Galvanizing; Hot Coatings—Terne; Miscellaneous Runoffs—Storage Piles, Casting, and Slagging; Combination Acid Pickling—Batch and Continuous; Scale Removal—Kolene and Hydride; Wire Pickling and Coating; and Continuous Alkaline Cleaning.

In response to several petitions for review, the U.S. Court of Appeals for the Third Circuit remanded the regulation to the Agency on September 14, 1977, *American Iron and Steel Institute, et al. v. EPA*, 568 F.2d 284 (3rd Cir. 1977). While the court again rejected all technical challenges to the BPT limitations, it again questioned the regulation in regard to the age/retrofit and water scarcity issues. In addition, the court invalidated the regulation as applied to the specialty steel industry for lack of proper notice. Finally, the Court directed EPA to reevaluate its estimates of the cost of compliance with the regulation in light of certain "site-specific" factors and to reexamine its economic impact analysis.²

On June 26, 1978 the Agency promulgated General Pretreatment Regulations applicable to existing and new indirect dischargers within the steel industry and other major industries, 43 FR 27936-2773 (40 CFR Part 403). For the most part, those regulations are currently in effect.

On January 7, 1981 the Agency proposed BPT, BAT, and BCT limitations and NSPS, PSES, and PSNS for the steel industry, 46 F.R. 1858. This final regulation follows that proposal.

Overview of the Industry

The steel industry is included within the United States Department of Commerce, Bureau of the Census Standard Industrial Classification (SIC) Major Group 33—Primary Metal Industries. Those parts of the industry covered by this regulation are the subgroup SIC Nos. 3312, (except coil coatings) 3315, 3316, and 3317. These include all processes, subprocesses, and alternate processes involved in the manufacture of intermediate or finished products in the above categories.

The manufacture of steel involves many processes which require large quantities of raw materials and other resources. Steel facilities range from comparatively small plants engaging in one or more production processes to

¹ The court also held that the "form" of the regulations was improper, because they did not provide "ranges" of limitations to be selected by permit issuers. This holding, however, was recalled in *American Iron and Steel Institute, et al. v. EPA*, 560 F.2d 589 (3rd Cir. 1977).

² The court also held that EPA had no statutory authority to exempt plants in the Mahoning Valley region of Eastern Ohio from compliance with the BPT regulations.

extremely large integrated complexes engaging in several or all production processes. Even the smallest steel facility, however, represents a fairly large industrial complex. Because of the wide variety of products and processes in this industry, operations vary from plant to plant.

The 1980 revenues of the United States steel industry were about 54 billion dollars. The industry ranks behind the automotive and petroleum industries in the values of its total shipments; and, with about 570,000 employees, is second only to the automotive industry in the number of employees.

Fifteen steel corporations provided approximately 87% of the total annual U.S. steel ingot production. U.S. steel production represents about 15% of world production.

The steel industry can be segregated into two major components: basic steelmaking; and forming and finishing operations. The Agency estimates that there are about 680 plant locations containing over two thousand individual steelmaking and forming and finishing operations. A listing of these plants is contained in the Appendix B to Volume I of the technical Development Document.

In the first major process, coal is converted to coke which is then combined with iron ore and limestone in a blast furnace to produce iron. The iron is then purified into steel in either open hearth, basic oxygen or electric arc furnaces. Finally, the steel can be further refined by vacuum degassing.

Following the steelmaking processes are the hot forming (including continuous casting) and cold finishing operations. Hot forming primary mills reduce steel ingots to slabs or blooms and secondary hot forming mills reduce slabs or blooms to billets, plates, shapes, strip, and various other products. Steel finishing operations involve a number of other processes that do little to alter the dimensions of the hot rolled product, but which impart desirable surface or mechanical properties.

Water is essential to the industry and is used in appreciable quantities in virtually all process operations. An average of 40,000 gallons of water is used in the production of every ton of finished steel, making the industry one of the highest water users of any manufacturing industry.

The following wastewater pollutants have historically been regulated in the steel industry: Suspended solids, oil and grease, ammonia-N, cyanide, phenols, fluoride, iron, total and hexavalent chromium, tin, lead, and zinc. The

discharge of these pollutants is limited by this regulation. Other pollutants, such as chloride, are found in the industry's wastewaters. However, the Agency is not limiting those pollutants in this regulation because the technology for their removal is presently considered to be beyond the scope of best practicable or best available technology for this industry.

In addition to the pollutants known to be present in steel industry wastewaters, many other pollutants became subject to consideration as a result of the NRDC/EPA Settlement Agreement noted earlier. The original list of 65 pollutant classes was defined more specifically by selecting definite compounds within each class to facilitate analytical qualification and quantification and to serve as indicators for other members of the classes. The list of 129 specific toxic pollutants was therefore developed.

III. Scope of This Rulemaking and Summary of Methodology

This regulation expands the water pollution control requirements for the steel industry. In EPA's prior regulations, emphasis was placed on the achievement of best practicable technology (BPT) by July 1, 1977. In general, this technology level represented the average of the best existing performances of well-known technologies for control of familiar (i.e., "classical") pollutants.

In contrast, EPA's efforts are now directed toward insuring the achievement by July 1, 1984, of the best available technology economically achievable, which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants. At a minimum, this technology level represents the best economically achievable performance in any industrial category or subcategory. Moreover, as a result of the Clean Water Act of 1977, the emphasis of EPA's program has shifted from "classical" pollutants to the control of toxic substances.

EPA's implementation of the Act required a complex investigation, described in this section and succeeding sections of this notice. EPA and its laboratories and consultants had to develop analytical methods for toxic pollutant detection and measurement, which are discussed under Sampling and Analytical Program. EPA then gathered technical and financial data about the industry, which are summarized under Data Gathering Efforts.

EPA studied the steel industry to determine whether differences in raw materials, final products, manufacturing processes, equipment, age and size of plants, water usage, wastewater constituents, or other factors required the development of separate effluent limitations and standards for different segments of the industry. This study included the identification of raw waste and treated effluent characteristics including: (1) The sources and volume of water used, the processes employed, and the sources of pollutants and wastewaters in the plant, and (2) the constituents of wastewaters, including toxic pollutants (see Industry Subcategorization for further discussion). EPA identified the pollutants which were considered for effluent limitations and standards of performance, and statistically analyzed raw waste constituents, as discussed in detail in each subcategory report of the Development Document.

EPA identified several distinct control and treatment technologies, including both in-plant and end-of-process technologies, which are in use or are capable of being used in the steel industry. The Agency compiled and analyzed historical data and newly generated effluent quality data resulting from the application of these technologies. The long-term performance, operational limitations, and reliability of each of the treatment and control technologies were also identified. In addition, EPA considered the nonwater quality environmental impacts of these technologies, including impacts on air quality, solid waste generation, water scarcity, and energy requirements.

The Agency estimated the cost of each control and treatment technology by using standard engineering analysis as applied to the applicable wastewater characteristics. EPA derived unit process costs from model plant characteristics (production and flow) applied to each treatment process (i.e., primary coagulation-sedimentation, activated sludge, multi-media filtration). These unit process costs were added to yield the total costs for each treatment level. After confirming the reasonableness of this methodology by comparing EPA cost estimates to actual treatment system costs reported by the industry, the Agency evaluated the economic impacts of these costs. (Costs are reviewed in each subcategory report of the Development Document. Economic impacts are reviewed in the section of this notice entitled Costs, Effluent Reduction Benefits, and Economic Impacts).

Upon consideration of these factors, as more fully described below, EPA identified various control and treatment technologies including the BPT, BAT, BCT, PSES, PSNS, and NSPS model treatment systems. This regulation, however, does not require the installation of any particular technology. Rather, it requires the achievement of effluent limitations representative of the proper operation of these technologies or equivalent technologies.

The effluent limitations and standards for BPT, BAT, BCT, PSES, PSNS, and NSPS are expressed as mass limitations (lbs/1000 lbs) of product and were calculated by multiplying four figures: (1) Effluent concentrations determined from analysis of control technology performance data, (2) wastewater discharge flow for each subcategory, (3) any relevant process or treatment variability factor (e.g., maximum month vs. maximum day), and (4) the appropriate conversion factor. This basic calculation was performed for each regulated pollutant in each subcategory of the industry. In those few cases where the Agency could not relate wastewater flow to production (e.g., fume scrubbers in acid pickling and hot coating operations), specific daily mass limitations are provided.

In evaluating the previously promulgated BPT limitations in light of the Third Circuit's decisions, EPA found that in most instances those limitations are well demonstrated and, in some instances, are less stringent than can be currently justified.

IV. Data Gathering Efforts

Before initiating this study, EPA reviewed the original Development Documents and appendices.³ The Agency concluded that additional data were required to respond to the Third Circuit's rulings in *AISI I* and *AISI II* and to develop regulations in accordance with both the Clean Water Act and the *NDRC v. Train Settlement Agreement*.

The Agency sent Data Collection Portfolios (DCPs) to all basic steelmaking operations and to at least 85% of the steel forming and finishing operations in the United States. The DCPs requested information concerning production processes, production capacity and rates, process water usage,

³See EPA 440/1-74-024a; Development Document for Effluent Limitation Guidelines and New Source Performance Standards for the Steelmaking Segment of the Iron and Steel Manufacturing Point Source Category, June, 1974; and EPA 440/1-76/048-d; Development Document for Interim Final Effluent Limitations Guidelines and Proposed New Source Performance Standards for the Forming, Finishing, and Specialty Steel Segments of the Iron and Steel Manufacturing Point Source Category, March, 1976.

wastewater generation rates, wastewater treatment and disposal methods, treatment costs, location, age of production and treatment facilities, as well as general analytical information. The Agency received responses for 391 steelmaking operations and for 1632 forming and finishing operations.

The Agency also sent Detailed Data Collection Portfolios (D-DCPs), under the authority of Section 308 of the Act, to 50 steelmaking facilities and 128 forming and finishing facilities. The D-DCPs requested detailed information concerning the cost of installing pollution control equipment including capital, annual and retrofit costs. The D-DCPs also requested long-term analytical data and data regarding specific production operations.

The Agency determined the presence and magnitude of the 129 specific toxic pollutants in steel industry wastewaters in a two-part sampling and analysis program involving 31 steelmaking facilities and 83 forming and finishing facilities.

The Agency obtained data not only from previous studies, questionnaire responses, and sampling visits, but also from NPDES permit files, contacts with pollutant control equipment suppliers, treatability studies, and literature searches. The data gathering program solicited all known sources of data. All available information was used in developing the proposed regulation.

V. Additional Data Gathering

After the issuance of the proposed regulation, the Agency engaged in a number of additional data gathering activities. These activities included: (1) The collection of a substantial amount of toxic metals data from fifteen plants in the hot forming subcategory; (2) a screening of over twenty cold rolling operations for toxic organic pollutants, and a detailed survey at one cold rolling operation; and, (3) requests for more detailed information to certain commenters. These requests sought information regarding (a) cost, flow, and effluent quality data to permit the Agency to fully evaluate comments received on the proposed regulation, and (b) the financial condition of merchant coke and pig iron producers. These data were placed in the public docket for this rulemaking. In general, the additional data gathered are corroborative of the data the Agency originally had.

A full discussion of the results of these additional data gathering efforts and their relevance to the final rulemaking can be found below in this preamble and in the respective subcategory reports of the Development Document.

VI. Sampling and Analytical Program

The sampling and analysis program for this rulemaking concentrated on the toxic pollutants designated in the Clean Water Act, as well as on the conventional and nonconventional pollutants found in steel industry wastewaters. Although it was expected that, except for cokemaking wastewaters, toxic pollutants in the steel industry wastewaters would be inorganic rather than organic, the wastewaters from each subcategory were sampled and analyzed for the presence of toxic organic pollutants. The Agency has not promulgated analytical methods for many of the organic toxic pollutants under Section 304(h) of the Act, although a number of these methods have been proposed (44 FR 69464, December 3, 1979; 44 FR 75028, December 18, 1979). Additional information on the development of sampling and analytical methods for toxic organic pollutants is contained in the preamble to the proposed regulation for the Leather Tanning Point Source Category, 40 CFR Part 425, 44 FR 38749, dated July 2, 1979.

Before analyzing steel industry wastewaters, EPA concluded that it had to designate specific toxic pollutants for analysis. The list of 65 pollutants and classes of pollutants potentially includes thousands of specific pollutants; analyses for all of them would overwhelm private and government laboratory resources. In order to make the task more manageable, EPA selected pollutants for study in this and other industry rulemakings. The criteria for choosing these pollutants included the frequency of their occurrence in water, their chemical stability and structure, the amount of the chemical produced, and the availability of chemical standards for measurement.

EPA checked for the presence and magnitude of the 129 pollutants in steel industry wastewaters in a two-phase sampling and analysis program. The Agency selected plants for sampling which it believed were representative of the manufacturing processes, the prevalent mix of production among plants, and the current treatment technology in the industry. During the first phase of the program, EPA sampled ten steelmaking facilities and eleven forming and finishing facilities. During the second phase of the program, EPA sampled 22 steelmaking facilities and 118 forming and finishing facilities.

The primary objective of the field sampling program was to obtain composite samples of wastewater from

which to determine the concentrations of toxic pollutants. Sampling visits were made during two to three consecutive days of plant operation, with raw wastewater samples taken either before treatment or after minimal preliminary treatment. Treated effluent samples were taken following application of in-place treatment technologies. EPA also sampled intake water to determine the presence of toxic pollutants prior to contamination by steelmaking processes.

During the first phase of the sampling program the Agency detected and quantified wastewater constituents included on the list of 129 toxic pollutants. Wherever possible, each sample of an individual raw waste stream, a combined waste stream, or a treated effluent was collected by an automatic, time series sample compositor over 2 to 3 consecutive 24 hour sampling periods. Where automatic compositing was not possible, grab samples were taken and composited manually. The purpose of the second phase of the sampling program was to confirm the presence and further quantify the concentrations and waste loadings of the toxic pollutants found during the first phase of the program.

EPA used the analytical techniques described in *Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants*, revised April, 1977. Very similar methods are found among those proposed on December 3, 1979. EPA did not find significant quantities of toxic organic pollutants in most steelmaking wastewaters. The exceptions are cokemaking and cold rolling wastewaters.

Metals analyses for the basic steelmaking operations were by inductively coupled plasma optical emission spectrometry except that the standard flameless atomic absorption method was used for mercury analyses. Metals analyses for the forming and finishing operations were by a combination of flame and flameless atomic absorption methods.

Analyses for cyanide and cyanide amendable to chlorination were also performed using 304(h) methods.

Analysis for asbestos fibers included transmission electron microscopy with selected area diffraction; results were reported as chrysotile fiber count.

Analyses for conventional pollutants (BOD₅, TSS, pH, and oil and grease) and nonconventional pollutants (total residual chlorine, iron, ammonia, fluoride, and COD) were performed using 304(h) methods.

VII. Industry Subcategorization

In developing this regulation, the Agency determined that different effluent limitations and standards are appropriate for distinct segments or subcategories of the steel industry. The Agency's consideration of industry subcategorization included an examination of the same factors and rationale described in its previous studies and the issues raised by the court in *AISI I* and *AISI II*. These factors are:

1. Manufacturing processes and equipment
2. Raw materials
3. Final products
4. Wastewater characteristics
5. Wastewater treatability
6. Size and age of facilities
7. Geographic location
8. Process water usage and discharge rates
9. Costs and economic impacts
10. Non-water quality environmental impacts

Based upon these factors, the Agency decided to retain the same approach to subcategorization as outlined in previous regulations which follows the various manufacturing processes in the steel industry. The Agency found that manufacturing process is the most significant factor and divided the industry into 12 main process subcategories for this regulation. Section IV of Volume I of the Development Document contains a detailed discussion of the factors considered and the rationale for selecting the subcategories. The Agency determined that process based subcategorization is warranted in many cases because the wastewaters of the various processes contain different pollutants, requiring treatment by different control systems (e.g., phenol by biological systems in cokemaking and metals by precipitation in steelmaking). However, in some cases, the wastewaters of different processes were found to contain similar characteristics. In those instances, the Agency determined that subcategorization was appropriate because the variations in process water usage and discharge flow rates. A more detailed discussion of this issue is presented in Volume I of the Development Document.

The subcategories of the steel industry are as follows:

(1) Subpart A—Cokemaking Subcategory

Cokemaking operations involve the production of coke in by-product or beehive ovens. The production of metallurgical coke is essential to steelmaking since coke is one of the

basic raw materials necessary for the operation of ironmaking blast furnaces.

(2) Subpart B—Sintering Subcategory

Sintering operations involve the production of an agglomerate which is then used as a raw material in iron and steelmaking processes. This agglomerate (or "sinter") is made up of large quantities of waste particulate matter (fines, mill scale, and flue dust) which have been generated by blast furnaces, open hearth furnaces, basic oxygen furnaces, and recovered from hot forming operations.

(3) Subpart C—Ironmaking Subcategory

Ironmaking operations involve the conversion of iron bearing materials, limestone, and coke into molten iron in a reducing atmosphere in tall cylindrical (blast) furnaces.

(4) Subpart D—Steelmaking Subcategory

Steelmaking operations involve the production of steel in basic oxygen, open hearth, and electric arc furnaces from molten iron and steel scrap materials.

(5) Subpart E—Vacuum Degassing Subcategory

This operation involves the removal of gaseous material (deoxidation) from molten steel by applying a vacuum to the molten steel.

(6) Subpart F—Continuous Casting Subcategory

This operation involves the continuous formation of a primary steel shape (i.e., slab, billet, or bloom) from molten steel by casting the molten steel through a water-cooled mold.

(7) Subpart G—Hot Forming Subcategory

Hot forming is the steel forming process in which hot steel, in solid ingot form, is reduced in size during a series of forming steps into finished and semi-finished steel products.

(8) Subpart H—Salt Bath Descaling Subcategory

Scale removal from specialty steels is accomplished by immersing the steel in molten salt baths of oxidizing or reducing compounds.

(9) Subpart I—Acid Pickling Subcategory

Acid pickling is the process of chemically removing oxides and scale from the surface of steel using dilute inorganic acids.

(10) Subpart J—Cold Forming Subcategory

In cold forming operations, steel products are formed or reduced in thickness or size, or acted upon to produce a smooth surface or to control the mechanical properties of the metal. Rolling solutions are used in cold

forming to cool and lubricate the product during the reduction operation.

(11) Subpart K—Alkaline Cleaning Subcategory

This operation involves the removal of rolling oil or other materials from the surface of steel products prior to further processing. The removal can be enhanced by the electrolysis of the steel in an alkaline solution.

(12) Subpart L—Hot Coating Subcategory

In the hot coating process, clean steel products are immersed in baths of various molten metals to deposit a thin layer of the metal on the product surface.

VIII. Available Wastewater Control and Treatment Technology

A. Status of In-Place Technology

Many different wastewater treatment technologies are currently employed in the steel industry. Generally, primary wastewater treatment systems encompass physical/chemical methods of treatment, including neutralization, sedimentation, flocculation and filtration. Treatment for toxic pollutants require advanced technologies such as biological treatment, carbon adsorption, ion exchange, reverse osmosis, and more sophisticated chemical techniques.

Within the cokemaking subcategory, organic pollutant removal is accomplished by biological treatment in bio-oxidation lagoons and activated sludge plants; and, physical/chemical treatment in ammonia stills, dephenolizers and activated carbon systems. Sedimentation and filtration are also used in this subcategory.

Treatment facilities at plants in the sintering, ironmaking and steelmaking subcategories rely heavily upon flocculation, sedimentation and recycle of treated wastewaters. Clarifiers and thickeners are principally used in connection with polymers and coagulants such as lime, alum, and ferric sulfate.

Wastewaters from nearly all hot forming operations are treated in scale pits followed by lagoons, clarifiers, filters, or combinations thereof. Polymers and coagulants such as lime, alum, and ferric sulfate are normally used in conjunction with clarifiers. Filters are usually either gravity or pressure type with sand or other media.

Cold finishing treatment techniques include equalization prior to further treatment; neutralization with lime, caustic or acid; flocculation with polymer; and, sedimentation. Central or combined treatment systems are common for these operations.

An important treatment method commonly practiced in the steel industry is recycle of treated wastewaters. Recycle can be effectively used to significantly reduce wastewater flows and the amount of pollutants discharged to receiving streams. Systems employing high rates of recycle are demonstrated in several subcategories of the steel industry.

B. Advanced Technologies Considered

The Agency considered advanced treatment systems to control the level of toxic and non-conventional pollutants at the BAT, NSPS, PSES, and PSNS levels of treatment. Some of these include in-plant control, however, most include the installation of additional end-of-pipe treatment components and all are demonstrated in the industry.

Add-on technology to BPT was considered for the BAT, BCT, NSPS, PSES, and PSNS levels of treatment for all of the subcategories. Some of these control measures for the toxic pollutants include two-stage (i.e. extended) biological treatment (cokemaking); granular activated carbon; powdered carbon addition; pressure filtration; pressure filtration accompanied with sulfide addition; and, multi-stage evaporation/condensation systems. Details on these advanced systems are presented in Section VI of Volume I of the Development Document.

IX. Best Practicable Technology (BPT) Effluent Limitations

The factors considered in defining best practicable control technology currently available (BPT) include the total cost of application of technology in relation to the effluent reduction benefits from such application, the age of equipment and facilities involved, the process employed, non-water quality environmental impacts (including energy requirements) and other factors the Administrator considers appropriate. In general, the BPT technology level represents the average of the best existing performances of plants of various ages, sizes, processes or other common characteristics. Where existing performance is uniformly inadequate, BPT may be transferred from a different subcategory or industry. Limitations based upon transfer technology must be supported by a conclusion that the technology is, indeed, transferable and a reasonable prediction that it will be capable of achieving the prescribed effluent limits. See *Tanners' Council of America v. Train*, 540 F.2d 1188 (4th Cir. 1976). BPT focuses on end-of-pipe treatment rather than process changes or internal controls, except where the

process changes are common industry practice.

The cost-benefit inquiry for BPT is a limited balancing, committed to EPA's discretion, which does not require the Agency to quantify benefits in monetary terms. See, e.g., *AISI I, supra*. In balancing costs in relation to effluent reduction benefits, EPA considers the volume and nature of existing discharges, the volume and nature of discharges expected after application of BPT, the general environmental effects of the pollutants, and the cost and economic impact of the required pollution control level. The Act does not require or permit consideration of water quality problems attributable to particular point sources or industries, or water quality improvements in particular water bodies. Therefore, EPA has not considered these factors. See *Weyerhaeuser Company v. Costle*, 590 F.2d 1011 (D.C. Cir. 1978).

A detailed discussion of the bases for selecting the BPT effluent limitations is set forth in Section IX of each subcategory report of the Development Document. The components of the BPT model treatment systems are presented in Appendix D.

X. Best Available Technology (BAT) Effluent Limitations

The factors considered in assessing best available technology economically achievable (BAT) include the age of equipment and facilities involved, the process employed, process changes, non-water quality environmental impacts (including energy requirements) and the costs of application of such technology (section 304(b)(2)(B)). In general, the BAT technology level represents, at a minimum, the best economically achievable performance of plants of various ages, sizes, processes or other shared characteristics. As with BPT, where existing performance is uniformly inadequate, BAT may be transferred from a different industry or subcategory. BAT may include process changes or internal controls, even when not common industry practice.

The statutory assessment of BAT "considers" costs, but does not require a balancing of costs against effluent reduction benefits (see *Weyerhaeuser v. Costle, supra*). In developing the BAT limitations, however, EPA has given substantial weight to the reasonableness of costs. The Agency has considered the volume and nature of discharges, the volume and nature of discharges expected after application of BAT, the general environmental effects of the pollutants, and the costs and economic

impact of the required pollution control levels.

Despite this expanded consideration of costs, the primary determinant of BAT is effluent reduction capability. As a result of the Clean Water Act of 1977, the achievement of BAT has become the principal national means of controlling toxic water pollution. The steel industry discharges over forty different toxic pollutants. EPA considered two to six alternative BAT treatment systems for each subcategory. A detailed discussion of the bases for selecting the BAT effluent limitations is set forth in Section X of each subcategory report of the Development Document. The components of the BAT model treatment systems are presented in Appendix D.

XI. New Source Performance Standards (NSPS)

The basis for new source performance standards (NSPS) under section 306 of the Act is the best available demonstrated technology. Industry has the opportunity to design the best and most efficient steelmaking processes and wastewater treatment technologies for new plants. Congress therefore directed EPA to consider the best demonstrated process changes, in-plant controls, and end-of-pipe treatment technologies which reduce pollution to the maximum extent feasible. EPA considered two to four alternative treatment systems for each subcategory in selecting NSPS.

A detailed discussion of the bases for selecting the new source performance standards is set forth in Section XII of each subcategory report of the Development Document. The components of the NSPS model treatment systems are presented in Appendix D.

XII. Pretreatment Standards for Existing Sources (PSES)

Section 307(b) of the Act requires EPA to promulgate pretreatment standards for existing sources (PSES), which must be achieved within three years of promulgation. PSES are designed to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with the operation of Publicly Owned Treatment Works (POTWs). The Clean Water Act of 1977 adds a new dimension by requiring pretreatment for pollutants, such as toxic metals, that pass through POTWs in amounts that would exceed direct discharge effluent limitations or limit POTW sludge management alternatives, including the beneficial use of sludges on agricultural lands. The legislative history of the 1977 Act indicates that pretreatment standards

are to be technology-based and analogous to the best available technology for removal of toxic pollutants. The general pretreatment regulations (40 CFR Part 403), which served as the framework for the pretreatment standards for the steel industry, can be found at 43 FR 27736 (June 26, 1978).

EPA has determined that many of the metals present in the steel industry's raw wastewaters pass through POTWs, may limit POTW sludge disposal alternatives and can interfere with biological treatment in POTWs. These metals include: antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc.

Accordingly, EPA is promulgating pretreatment standards for metals and other toxic and non-conventional pollutants in this regulation. In addition to the factors discussed above, EPA considered the following factors in developing the pretreatment standards:

1. The manufacturing processes employed by the industry;
2. The age and size of the equipment and facilities involved;
3. The location of manufacturing facilities;
4. Process changes;
5. The engineering aspects of the application of pretreatment technology and its relationship to the POTW;
6. The cost of application of technology in relation to the effluent reduction and other benefits achieved from such application; and,
7. Non-water quality environmental impacts (including energy requirements).

The methodology used to develop the pretreatment standards is the same as that used to develop the direct discharger effluent limitations. A detailed discussion of the bases for selecting the pretreatment standards for existing sources is set forth in Section XIII of each subcategory report of the Development Document. The components of the PSES model treatment systems are presented in Appendix D.

XIII. Pretreatment Standards for New Sources (PSNS)

Section 307(c) of the Act requires EPA to promulgate pretreatment standards for new sources (PSNS) at the same time that it promulgates NSPS. New indirect dischargers, like new direct dischargers, have the opportunity to incorporate the best available demonstrated technologies including process changes, in-plant controls, and end-of-pipe treatment technologies, and to use plant site selection to ensure adequate treatment system installation. The

Agency is promulgating PSNS based on the same considerations discussed in Section XI relating to PSES.

A detailed discussion of the bases for selecting the pretreatment standards for new sources is set forth in Section XIII of each subcategory report of the Development Document. The components of the PSNS model treatment systems are presented in Appendix D.

XIV. Best Conventional Technology (BCT) Effluent Limitations

The 1977 Amendments added Section 301(b)(4)(E) to the Act, establishing "best conventional pollutant control technology" (BCT) for discharges of conventional pollutants from existing industrial point sources. Conventional pollutants are those defined in section 304(b)(4)—BOD, TSS, fecal coliform, and pH—and any additional pollutants defined by the Administrator as "conventional." On July 30, 1979, the Agency added oil and grease as a conventional pollutant (44 FR 44501).

BCT is not an additional limitation, but replaces BAT for the control of conventional pollutants. BCT requires that limitations for conventional pollutants be assessed in light of a new "cost-reasonableness" test, which involves a comparison of the cost and level of reduction of conventional pollutants from the discharge of publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. In its review of BAT for "secondary" industries, the Agency established BCT levels based upon a methodology described at 44 FR 50732 (Aug. 29, 1979). This methodology compared removal costs (dollars per pound of pollutant, measuring from BPT to BCT) with costs for an average POTW. The removal costs of an average POTW was established by EPA as \$1.34 per pound in July, 1978 dollars. However, the Fourth Circuit has remanded the regulation to the Agency for reconsideration with instructions that EPA revise its cost-effectiveness test. (*American Paper Institute, et al. v. Costle*, No. 79-1551). The Agency is presently considering those revisions.

XV. Summary of Public Participation

Between November 1979 and April 1980, EPA circulated nine individual volumes, which together comprise the EPA contractor's draft technical report on its steel industry study, including available treatment alternatives and costs. The draft technical report was distributed to a number of interested parties, including the American Iron and

Steel Institute and several member firms, the Natural Resources Defense Council (NRDC), and affected state and municipal authorities. This document did not include recommendations for proposed effluent limitations and standards, but rather presented the EPA Contractor's draft technical report on treatment alternatives available, costs, and other information relating to this regulation. A meeting was held in Washington, D.C. on May 19, 1980 for public discussion of comments on this document.

The Agency published the proposed regulation on January 7, 1981. Based upon several requests from the industry to extend the comment period, the Agency set May 8, 1981 as the close of the comment period on the proposed regulation. EPA representatives continued to meet with representatives of the steel industry and other members of the public after May 8, 1981 to discuss certain issues relating to the Agency's preparation of the Regulatory Impact Analysis concerning this regulation. The Regulatory Impact Analysis is being prepared pursuant to Executive Order 12291. In addition, Agency representatives met with officials of steel companies which owned plants for which the Agency was considering establishing alternative BAT effluent limitations for their central treatment facilities (see discussion Section XIII of the preamble). The Agency informed the public of its intent to hold these meetings by publishing a notice in the *Federal Register* in 1981 (46 FR 32274) and summarized the data and comments presented at the meetings in memoranda which were promptly placed in the public docket for this regulation.

XVI. Response to Public Comments

The following general issues raised by the industry and the public are addressed below. Because of the Agency received a large number of comments on the proposed regulation, it has not addressed each of those comments in this preamble. Instead, the major comments and the Agency responses are set out in the preamble. Responses to other comments are contained in a separate document available from Mr. Ernst P. Hall, Effluent Guidelines Division at the address noted at the beginning of this preamble.

1. Regulation of the Steel Industry Beyond the Current Level of Discharge. The AISI and some of its member companies have commented that the Agency should not establish effluent limitations and standards for the steel industry which would require more stringent control than existing treatment. To support its position, the industry

cites the significant removal of toxic and conventional pollutants from raw waste discharge. NRDC and others, however, commented that the proposed BAT limitations are appropriate and, in some cases, more stringent limitations should be established.

(a) *BPT Limitations.* The BPT limitations in this regulation are based upon traditional, well established water pollution control technologies. The final BPT limitations are based upon the average of the best existing performances of steel industry water pollution control facilities, and, in some cases are less stringent than might otherwise have been justified. Indeed, on balance, about eighty percent of the industry is presently in compliance with these limitations.

(b) *BAT Limitations.* Those BAT limitations in this regulation which are more stringent than BPT are based upon traditional water pollution control technologies which are generally demonstrated on a full scale basis in the steel industry. Based on the statute, the Agency does not have discretion to set any less stringent requirements.

2. Regulation of the Hot Forming Subcategory at the BAT Level. Industry representatives commented that the Agency should not promulgate BAT limitations for hot forming operations because toxic metals are not contributed by hot forming processes to hot forming wastewaters. Industry representatives also commented that BAT limitations for suspended solids and oil and grease should be established at a level no more stringent than BPT. Environmental groups commented that the BAT limitation for hot forming operations should be zero discharge.

In response to these comments, the Agency reviewed its existing data for the hot forming subcategory and conducted additional extensive sampling programs at fifteen hot forming operations in cooperation with the industry. These data clearly demonstrate that significant quantities of toxic metals are generated by hot forming operations, are present in hot forming raw wastewaters, and are also present in the wastewaters discharged and from the primary scale pits used to recover mill scale. These data also demonstrate that toxic metals are removed to very low levels at plants with the model BPT treatment system installed (i.e., primary scale pit, partial recycle, secondary settling, and filtration). The average gross effluent concentration of all toxic metals in the wastewaters of these plants after treatment is about 0.07 mg/l. The

Agency believes that at these levels, the toxic pollutants have been effectively controlled and that the substantial cost (more than \$300 million on an industry-wide basis) of full scale (96%) recycle of these wastewaters to further reduce the discharge of toxic metals is not justified.

While zero discharge is reported to be achieved at some hot forming operations, the Agency found that many of these systems do, in fact, have small, and often intermittent, discharges. The Agency does not believe that zero discharge can be achieved at all hot forming operations without the use of costly evaporative technologies. The data for several hot forming operations demonstrate that wastewater recycle rates of 95 to 99% are achievable on a long term basis.

Based upon these factors, the Agency has not promulgated BAT limitations for the hot forming subcategory. As explained in greater detail in the development document, the final BPT limitations were revised from those proposed to take into account actual performance of the BPT technology with respect to suspended solids, oil and grease, and flow. The Agency has maintained high rate recycle (96%) as the basis for NSPS as this technology is well demonstrated throughout the industry and will substantially reduce the total loadings of pollutants discharged by the process.

3. Central Treatment. The Agency has received numerous comments from AISI and its members suggesting that it create a subcategory within the regulation which allows for central or combined treatment of wastewaters from various subcategories.

The Agency has not included a central treatment subcategory in this regulation. There are numerous combinations of central wastewater treatment systems that can and are being employed, ranging from individual recycle systems followed by central treatment of blowdowns and once-through flows, to total plant-wide recycle systems with treatment of the blowdown. Often these combinations include the mixing of wastewaters which are not compatible for effective co-treatment. These combinations are so numerous, that it is not possible to define a central treatment subcategory which would effectively regulate the discharge of toxic pollutants. The reduction in discharge flow and treatment of more concentrated wastewaters provides the toxic pollutant loading removal to be achieved by industry's compliance with this regulation. When incompatible wastewaters are mixed, the toxic pollutants are diluted and thus are not

significantly removed or reduced. Consequently, the discharge of large quantities of toxic pollutants would occur as a result of the indiscriminate mixing of incompatible wastewaters.

Based upon the above considerations, the Agency believes that the development of a central treatment subcategory which provides for effective regulation of toxic pollutants is neither possible nor appropriate. However, the Agency has made co-treatment of compatible wastewaters possible with this regulation by carefully selecting the toxic pollutants to be limited for each subcategory. Where the Agency determined that co-treatment is appropriate, the Agency has, as discussed in greater detail below, established the effluent limitations so as to permit co-treatment. The limitations applicable to a central treatment facility in which compatible pollutants are co-treated are the sum of the applicable effluent limitations for the individual subcategory processes tributary to the central treatment facility.

By establishing limitations which permit co-treatment in appropriate cases, the Agency believes it has satisfactorily resolved this issue. The Agency has concluded that wastewaters from the following groups of subcategories can be treated together to achieve the final limitations and standards:

Group and Subcategory

1. Cokemaking
2. Sintering, ironmaking
3. Steelmaking, vacuum degassing, continuous casting, acid pickling (H₂SO₄, HCl), cold rolling, alkaline cleaning, hot coating
3. Specialty steel operations, salt bath descaling, acid pickling (combination), cold rolling

In developing the regulation so as to permit co-treatment of wastewaters for the subcategory groups, the Agency decided not to allow extensive co-treatment of cokemaking wastewaters with other process wastewaters. The Agency considered the nature of cokemaking wastewaters and the biological treatment currently used to treat those wastewaters in developing the BAT limitations, and believes that cokemaking wastewaters should be treated separately to insure the effective removal of toxic and non-conventional pollutants. However, in some limited cases, combined treatment of cokemaking and ironmaking wastewaters may be appropriate and can be used to achieve the combined limitations for those operations.

The Agency also believes that unrestricted co-treatment of

wastewaters from hot forming operations with wastewaters from other subcategories is not appropriate because of the dilution of toxic pollutants by the high volume hot forming wastewaters and potential analytical detection problems. However, central treatment of hot forming wastewaters with wastewaters from other subcategories may be appropriate provided that the metal bearing wastewaters are adequately pretreated prior to mixing with hot forming wastewaters, or, provided that hot forming wastewaters are recycled to a high degree (i.e. greater than 95%). It is not possible for the Agency to establish all of the conditions which define precisely when co-treatment of hot forming wastewaters with wastewaters from other subcategories would be appropriate. These determinations will have to be made on a case-by-case basis. Where hot forming wastewaters are not recycled it may be appropriate to limit toxic pollutants prior to the mixing of wastewaters from other subcategories with hot forming wastewaters.

In developing this central treatment policy, the Agency took into account that at many older steel plants cooling water, surface runoff and roof runoff are drained into existing central treatment systems. As discussed in greater detail below, the Agency believes that dischargers can take the steps necessary to divert these non-process wastewaters from their co-treatment facilities at a reasonable cost so as to achieve the limitations established by this regulation. However, the Agency recognizes that while separation of these non-process waters has been accomplished at many steel plants (including many older steel plants), it may be inordinately expensive to do so at a small number of plants.

The Agency believes its model treatment system cost estimates, which are based upon more costly separate treatment systems for each operation, are sufficiently generous to cover site-specific and retrofit costs associated with upgrading most existing central treatment systems to the point where the BPT and BAT limitations can be achieved (including segregation of non-process wastewaters). However, the Agency recognizes that there may be instances at certain plants where, because of unique site-specific factors, the BPT and BAT limitations or PSES may not be achievable without the expenditure of amounts disproportionately higher than those estimated by the Agency. In such instances, the Agency believes that the

dischargers should receive alternative BPT and BAT limitations and PSES.

Prior to issuing the proposed regulation, the Agency met with representatives of AISI and its member companies regarding those plants which they believed were entitled to alternative effluent limitations or inclusion in a central treatment subcategory. At those meetings, the Agency explained that the consideration of whether a plant should be subject to alternative effluent limitations could occur either in the context of this regulation or during the permit issuance process. The industry representatives presented data for 35 plants and requested that the Agency evaluate whether those plants should receive alternative limitations and to do so in the context of the effluent limitations guidelines. Based upon those data, and its independent evaluation of the problem, the Agency identified seven plants in the preamble to the proposed regulation which it believed might be entitled to relief from the generally applicable limitations proposed on January 7, 1981. These plants were listed in the preamble to the proposed regulation and are again listed below:

Plant and location	Central treatment facility
1. Armco Steel, Ashland, KY	Total plant.
2. Bethlehem Steel, Sparrows Point, MD.....	Humphrey's Creek.
3. Bethlehem Steel, Burns Harbor, IN.....	Total plant.
4. National Steel, Granite City, IL.....	Total plant.
5. Republic Steel, Gadsden, AL.....	Total plant.
6. U.S. Steel, Lorain, OH.....	Pipe mill lagoon.
7. U.S. Steel, Provo, UT.....	Total plant.

The Agency requested comment on whether these seven plants should be subject to alternative effluent limitations. In addition, the Agency requested comment on whether any *other* plants should be subject to alternative effluent limitations. In response, the Agency received comments that fourteen additional plants should be considered for alternative effluent limitations (some of which were included in the original list of thirty-five plants presented by AISI). These plants are as follows:

Plant and location	Central treatment facility
1. Ford Motor Co., Dearborn, MI.	Schaefer Road treatment plant.
2. Interlake, Inc, Riverdale, IL.	Discharge to POTW.
3. J & L Steel, Aliquippa, PA...	Chemical rinse treatment plant—outfall 018.
4. J & L Steel, Cleveland, OH.	Hot forming and finishing treatment plant.
5. J & L Steel, Hennepin, IL....	Total plant.
6. J & L Steel, Louisville, OH...	Total plant.

Plant and location	Central treatment facility
7. J & L Steel, East Chicago, IN.	Terminal treatment plant.
8. Laclede Steel, Alton, IL.....	Total plant.
9. National Steel, Portage, IN..	Total plant.
10. National Steel, Wierton, WV.	Outfall B.
11. Republic Steel, Chicago, IL.	Discharge to POTW.
12. U.S. Steel, Fairless Hills, PA.	Terminal treatment plant.
13. U.S. Steel, Gary, IN.....	Terminal lagoons.
14. U.S. Steel, Chicago, IL.	Discharge to POTW.

¹The request for alternative effluent limitations for these plants are for the indirect discharges to POTWs.

The Agency believes that these 21 central treatment facilities comprise all, or nearly all, of those facilities which might qualify for alternative effluent limitations. However, these comments were based upon the expected cost of bringing the plants into compliance with the *proposed* regulation. Because the Agency is promulgating a regulation which, in some instances, is significantly less expensive to comply with, the Agency is uncertain whether the commenters believe that their plants would still qualify for alternative effluent limitations under the previously described standard (cost of compliance significantly higher than that estimated by the Agency). This is especially so in light of the elimination of BAT limitations for hot forming operations. Compliance with those limitations was expected to be quite costly and in many cases was included as a basis for a commenter's request for alternative effluent limitations. The Agency was not in a position to resolve this issue before the promulgation of this regulation. As discussed previously, the Agency is under a court-ordered deadline to promulgate this regulation and does not believe that it would be appropriate to delay its promulgation until this issue was resolved for the 21 central treatment facilities.

Consequently, the Agency decided to promulgate the regulation but to temporarily exclude the 21 central treatment facilities from its requirements until the Agency resolves the issue. The exclusion will serve to provide an opportunity for operators of the 21 central treatment facilities which asserted that they are entitled to alternative effluent limitations based upon the *proposed* regulation to present their views on whether any of the twenty-one plants or central treatment facilities are entitled to alternative effluent limitations based upon the final regulation. These applications must be submitted within sixty days after publication of this regulation. Any of the twenty-one plants or central treatment facilities which do not reapply for

consideration during this sixty-day period will have waived their applications for alternative effluent limits.

The applications must include the following information:

(1) A schematic diagram of the existing wastewater treatment facility showing each source of wastewater, cooling waters, and other waters entering the treatment facility; discharge and recycle flow rates for each source, and each major treatment component;

(2) Existing monitoring data relating to discharges to and from the central treatment facility including pollutant concentrations, wastewater flows and mass loadings. As a minimum, monitoring data should be provided for a six month period of normal operation of the production and treatment facilities. The complete data as well as a data summary including the maximum, minimum, and mean gross discharge loadings and the standard deviation of the discharge loadings for each monitored pollutant should be provided. Any supplemental monitoring data for toxic pollutants should also be provided.

(3) A scale map of the area of the plant served by the wastewater treatment facility, including the treatment facility and water supply and discharge points.

(4) An estimate of the least costly investment required to meet the generally applicable limitations or standards for the facility and a description of the treatment system including schematic diagrams showing the major treatment system components and flow rates through the system. At a minimum, the cost estimates should consist of a single page summary for each water pollution control system showing estimated installed direct cost totals for mechanical equipment; piping and instrumentation; foundations and structural components; and electrical components. Indirect costs for contingencies, overhead and profit, engineering fees, and any other indirect costs must be itemized separately. The sum of the direct and indirect costs, which represents the owner's or operator's total estimate, must be shown.

(5) The effluent limitations or standards which could be achieved if the discharger were to spend an amount equal to the Agency's model treatment system cost estimate for the facility and the treatment facilities which would be used to meet those limitations or standards; schematic diagrams and cost estimates as outlined in paragraph (5) above should be provided for each treatment system.

(6) Production rates in tons per day for each process contributing wastewater to the central treatment facility consistent with those reported by the owner or operator in the NPDES permit application for the central treatment facility.

If the Agency determines that the expected cost of compliance with the generally applicable limitations for any of the central treatment facilities is so high in comparison to the Agency's model treatment system cost estimate for that facility that the applicable limitations or standards would not represent BPT, BAT, BCT, or PSES, as the case may be, for the facility, it plans to propose alternative limitations or standards based upon the level of treatment which can be achieved at that facility through the installation of treatment equipment which costs in the range of the Agency's model treatment system cost for that facility.

The Agency intends that the temporary exclusions for these 21 central treatment facilities apply for only the minimum period necessary for it to review the comments, propose alternative limitations or standards where appropriate and take final regulatory action with respect to those facilities. This is not to exceed one year from the date this regulation is published.

Owners and operators of these 21 facilities which still believe that they are entitled to alternative effluent limitations or standards based upon the high cost of complying with the generally applicable limitations under these regulations must raise that issue within 60 days of publication of this regulation. They will not be entitled to request similar relief during the permitting process through the "fundamentally different factor" variance process at the permitting stage. However, they may request relief through the variance provision based on any other permissible basis.

The Agency noted in the preamble to the proposed regulation that the issue of wholly disproportionate costs could be properly handled either in the context of this regulation or, alternatively, at the permit writing stage, under the "fundamentally different factor" variance provisions (40 CFR 125.31(b)(3)). The Agency also stated that, where feasible it would like to resolve this issue in the context of this regulation. The Agency has concluded that it is feasible to resolve this issue in the context of this regulation for the 21 central treatment facilities which requested consideration during the comment period. Because the Agency

can resolve this issue efficiently in the context of this regulation for the 21 central treatment facilities and provide for consistency in both deciding whether to establish alternative effluent limitations and what the limitations should be, it has decided to resolve this issue solely in the context of this regulation for those facilities.

While the Agency believes that the 21 central treatment facilities comprise all, or nearly all, of the facilities which might qualify for alternative effluent limitations, it is not restricting the right of the owner or operator of any other facility to request relief from the generally applicable limitations during the permitting process through the "fundamentally different factors" variance process.

4. Costs of the Regulation. The Agency received several comments from the industry regarding the Agency's cost estimates of the model treatment systems used as the basis for the proposed limitations, and on the cost estimates for those model treatment systems presented in the contractor's draft technical report (October 1979) distributed for comment by the Agency. The industry commented that the Agency's cost estimates are substantially lower than industry cost estimates for the same treatment systems, and that the lower cost estimates would cause the Agency to underestimate the economic impact of the regulation on the industry.

In response to these comments and court remand issues on prior regulations dealing with costs, the Agency carefully analyzed and refined its costing methodology and cost estimates for steel industry water pollution control systems. Based upon this analysis, the Agency has reached the following conclusions:

1. The Agency's costing methodology is appropriate for developing industry-wide cost estimates for water pollution control systems that may be installed to comply with this regulation.

2. Agency cost estimates compare favorably with actual costs incurred by the industry for the installation of model water pollution control systems, including retrofit and other site-specific costs.

3. The costs actually incurred by the industry would have to be significantly greater than those estimated by the Agency to produce any significant short or long term adverse economic impacts. For example, even if the actual cost of compliance were one hundred percent greater than EPA's estimates, there would not be any significant economic impacts which would change the Agency's conclusion regarding the

economic achievability of this regulation.

The Agency's industry-wide cost estimates for compliance with the proposed regulation are based upon model wastewater treatment systems developed for each level of treatment (BPT, BAT, BCT, PSES, NSPS, and PSNS) for each subcategory. The size of the model treatment system is defined by the average sized production operation and the design or model treatment system flow rate. The model treatment systems are composed of standard process and wastewater treatment components (i.e., pumps, clarifiers, thickeners, vacuum filters, chemical reaction tanks, pressure filters, piping, concrete foundations, buildings). Numerous cost estimates for each of these components were developed through the use of standard engineering cost estimating references including quotes from vendors of pollution control equipment. Costs for each component of the model treatment systems were aggregated with standard estimates for site specific costs (see Development Document) to arrive at the total investment costs for each model treatment system. These model treatment system costs were scaled by production (0.6 factor) for each production facility to develop the total industry-wide investment to comply with the proposed BPT limitations. The industry-wide cost to comply with the proposed BAT limitations was determined by multiplying the model treatment system cost by the number of plants in each subcategory.

The BPT investment cost required for treatment facilities not in-place as of January 1, 1978 was determined by subtracting costs for in-place treatment facilities reported by the industry on a plant by plant basis. Rough estimates were made of the treatment facilities installed between January 1, 1978 and June 30, 1980 by subcategory to develop required BPT costs for the economic impact analysis. Similar estimates were made for the BAT costs.

In determining industry-wide costs, the Agency costed separate wastewater treatment facilities for each process operations without taking into account extensive co-treatment of compatible wastewaters practiced at many plants. Thus, for many steel plants, several treatment facilities were costed where only one central treatment plant exists. This tends to overstate industry-wide costs.

For the final regulation, the above methodology was refined. First, additional cost data for several wastewater treatment components reported by the industry were included

in the data base. Second, the large number of individual treatment component cost estimates originally developed were reviewed and adjusted to better reflect changes in flow. The model treatment systems were recosted with computer assisted determinations of component cost by model flow rate. Third, the aggregate costs for BAT and PSES, as well as costs for BPT, were determined by scaling the model treatment system costs by production for each facility. Finally, a detailed plant-by-plant update was completed for treatment facilities installed from January 1, 1978 to July 1, 1981. This update was completed from NPDES compliance records, contact with industry representatives, and personal knowledge of selected plants by EPA staff.

The draft Development Document presents comparisons on a subcategory basis of treatment system costs reported by the industry, and the Agency's estimated costs for the same treatment facilities. The actual costs reported by the industry include site-specific and retrofit costs, where available. These comparisons demonstrate the Agency's costing methodology is appropriate for developing industry-wide cost estimates. In its comments on the costs of the proposed regulation, the industry did not provide any comments on these comparisons, but rather presented its *estimates* of costs for selected treatment facilities and used these estimates to develop industry-wide cost estimates which are significantly higher than those developed by the Agency. These estimates are also significantly higher than those reported by AISI in its 1981 report "Environmental Policy for the 1980's: Impact on the American Steel Industry." The latter estimates for required water pollution control costs for the period 1981-1984 are within 10% of those developed by the Agency for the proposed regulation.

Since the Agency's cost estimates are well within the range of actual industry costs for installed treatment facilities, the Agency believes its cost estimates for required water pollution control facilities will also be within the range of actual industry costs.

Reference is made to Volume I of the Development Document for the subcategory cost comparisons and additional information regarding the Agency's costing methodology. Reference is also made to the subcategory reports of the Development Document for subcategory-specific cost changes which were made in response to industry comments. These include increased energy usage for the

cokemaking subcategory and increased chemical usage and costs for the cokemaking, ironmaking, and acid pickling subcategories. Changes in model treatment system investment costs were made in several subcategories because of changes in wastewater treatment technology (i.e., deletion of filters in cokemaking and steelmaking, deletion of cascade rinse systems for acid pickling and hot coatings).

The economic impact analysis of the costs of this regulation demonstrates that there are only minimal short term and virtually no long term adverse economic impacts associated with this regulation. Within a fairly broad range of higher water pollution control costs, the economic impacts of the regulation are expected to increase proportionally to cost. Thus, an increase in water pollution control costs by a factor of two or three would still produce relatively small adverse economic impacts. (Section XXI of this preamble).

5. *Economic Impact Analysis.* The Agency received several comments on its economic analysis of the proposed regulation and, based upon these comments, the economic analysis of the final regulation was modified. The economic analysis of the proposed regulation projected the economic impacts of the regulation under three scenarios which reflected different economic conditions. The Agency developed these scenarios for the analysis because, at that time, it was uncertain which economic conditions would be prevailing at the time of promulgation of the final regulation. For the final regulation, the Agency analyzed two scenarios. Both scenarios are based upon the existing economic climate including the projected effects of present tax, trade, and pricing policies. The only difference between the two scenarios is their assumptions regarding projected steel shipments. As noted in Section XXI, the Agency has concluded that the economic impact of the final regulation is not significant under either scenario and that the limitations and standards are economically achievable.

Several steel industry commenters argued that the economic impacts of the proposed regulation—a 5 percent reduction in the industry's workforce, a 4.9 percent reduction in its domestic market share along with associated balance of trade effects—should not be considered economically achievable. Several environmental groups believed that a 0.5 to 0.8 percent increase in the price of steel resulting from the regulation was not too much for

consumes to pay. The Agency expects the economic impacts of the final regulation to be shorter in duration and of much less magnitude than those predicted for the proposed regulation: 0.6 percent or less of the industry's workforce and domestic market share, and a 0.6 percent price increase. The only impact which is expected to last after the early-1990s is the projected price increase. This change in the projected economic impact resulted from a reduction in expected cost of compliance with the regulation, a more recent forecast of the industry's future shipment levels and an update in the economic impact methodology.

The commenters noted that the magnitude of the economic impact of the water pollution control regulation depends significantly upon the future level of steel shipments. An environmental group suggested that the alternative scenario—which projected the highest level of shipments and the smallest impact—was the most reasonable. That commenter quoted financial market sources to support this view. Several industry commenters suggested that the intermediate scenario economic analysis should be based upon a 1.5 percent annual growth rate rather than upon a 2 percent growth rate. Industry commenters also suggested that the Agency should not base the economic analysis (and therefore projected steel shipments) upon expected changes in government tax, trade and price control policies.

As explained earlier, the economic analysis of the final regulation is based upon the existing economic condition of the steel industry including the projected effects of present trade, tax and pricing policies. Under the scenario which projects the more prolonged economic impact, the annual growth of steel production during 1985-1990 is projected to be about 1% or less. This annual growth rate is representative of the overall growth rate projected under that scenario as it measures annual growth rate in steel production from one peak of an economic cycle to the next peak. Hence, the Agency believes that it has adequately considered the range of expected steel industry shipments in its economic analysis.

The Agency's analysis concludes that steel companies will meet the capital requirements of this regulation by cutting back investment in its existing plant and equipment. A commenter suggested that the steel industry has access to additional funds for pollution control that would not require reducing investment in its existing capital stock (i.e., from industrial revenue bonds,

common stock issues and reduced dividend payments). The Agency disagrees with this comment. While industrial revenue bonds are issued by government agencies, they are the legal obligations of private firms and are considered as such by credit analysts. Thus, industrial revenue bonds cannot be used to increase the funds available to a capital-constrained industrial firm which must maintain the quality of its credit. Moreover, the Agency does not believe that steel companies will undertake the issuance of new common stock, or the financially similar action of reducing dividend payments, until they can demonstrate a higher future profitability. Consequently, the Agency believes that its conclusion regarding capital financing requirements reflects the financial situation facing the steel industry and is valid.

The Agency's economic analysis is based, in part, upon the assumption that the added costs of water pollution control will be passed-through to the consumers of steel products. One commenter suggested that these added costs would be only partially passed-through. In the last ten years, the steel industry's operating costs (whether or not related to water pollution control) have increased nearly 150 percent, and, all but a few percent of these costs have been passed-through to consumers in the form of price increases. The Agency believes that the additional 0.6 percent increase in cost which is expected to result from compliance with this regulation will also be fully passed-through to consumers.

Several commenters suggested the Agency should evaluate the economic impact of alternative wastewater treatment systems not selected by the Agency. Moreover, the commenters suggested that the Agency's economic analysis should account for potential cost savings to the industry resulting from the water bubble and co-treatment policies. The Agency does not agree. In selecting the model treatment systems, the Agency considered the costs of the various alternative treatment systems and their respective effectiveness in reducing pollutant discharges. After selecting the model treatment systems, the Agency performed its economic analysis to determine expected economic impacts and whether the limitations and standards are economically achievable. The analysis is based upon the conservative assumption that steel plant wastewaters from each operation would be treated separately and not include an allowance for possible savings associated with the co-treatment and water bubble policies.

The potential cost savings associated with those policies cannot be estimated with a reasonable degree of accuracy because they are highly variable and site-specific in nature. The Agency believes that these conservative assumptions are appropriate and that the economic analysis demonstrates that the limitations and standards are economically achievable even without an allowance for those potential savings. The Agency does not believe it is necessary to assess the economic impact of each alternative treatment system considered by the Agency.

One commenter suggested that the Agency separately evaluate the economic impact of the regulation for each subcategory. The Agency disagrees with this comment and believes that it is neither required to do so nor would such an analysis be feasible. All subcategory operations in the steel industry are typically located within large, integrated plants. A steel company's decisions regarding production from, and investment in, these subcategory operations are highly interrelated. As a result, the economic impact of pollution controls for a given subcategory cannot be meaningfully determined.

Several industry commenters suggested that the loss of salaried jobs in the steel industry should be included in the economic analysis. The Agency agrees with this comment and has included the loss of salaried jobs in its evaluation of the final regulation.

One commenter argued that 10 million tons of capacity expansion projected in the intermediate scenario for the 1988-1990 time period is not possible. The Agency disagrees. EPA believes that the industry has demonstrated the capability of expanding capacity at a rate assumed under the economic analysis and that economic conditions will permit that expansion. For example the industry expanded raw steel capacity by at least 17 million tons during the period 1963-65.

6. *Merchant Coke and Pig Iron.* The Agency received several comments from merchant coke and pig iron producers regarding the appropriateness of including merchant coke producers in the steel industry regulation; the potential economic impact of the proposed regulation on these industries; the Agency's lack of separate consideration of the economic impact of the proposed regulation on the merchant coke industry; and, the cost of operation of the model treatment technologies.

In response to these comments, the Agency reviewed merchant coke operations and found them to be essentially the same as steel industry cokemaking operations with respect to

raw materials, production processes and by-product recovery, final products, wastewater characteristics, wastewater treatability, age of facilities, geographic location, process water usage, and non-water quality environmental impacts. While the merchant coke industry has different markets for its products, this fact is not relevant to any of the above factors or to whether merchant coke operations should be subject to this regulation. For these reasons, the Agency concluded that merchant cokemaking operations should be subject to the effluent guidelines regulation for the steel industry, rather than the effluent guidelines limitations for other industries, (i.e. the Organic Chemicals Category or the Secondary Metals Industry as suggested by one commenter). The Agency did find, however, that merchant coke plants tend to be smaller than steel industry coke plants and that merchant plants have slightly higher wastewater discharge rates.

Because of the smaller size of these facilities, the Agency has developed separate cost models for direct and indirect merchant coke dischargers. With respect to the commenter that suggested that the Agency should employ a separate economic impact analysis for merchant coke producers, the Agency agrees. Upon reevaluation, the Agency has concluded that its policy testing model (PTM Steel) used in the economic impact analysis is not appropriate for analyzing the economic impact of this regulation upon merchant coke producers. Hence, the Agency conducted a separate economic impact analysis of merchant coke and pig iron producers.

EPA sent questionnaires soliciting specific financial data to the two known pig iron producers and to eleven merchant coke producers covering all but one merchant coke operation. This operation is in compliance with the BAT limitations and had previously incurred the associated investment costs. The Agency estimates the following costs of compliance with this regulation for merchant coke producers:

(Millions of 1980 Dollars)

	Investment costs—facilities required	Annual costs—incremental
BPT.....	3.0	0.8
BAT.....	5.5	1.8
PSES.....	10.3	2.6
Total.....	18.8	5.0

The Agency analyzed the economic impacts of compliance with this regulation for the merchant coke industry by examining its effects upon two key parameters: (a) Annual costs as a percentage of total cash flow, and (b) debt-to-capitalization ratio. As shown above, the incremental annual cost for all levels of treatment is about \$5.0 million (including refunding of debt), which is about 20 percent of the estimated cash flow for 1980. The Agency estimates that this added annual cost will cause prices to increase by 0.4 percent. Based upon the assumption that the \$18.8 million capital investment which is required to comply with the regulation is funded entirely by debt, the merchant coke industry debt-to-capitalization ratio is projected to move from 39.1 percent to about 39.6 percent.

Based on a current annual capacity of 9.5 million tons per year, the replacement value of the merchant coke industry at \$220 per ton would be \$2.1 billion. Total capital costs for compliance are projected to be \$18.8 million, or less than one percent of the replacement value. If the pollution control expenditures are diverted from capital expenditures which would otherwise be made to maintain production equipment, the Agency projects a loss of productive capability of about 0.9 percent. As a result, in future periods of capacity constraints, about 0.9 percent of production (or about 85,500 tons) would be lost to foreign producers. The Agency projects only minor economic impacts for merchant coke producers and found that the costs of the regulation are unlikely to force closure of any plant.

Based upon the above considerations, and taking into account the slightly higher water use rates exhibited by merchant coke plants, the Agency is promulgating separate effluent limitations and standards for the merchant coke producers which are slightly less stringent than those for cokemaking operations associated with steel production. For those few merchant coke producers with ancillary tar processing operations, appropriate allowances to the mass-based effluent limitations provided by this regulation should be made at the time of permit writing to take into account the process wastewaters from tar processing.

The Agency also conducted a similar review of the two known pig iron operations and concluded that they should be subject to the effluent guidelines regulation for the steel industry. The Agency estimates that these merchant pig iron producers will have to spend \$1.91 million to comply

with the BPT requirements and an additional \$0.73 million to comply with BAT. The associated annual cost is \$0.5 million. This annual cost is expected to increase prices by about 0.2 percent.

Based on an industry capacity of 1.2 million tons per year and a replacement cost of \$92 per ton, the total capital expenditure required to comply with the regulation represent 2.4 percent of the industry's replacement value. In periods of future capacity constraints, which at present appear unlikely, reductions in production of as much as 2.4 percent could be attributed to added water pollution controls. During such periods, employment would be impacted by a similar percentage. The Agency concluded that any future retirement of pig iron furnaces would most likely result from declining industry profitability and market share rather than from the costs of added water pollution controls.

7. *Consumptive Use of Water.* a. One commenter suggested that EPA had failed to adequately consider the impact of the proposed limitations on water consumption. The commenter contends that EPA has failed to accurately estimate the water consumption associated with industry's compliance with the regulation; failed to consider the adverse impact which this water consumption would have on users of water downstream from the commenter; and, failed to account generally for the water scarcity problems of the arid and semi-arid western states.

In response to the court's remand on this issue, EPA undertook an extensive analysis of the water consumption impact of both the proposed regulation and this final regulation. The manner in which the Agency examined this issue, and the bases for its conclusions, are presented in detail in Section III of Volume 1 of the Development Document. The Agency estimated the water that will be consumed by the various water pollution control systems available for use in the steel industry. Based on the assumption that the industry will use evaporative cooling devices, the Agency estimates the water loss to be only 0.35 percent of the daily flow of steel industry process waters at the BPT level and less than 0.01 percent of daily flow at the BAT level. The water consumption associated with this regulation is insignificant on a nationwide basis.

Moreover, the Agency surveyed the following four steel plants which it considers to be the only major plants located in arid or semi-arid regions of the country.

0196A CF&I Steel Corporation, Pueblo, Colorado
0448A Kaiser Steel Corporation, Fontana, California
0492A Lone Star Steel Company, Lone Star, Texas
0864A United States Steel Corporation, Provo, Utah

Based upon information provided by these companies, the Agency found that at those plants, virtually all of the recycle and evaporative cooling systems included in the model treatment systems used to develop the limitations and standards contained in this regulation have been installed or are under construction, or alternate methods of achieving the limitations are being practiced. Consequently, compliance with the regulation will not result in any substantial incremental water consumption at the major plants located in arid or semi-arid regions.

Although the commenter noted above suggested the Agency failed to account for water consumption associated with "drift" (as opposed to evaporation) from wet cooling towers, that loss of water was accounted for in the Agency's estimate of water consumption (0.1% of circulating water flow).

The commenter also suggested that the increased water consumption which will result from compliance with this regulation will adversely affect downstream users of water including agricultural and industrial users. Beyond the Agency's determination that the adverse impacts associated with the estimated increase in water consumption is justified by the benefit of reducing the pollutant load discharged to achieve the limitations, EPA is not able to properly consider the site specific factors cited by the commenter in this rulemaking. Such site specific non-water quality environmental factors may be considered in a request for a variance by an NPDES permit applicant (See 40 CFR 125, Subpart D). The Agency notes that the commenter is located in a state which has been delegated the authority to administer the NPDES program. The permitting authority which will issue the permit and consider any requests for a variance is uniquely suited to account for the regional and state concerns cited by the commenter.

b. The commenter also suggests that the Agency is ignoring section 101(g) of the CWA by proposing limitations which will result in increased water consumption. The commenter suggests that section 101(g) recognizes the primacy of state water laws and allocation systems over the CWA.

EPA does not agree with the commenter's conclusion regarding the primacy of state water laws over the CWA. The court, in *AISI II*, noted the primacy of the CWA over state water laws is based upon the Supremacy Clause of the U.S. Constitution. That conclusion is equally applicable now and the existence of state water laws does not prohibit EPA from establishing limitations which incidentally involve the consumptive use of water. The Agency understands, however, that Congress intended that EPA not unnecessarily interfere with those rights. It is noteworthy that EPA is preparing a report to Congress under section 102(d) of the CWA regarding measures to coordinate water quality and water quantity issues and policies. This report demonstrates the Agency's continued sensitivity to this issue and its efforts to accommodate both goals.

8. *Alternate Effluent Limitations—Water Bubble.* In the preamble of the proposed regulation, the Agency announced it was considering whether to adopt an alternate effluent limitations policy ("water bubble"). The Agency solicited comments on whether it should adopt such a policy and, if so, what conditions on the policy might be imposed.

Under the water bubble policy, dischargers with multiple outfalls may discharge greater amounts of pollutants from outfalls where treatment costs are high in exchange for an equivalent decrease in pollutants discharged from outfalls at the same plant where abatement is less expensive. Thus, the same reduction in pollutant loadings can be obtained at less cost.

In this regulation, the Agency has adopted a water bubble policy for the steel industry. The policy is reviewed in detail in Section XXVI of this preamble. Following are the Agency's responses to the most significant comments received concerning the proposed policy outlined in the preamble to the proposed regulation.

Several commenters stated that the bubble concept would be inconsistent and incompatible with the use of indicator pollutants. Specifically, commenters raised concern that under the bubble policy, dischargers would be allowed to discharge an increased amount of those pollutants for which specific limitations have not been established. The Agency shared this concern and examined the issue carefully in developing its final policy. The final policy contains conditions on the use of the water bubble. The Agency found that unless conditions were imposed upon the use of the policy

involving cokemaking, hot forming, and cold rolling operations, there was a probability that there would be a net increase in toxic pollutant discharges under the policy. The conditions established by the Agency are designed to ensure there will not be a net increase in the discharge of toxic pollutants.

Some commenters stated that most of the restrictions set out in the preamble to the proposed regulation were unnecessary and burdensome. With respect to EPA's proposed restriction against trading one pollutant for another, one commenter suggested that EPA develop a method to determine the water quality impact of different combinations of pollutants and allow cross-pollutant trades under the water bubble policy when the water quality impact of the discharges under the bubble policy would be the same as without its use. The Agency has decided not to adopt that approach for the following reasons. The administrative burden associated with implementing such a policy would be unreasonably high. EPA's water bubble policy for the steel industry is an alternative method of achieving a reduction of pollutants discharged that is, at a minimum, *equivalent* to the level of discharge achieved by traditional effluent limitations. The bubble policy proposed by these commenters would involve a water pollution control strategy altogether different from the strategy called for by the Clean Water Act. This strategy would replace the technology based strategy with an alternative, water quality based strategy. The Agency's intent in developing a water bubble policy is to allow dischargers to save money in meeting the technology based limitations imposed by the Clean Water Act; not to provide an alternative regulatory program.

Some commenters opposed the condition which requires that each outfall have a specific discharge limit because they believed that it would preclude opportunities to implement efficient control strategies. They suggested that the Agency adopt a bubble policy which allows effluent limitations to be established on a plantwide basis; the so-called, "floating bubble". Under the suggested "floating bubble", dischargers would be allowed to vary the mix of controls at the various outfalls within a plant on a daily, weekly, or monthly basis, as long as the plantwide limitation is not exceeded. The Agency has carefully evaluated the advantages and disadvantages of the "floating bubble" and has concluded that fixed limits on each outfall are necessary to ensure optimum operation

of treatment facilities; enforcement of permit limitations; and, to minimize the administrative burden of the water bubble. The floating bubble would make it difficult for permit authorities to determine compliance using normal sampling techniques. To confirm compliance with a floating bubble permit, the control authority would need simultaneous samples from each outfall for which limitations are established under the policy. Reporting requirements and inspection procedures would have to be significantly modified and would require significant additional resources.

EPA recognizes that in theory, the flexibility to vary the mix of treatment within a plant at different times could reduce the cost of compliance with this regulation. However, despite requests to do so, industry representatives have not provided any data in support of their contention that the floating bubble would allow steel industry dischargers to use control strategies that are not feasible under a policy requiring fixed limits on each outfall. EPA believes the major savings associated with the bubble policy will result from changes in fixed control costs. Dischargers can take advantage of these savings under the policy adopted by the Agency.

The Agency solicited comments on the resource and administrative burden that the bubble policy might place on permit authorities. Several commenters expressed concern that the policy would present an additional burden that permit authorities would be unable to bear. The Agency has tried to design the bubble policy to minimize its administrative burden. First, the Agency has specified that dischargers must initiate bubble proposals at their own expense. In addition, as discussed above, EPA has sought to minimize the resource burden by requiring that bubble permits have fixed enforceable limits on each outfall. Once these limitations are determined, the cost of reviewing inspection and self-monitoring reports will be comparable to the administrative costs associated with traditional permit practices.

Some commenters were opposed to the condition in the Agency's proposed policy which required all wastestreams to meet applicable BPT requirements because it would restrict the utility and cost saving potential of the bubble. EPA reconsidered this condition and has concluded that the requirement would significantly limit opportunities available to dischargers to implement efficient control strategies, particularly in the hot forming subcategory. The Agency originally considered including this requirement to provide an

additional measure of water quality protection. The Agency believes that the conditions imposed upon the adopted policy along with the requirements that permits issued under the policy achieve the same pollutant removal as traditional permits and that dischargers meet water quality standards, are adequate to protect water quality. Thus, EPA has decided to not include a condition that all outfalls at plants employing the policy comply with applicable BPT limitations.

In the preamble to the proposed regulation, EPA announced that it was considering restricting its consideration of applications for use of the policy during the normal permit issuance and reissuance process. The Agency still believes this approach is appropriate. In order to keep the administrative burden associated with this policy to a minimum, the Agency believes that application for use of the policy should be raised and considered during normal permit reissuance. Several commenters suggested that dischargers be allowed to submit proposals to modify existing permits to include a water bubble. The Agency has considered that suggestion and has decided to accept bubble applications at any time during the period of currently effective permits where a bubble was not specifically considered during permit issuance. This will permit those dischargers which did not have the opportunity to seek a permit based upon the bubble policy to do so as soon as possible without waiting for reissuance. However, it avoids the long term administrative burdens associated with allowing dischargers to apply for permits based on the bubble policy when they had an adequate opportunity when the permit was last reissued.

One commenter interpreted the proposed bubble policy as excluding new source permittees from eligibility and suggested that such a limitation was inappropriate. This interpretation is correct as the Agency does not believe that it would be appropriate to permit a new source to install less stringent treatment than is required by NSPS because of the bubble policy. Under the Clean Water Act new sources are to achieve the "Best Demonstrated Technology" and therefore, the bubble policy should not be used to permit the discharger to install less stringent treatment.

One commenter stated that it would be inappropriate to address the bubble in the effluent limitation guidelines and suggested instead that all issues relating to a water bubble policy be resolved during the permit issuance process. EPA

believes that this regulation is an appropriate vehicle for implementing the water bubble policy. The Agency recognizes that circumstances affecting the use of the bubble will vary from plant to plant. However, the Agency believes that the bubble policy contained in this regulation allows adequate flexibility to address such circumstances.

The final water bubble policy as it pertains to the steel industry is outlined below and presented in the regulation (§ 420.03).

Under the water bubble policy, a discharger could discharge no more total pounds of pollutants than it could without the bubble. However, with the policy, the discharger would have the flexibility to allocate the discharge among its outfalls in the least costly manner. Properly applied, this policy should promote greater economic efficiency and increased innovation by providing plant managers with an economic incentive to develop new control strategies.

EPA recommends that permitting authorities (1) inform sources that the bubble approach is available, (2) explain the advantages and conditions of the use of the bubble, and (3) be receptive to proposals from sources that want to use a more cost-effective mix of controls.

To ensure that permits using the water bubble policy are equivalent to traditional permits in enforceability and environmental impact, EPA has imposed the following conditions on the use of the policy:

1. *Under the alternate limitations, no more pounds of pollutants can be discharged from a single plant than would be discharged under the traditional process specific limitations.* To satisfy this general condition, permits issued for facilities under the bubble policy must meet the following specific conditions:

a. Trades must not result in an increase in the discharge of pollutants over that allowed by the generally applicable limitations.

b. Trades must involve the same pollutant. EPA will allow dischargers to trade a pollutant in one wastewater only against the same pollutant in another wastewater. For example, zinc can be traded for zinc but not for chromium or lead.

c. Trades involving certain subcategory waste streams will be limited.

EPA has identified certain process subcategories with wastewaters that are significantly different than those from other steel industry subcategories. Unrestricted trades with these subcategories could result in a net

increase in toxic pollutants discharged. To ensure that permits issued under the bubble policy do not result in an increase in pollutants discharged, the Agency has imposed the following subcategory limitations:

(i) *Cokemaking.* Permits issued under the bubble policy which involve trades with cokemaking wastewaters will not be allowed. The Agency believes that the number and amounts of toxic organic pollutants found in cokemaking wastewaters cannot be effectively controlled under the bubble policy.

(ii) *Cold Forming.* Permits issued under the bubble policy which involve trades with cold forming wastewaters will not be allowed. The Agency believes that the variability and amounts of toxic organic pollutants associated with cold forming wastewaters are such that it is not possible to ensure effective control of toxic organic pollutants under the water bubble policy.

2. *Dischargers must meet water quality standards.* A change in the distribution of pollutant loadings may adversely affect water quality even if total loadings discharged do not increase. Permit authorities may not approve a bubble application if it would result in a violation of water quality standards.

3. *Each outfall must have a specific discharge limit.* Water bubble permits may not allow limitations to be set on a plant-wide "floating" basis. For the reasons discussed in Section XVI of this preamble, the Agency has decided not to allow the policy to be applied on a "floating" basis.

In the preamble to the proposed regulation, the Agency announced that it was considering imposing a condition on the policy which would require all wastewaters to meet applicable BPT limitations. EPA has decided not to include this requirement in the bubble policy for the steel industry. Such a requirement could significantly restrict the savings associated with the water bubble and is not necessary to achieve levels of removal equivalent to traditional permits, protect water quality, or ensure enforceability. Permits issued under this policy may allow certain wastewaters to exceed applicable BPT limitations if sufficient reductions can be achieved at other outfalls and the other conditions for bubble permits set out in this regulation are met.

Implementing the Water Bubble

It is the permittee's responsibility to initiate proposals for implementing the water bubble policy for its facilities. Permitting authorities will continue to

develop effluent limitations using the traditional approach of setting technology and water quality based limits on each discharge pipe. During the permit issuance process, the discharger may propose a different set of effluent limitations for its outfalls using the bubble concept. The permittee must demonstrate, to the satisfaction of the permit issuing authority, that its proposal results in a total discharge equivalent to the level required by the technology and water quality based limitations. When the discharger makes such a demonstration to the satisfaction of the permit issuing authority, its NPDES permit may be based upon the alternative discharge limitations.

EPA will accept proposals to modify existing NPDES permits based upon this policy at any time during the life of a permit for which a bubble proposal was not considered at the time of permit issuance. In no case however, may a water bubble proposal delay compliance with pollution control requirements. When a discharger presents a bubble proposal which appears to be capable of achieving the same total removal as required by the existing permit limitation and attaining the goals of the current compliance schedule, the permit authority will review the proposal to verify the equivalency of the alternative limitations. Dischargers will be required to meet their existing schedules until the permit authority approves the bubble permit.

Eligibility

In the preamble to the proposed regulation, the Agency announced that it was considering restricting non-complying dischargers from using the bubble policy. The Agency has decided to allow non-complying dischargers to propose the use of the bubble policy at its facilities with conditions under which they could come into compliance. The Agency believes that the flexibility to develop compliance strategies that use the bubble concept will result in faster compliance with effluent limitations and achieve the same total overall treatment of effluent.

9. *Limitations for Toxic Metals.* Some commenters suggested that the limitations for toxic metals should be established for dissolved or soluble metals rather than for total metals and that published hydroxide solubility data for each metal should be used as the basis for the limitations.

The Agency considered establishing limitations for toxic metals on the basis of dissolved or soluble metals in lieu of total toxic metals. However, the Agency has decided not to do so. The limitation

of total metals will control dissolved and soluble metals as well as all metal compounds. In addition, the Settlement Agreement and the Clean Water Act direct the Agency to establish limitations for specific toxic metals and all associated metal compounds. Limitations of total metals is consistent with the Settlement Agreement and the Clean Water Act. Moreover, because the toxic metals limited in this regulation serve as indicators for other toxic metal pollutants not specifically limited, the limitation of a metal as "total metal" serves better as an indicator than would a limitation of "dissolved" metals.

The total toxic metals limitations in this regulation are based upon actual performance of the model treatment technologies on steel industry wastewaters rather than on published hydroxide solubility data. The hydroxide solubility data are usually based upon single compound systems and do not take into account co-precipitation effects of excess iron found in many steel industry wastewaters. The Agency believes actual performance data are preferable to theoretical values for establishing effluent limitations.

10. Monitoring Recommendations. Several commenters stated that NPDES monitoring requirements are best determined by permit issuers and that the regulation should not contain any monitoring requirements.

The proposed regulation and this regulation do not contain any monitoring requirements. However, the preamble to the proposed regulation contained a recommended monitoring program which was used to estimate industry wide monitoring costs. As noted in the preamble to the proposed regulation, permit writers are not bound by the recommended program and may require more or less frequent monitoring as they consider appropriate.

11. Analytical Precision and Accuracy. All of the comments on analytical precision and accuracy pertain to analyses of toxic organic pollutants. The industry commented that the Agency's analytical methods used in the initial industry screening sampling surveys and in some follow-up surveys could lead to "false positive" identification of toxic organic pollutants and that the precision and accuracy of these analyses are poor. The industry also commented that the follow-up analyses for cokemaking and cold rolling wastewaters using the verification analysis protocols could still produce "false positive" identifications and that it is difficult to resolve by packed-column gas chromatography certain isometric polynuclear aromatic hydrocarbons which can co-elute.

The initial industry screening survey data for toxic organic pollutants obtained by the Agency were not used as the basis for any effluent limitations and standards. This regulation contains limitations for four toxic organic pollutants (cokemaking-benzene, benzo-a-pyrene, naphthalene; cold rolling—naphthalene, tetrachloroethylene). In the cokemaking subcategory, these pollutants are used as indicators of other toxic organic pollutants. In both of these subcategories, extensive additional sampling and analysis was performed. All of the supplemental data used to develop limitations for the toxic organic pollutants listed above were obtained with GC/MS "verification" analyses which are completed with strict adherence to detailed quality control procedures including, for example, analyses of spiked samples, and duplicate samples. These procedures are designed to ensure that "false positive" identifications do not occur. Of the pollutants limited in this regulation, there is no co-elution problem for benzene and tetrachloroethylene. For benzo-a-pyrene and naphthalene, there may be co-elution with very similar compounds but not with other designated toxic organic pollutants. These other compounds that may co-elute with benzo-a-pyrene and naphthalene will consistently co-elute with the same gas chromatography columns. Since the Agency recommends a particular column in its analytical protocols and its contractors adhered to the protocols, any co-eluters with benzo-a-pyrene and naphthalene were taken into account in the analyses used as the basis for the limitations. Thus, if industry laboratories follow the Agency's protocol, the results obtained for determining compliance with the regulation should be consistent with the Agency's results. Furthermore, the analytical methodology indicates that other gas chromatography columns which can differentiate between co-eluters may also be used. Thus, the Agency does not consider co-elution of these compounds to be a problem with respect to monitoring for compliance with the regulation.

For those toxic organic pollutants limited in this regulation, the Agency has determined that the data underlying the limitations are sound.

XVII. Summary of Changes From Proposed Regulation

Following is a summary of changes that the Agency made to the proposed regulation in developing the final regulation. Because of the significant number of changes, the supporting rationale and documentation for every

change is not presented here. The Agency has prepared a separate document presenting its detailed response to all significant technical comments on the proposed regulation. (See Section XVI).

1. Industry Subcategorization. The Agency has not changed the major subcategorization of the industry outlined above for this final rule. However, it changed certain subdivisions within the following subcategories to provide for more representative model treatment system flow rates and, thus, more appropriate effluent limitations and standards:

- Cokemaking.
- Steelmaking.
- Salt Bath Descaling.
- Acid Pickling.
- Cold Rolling.
- Alkaline Cleaning.

Full discussions of these changes and the impacts on the final limitations and standards are presented in Section XVI and in the respective subcategory reports of the Development Document.

2. General. a. BCT. Because of the remand of the Agency's BCT methodology by the Fourth Circuit, the Agency has reserved its decision on the limitations for each steel industry subcategory where BAT limitations more stringent than the respective BPT limitations are promulgated. For the remaining subcategories, the applicable BCT limitations for conventional pollutants are identical to the subcategory-specific BPT limitations included in this regulation.

b. BAT. Upon review of additional data submitted during the comment period and, as noted earlier, acquired through sampling conducted since proposal of this regulation, the Agency has promulgated BAT limitations no more stringent than BPT limitations for the following subcategories:

- Steelmaking (semi-wet).
- Hot Forming.
- Salt Bath Descaling.
- Acid Pickling.
- Cold Rolling.
- Alkaline Cleaning.
- Hot Coating (without fume scrubbers).

The underlying BPT model treatment technologies are essentially the same for this regulation as in prior regulations. Because the BAT model treatment technologies are the same as the BPT technologies for the Salt Bath Descaling, Acid Pickling, Cold Rolling, and Hot Coating subcategories, the same toxic pollutant limitations are included at both BPT and BAT.

As discussed in greater detail in the Development Document, the Agency is not promulgating BAT limitations more

stringent than BPT at this time for those subcategories for the following reasons. The Agency found that toxic metal pollutants present in wastewaters from Hot Forming and Salt Bath Descaling operations are adequately controlled at the BPT levels. For Acid Pickling and Hot Coating operations, the Agency concluded that cascade rinsing cannot be readily retrofitted at all facilities because of space limitations which would require major reconstruction at some lines; and, because of the high industry-wide costs to retrofit cascade rinse systems on all existing sources.

For Cold Rolling operations, the Agency found that the BPT model treatment technology effectively controls certain toxic organic pollutants. However, due to the diversity of toxic organic pollutants found in these wastewaters, the Agency could not establish nationwide limitations for each pollutant. Limitations for these pollutants must be established on a case-by-case basis.

With respect to the Steelmaking (semi-wet) and Alkaline Cleaning subcategories, the Agency had not previously proposed BAT limitations. In promulgating BAT limitations no more stringent than BPT limitations for these subcategories, the Agency believes that toxic pollutants which are present in wastewaters for these subcategories are directly limited, controlled through the use of indicator pollutants, or the toxic pollutants are generally not present in BPT effluents.

c. Limitations for Toxic Metals. To promote central treatment of compatible wastewaters, the Agency proposed BAT limitations for chromium, lead, and zinc for most subcategories and copper and nickel for certain specialty steel subcategories. The final regulation has been revised to make central treatment more feasible at both the BPT and BAT levels of treatment. Lead and zinc are limited at the BPT or BAT level in most subcategories and chromium and nickel for specialty steel operations.

3. Subcategory Specific Changes. a. Cokemaking. (1) Merchant Coke Plants. Separate BPT, BAT, PSES, NSPS, and PSNS limitations and standards are included for merchant coke producers. These limitations and standards are based upon the same model treatment technology for coke plants which are captive to iron and steel production, but with slightly higher flow rates found to be typical of merchant coke plants.

(2) Limitations and Standards. The final BPT limitations for ammonia-N, total cyanide, and phenols (4AAP) are the same as those set out in the proposed regulation. The BPT limitations for suspended solids have

been relaxed. Limitations for total cyanide and phenols (4AAP) were relaxed slightly at the BAT, NSPS, and PSNS levels based upon additional data submitted during the comment period. The BAT phenols (4AAP) limitation for physical-chemical coke plants was also relaxed slightly based upon additional data submitted during the comment period. The Agency significantly relaxed PSES based upon the removal of pollutants in coke plant wastewaters demonstrated in some POTWs. However, NPDES and local authorities should also insure that coke plant pollutants discharged at the PSES level of treatment do not interfere with their individual POTW operations or pass through POTWs.

b. Sintering. The model treatment system flow was increased to a demonstrated level of 120 gallons/ton for all levels of treatment. Upon reexamination, the Agency believes that the industry-supplied data originally used by the Agency to develop the lower model BPT and BAT flow rates is not reliable. The BAT limitations for toxic metals are based upon filtration of the BPT recycle system blowdown. BAT limitations, NSPS, PSES, and PSNS for ammonia-N, total cyanide, and phenols (4AAP) are provided for those dischargers which co-treat sintering and ironmaking wastewaters. These limitations and standards are based upon the demonstrated performance on a full scale basis of the selected technology for ironmaking wastewaters.

c. Ironmaking. The final BPT limitations are the same as the proposed BPT limitations. The Agency relaxed the ammonia-N limitations for BAT, PSES, NSPS, and PSNS to levels demonstrated at a full scale treatment system. The Agency relied upon data from a pilot scale treatment system in developing the proposed BAT limitations. In addition the 30 day average ammonia-N limitations and standards are based upon a concentration of 10.0 mg/l as compared with a concentration of 1.0 mg/l which was used to develop the proposed limitations and standards.

d. Steelmaking. The Agency used a model flow of 110 gallons/ton for the Basic Oxygen Furnace—Open Combustion and Electric Furnace—Wet subdivisions for all treatment levels. The model flow rates used to develop the proposed limitations were 65 gallons/ton and 50 gallons/ton, respectively. The Agency has eliminated the Open Hearth Furnace—Semi-wet subdivision because there are no Open Hearth Furnaces with semi-wet air pollution controls.

e., f. Vacuum Degassing, Continuous Casting. Limitations and standards for chromium have been deleted to

facilitate co-treatment. The limitations and standards for lead and zinc have been relaxed to reflect the Agency's selection of lime precipitation and sedimentation as the model BAT, NSPS, PSES, and PSNS treatment technology. Filtration was the model treatment technology used to develop the proposed limitations and standards. The limitations and standards for vacuum degassing and continuous casting operations are now consistent with those for wet steelmaking operations, thus, making co-treatment of these wastewaters feasible.

g. Hot Forming. The Agency is promulgating only BPT, BCT, and NSPS for the Hot Forming subcategory. The BPT and BCT limitations are based upon the same model treatment systems used for the proposed BPT limitations and actual performance data for those systems. NSPS for total suspended solids and oil and grease are the same as those proposed.

h. Salt Bath Descaling. The terms "kolene" and "hydride" have been replaced with the terms "salt bath descaling-oxidizing", and "salt bath descaling-reducing", respectively. The Agency reevaluated the appropriateness of the subdivisions of each steel finishing subcategory and the proposed limitations and standards and has made changes in the final regulation. For salt bath descaling-oxidizing, EPA found that separate limitations and standards are appropriate for the following operations to allow for variations in rinse flow requirements: batch sheet and plate, batch rod and wire; batch pipe and tube; and, all continuous operations. Separate limitations are also provided for batch and continuous salt bath descaling-reducing operations. In both cases, revised BPT limitations and BAT limitations no more stringent than the BPT limitations have been promulgated based upon data supplied during the comment period. Limitations for chromium and nickel are now consistent with those for combination acid pickling to facilitate central treatment.

i. Acid Pickling. The Agency has made several changes in the limitations and standards for the acid pickling subcategory. EPA revised the subdivisions within each of the acid pickling operations (sulfuric, hydrochloric, and combination) and established separate limitations and standards by product type (i.e., rod, wire, coil; bar, billet, bloom; pipe, tube, other; and strip, sheet, plate). These revisions better reflect process rinsewater requirements for each group of products. A separate daily mass limitation based upon recycle of fume

scrubber water is provided for those acid pickling operations with fume scrubbers. Revised BPT limitations and BAT limitations no more stringent than the BPT limitations, including limits for toxic metals, have been promulgated. The model treatment system for the BPT limitations is the same as that used to develop the proposed limitations and standards. Cascade rinsing or other rinsewater flow reduction systems are included only in the NSPS and PSNS model treatment systems. Limitations for chromium and nickel for combination acid pickling operations are consistent with those for Salt Bath Descaling operations to facilitate central treatment. Sulfuric acid recovery systems are no longer part of the model treatment system, and thus, zero discharge is not required for any sulfuric acid pickling operations.

j. Cold Forming. For cold rolling operations, the Agency has promulgated revised BPT limitations and BAT limitations which are no more stringent than the BPT limitations, including limitations for toxic pollutants. The model treatment system is the same as the proposed BPT model treatment system. The Agency promulgated separate NSPS and PSNS for recirculation, combination, and direct application mills, as opposed to the generally applicable proposed NSPS and PSNS which were based only on recirculation mills. This could have restricted all new source cold rolling mills to recirculating systems on all rolling stands. There are no changes in the limitations and standards for cold worked pipe and tube operations.

k. Alkaline Cleaning. The promulgated BPT limitations for alkaline cleaning are based upon higher model treatment system flow rates for both batch and continuous operations. NSPS are based upon a model treatment system including filtration of a lower volume of process wastewater than included in the BPT model treatment system.

l. Hot Coating. The final limitations and standards now include a daily mass limitations allowance for fume scrubbers at BPT. There is a reduced allowance at BAT, PSES, NSPS, and PSNS based upon the recycle incorporated in those model treatment systems. Cascade rinsing or other rinsewater flow restrictions are included only in the NSPS and PSNS model treatment systems (see above comments on Acid Pickling). Limitations for toxic metals at all levels of treatment are designed to facilitate central treatment of steel finishing wastewaters.

XVIII. Regulated Pollutants

The basis for selecting the regulated pollutants, as well as the general nature and environmental effects of these pollutants, is discussed in detail in Section V of Volume I of the Development Document. Some of these pollutants are designated as toxic under Section 307(a) of the Act.

A. BPT. The pollutants controlled by this regulation include, for the most part, the same pollutants controlled by the prior BPT limitations. Some pollutants were deleted for various subcategories because studies undertaken subsequent to the promulgation of the previous regulations demonstrate that these pollutants are not found in significant quantities in wastewaters from those operations. In certain steel finishing subcategories where identical BPT and BAT limitations are promulgated, the Agency selected the pollutants for which limitations are promulgated to facilitate central or combined treatment of compatible wastewaters.

With few exceptions, the BPT effluent limitations are expressed in terms of maximum 30-day average and maximum daily mass effluent limitations in kilograms of pollutant per 1000 kilograms (lbs/1000 lbs) of product.

The limitations are calculated by multiplying the demonstrated pollutant concentrations, the BPT model discharge flow for each subcategory, and an appropriate conversion factor. For maximum daily limitations, the long term average concentration is multiplied by an appropriate variability factor, the BPT model discharge flow, and the conversion factor noted above. Because the Agency could not relate production data directly to water flow rates for fume scrubbers associated with acid pickling and hot coating operations, daily mass effluent limitations are expressed in kilograms per day for each fume scrubbing system.

B. BCT. The conventional pollutants total suspended solids and oil and grease as well as pH are limited under BCT, where BCT limitations are promulgated.

C. BAT and NSPS. 1. Non-toxic, Non-conventional Pollutants. The non-toxic, non-conventional pollutants for which BAT limitations and NSPS are promulgated are ammonia-N and phenols (4AAP). These pollutants are subject to numerical limitations expressed in kilograms per 1000 kilograms (lbs/1000 lbs) of product. The Agency also promulgated limitations for total residual chlorine for two categories where chlorine may be used in the treatment process.

2. Toxic Pollutants. Forty-nine toxic pollutants were found at concentrations above treatability levels in steel industry wastewaters (see Appendix B). Thirty toxic pollutants were found in cokemaking wastewaters. The Agency is promulgating effluent limitations in one or more subcategories for the following toxic pollutants: cyanide, benzene, naphthalene, benzo(a)pyrene, tetrachloroethylene, chromium, lead, nickel, and zinc. These pollutants are subject to numerical limitations expressed in kilograms per 1000 kilograms (lbs/1000 lbs) of product. The remaining toxic pollutants found in steel industry wastewaters, which are not specifically limited in this regulation, will be controlled by limitations for "indicator" pollutants as discussed below. As noted above, for acid pickling and hot coating operations with fume scrubbers, mass limitations are expressed in kilograms per day for each scrubbing system.

3. Indicator Pollutants. The difficulty and cost of analyses for the many toxic pollutants found in steel industry wastewaters has prompted EPA to develop an alternative method of regulating certain toxic pollutants. Instead of promulgating specific effluent limitations for each of the forty-nine toxic pollutants found in the industry's wastewaters above treatability levels, the Agency is promulgating effluent limitations for certain "indicator" pollutants. These include chromium, lead, nickel, zinc, phenols (4AAP) and four toxic organic pollutants. The data available to EPA generally show that control of the selected "indicator" pollutants will result in comparable control 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, high cost, and delays of pollutant monitoring and analyses that would result if pollutant limitations were established for each toxic pollutant. EPA estimates that industry will save about \$5 million annually in monitoring and analysis costs with this approach as opposed to monitoring for all pollutants. Section V of Volume I of the Development Document discusses in detail the pollutants found in steel industry wastewaters and those for which the Agency is promulgating limitations and standards at the BAT and NSPS levels of treatment. Section X of each subcategory report discusses the bases for the selection of "indicator" pollutants.

D. PSES and PSNS. Except for PSES for cokemaking operations, the Agency is promulgating PSES and PSNS for the same toxic pollutants which are limited at BAT and NSPS. The Agency is promulgating those standards to insure against POTW upsets, to prevent contamination of POTW sludges and to guard against pass-through of toxic pollutants. The PSES and PSNS are expressed as maximum 30-day average and maximum daily mass limitations in kilograms per 1000 kilograms (lbs/1000 lbs) of product, except for acid pickling and hot coating operations with fume scrubbers where mass limitations are expressed in kilograms per day for each fume scrubber. As a general rule, the Agency establishes pretreatment standards on the basis of concentration. However, for the steel industry, the Agency believes the standards should be based upon mass limitations (kg/kkg) to insure that effective toxic pollutant control is provided and to minimize the hydraulic impact of large volume steel industry discharges on POTWs.

XIX. Pollutants and Subcategories not Regulated

The Settlement Agreement contained 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.

Paragraph 8(a)(iii) of the Revised 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 B to this regulation.

Paragraph 8(a)(iii) of the Revised Settlement Agreement allows the Administrator to exclude from regulation toxic pollutants detected in the effluent in only trace quantities and not likely to cause toxic effects. Appendix B lists the toxic pollutants which were detected in the effluent in trace amounts (at or below the nominal limit of analytical quantification), which are not likely to cause toxic effects and which are excluded from this regulation.

Paragraph 8(a)(iii) of the Revised Settlement Agreement allows the Administrator to exclude from regulation toxic pollutants detected in the effluent from a small number of sources and uniquely related to those sources. Appendix B contains a column labeled "Unique Occurrence" which

lists those pollutants detected in the effluents of only one plant and uniquely related to that plant, which have been excluded from the proposed regulation. Appendix C contains the list of pollutants, by subcategory, for which limitations are promulgated.

XX. Monitoring Recommendations

When required to carry out the objectives of the Act, EPA is authorized by Section 308 to require the owner or operator of a pollutant discharge source to establish and maintain records; make reports; install and use monitoring equipment or methods; sample effluents; and, provide such other information as the Administrator may reasonably require. The authority under section 308 has been frequently used by permit issuers to set monitoring requirements to "determine whether any person is in violation" of the requirements of a permit or other requirement of the Act (section 308(a)(2)). Additionally, EPA has frequently sought information under section 308 to aid in developing regulations for many industries.

In this and other regulations involving toxic pollutants, EPA has developed typical monitoring programs for direct and indirect dischargers for the purpose of estimating monitoring costs as part of the economic impact analysis of the regulation. These monitoring programs are not intended to supercede or duplicate existing compliance monitoring requirements set by NPDES permit authorities, but may be used as a guide in establishing minimum NPDES monitoring requirements. A minimum monitoring and analysis program is feasible at this time because only a small number of toxic pollutants are limited, the cost of toxic pollutant analyses has decreased, and laboratory availability and efficiency have dramatically increased since the initiation of this study.

The monitoring and analysis program considered by the Agency includes continuous flow monitoring, grab sampling for pH (3 grabs per day, once a week), and oil and grease (3 grabs/day, once a week), and the collection of 24-hour composite samples once per week for all limited pollutants except as noted below. More intensive monitoring is suggested for the period of time necessary to determine compliance with the final limitations and to acquire sufficient data to determine a correlation between the indicator pollutants and other toxic pollutants present in the wastewater. Accordingly, as of July 1, 1984, (the required compliance date for BAT), or as of the date of attainment of operational level of treatment facilities if such facilities

are completed prior to July 1, 1984, monitoring and analysis of the limited pollutants should be carried out on a schedule of five daily composite samples per week (once per week for GC/MS pollutants). Complete analyses should also be concurrently performed for all toxic metal and toxic organic pollutants present in wastewaters where toxic metals and organic compounds are specifically limited. When the appropriate regulatory authority determines that compliance has been demonstrated and sufficient data has been acquired to determine a correlation between the indicator and other toxic pollutants, monitoring can then be undertaken in accordance with the long term schedule discussed above. It should be noted that EPA may, on a case-by-case basis request collection of additional samples of raw wastewater or wastewater at points of intermediate treatment to determine treatment efficiencies.

XXI. Costs and Economic Impacts

The Agency estimated the costs and economic impacts of this regulation using two scenarios for the future demand for domestically produced steel products. In the first scenario, which is based on rapid growth in shipments reaching 116 million tons by 1990, the Agency estimates that this regulation will require the industry to invest about \$310 million (in constant 1980 dollars) by 1984 for existing sources and about \$420 by 1990 for new sources. This represents about a 12 percent increase in the industry's current investment in water pollution control facilities for existing sources. The new investment is also less than 2 percent of the capital expenditures projected for the industry in the 1980-1990 period. In the second scenario, which is based upon less expansionary demand for steel products, the Agency estimates that this regulation will require the industry to invest the same \$310 million by 1984, and about \$270 million by 1990 for new sources. These capital requirements and the annual costs of water pollution control equipment required by the regulation are summarized in Tables 1 and 2. The associated annualized incremental costs for the regulation (including interest, depreciation, operating, and maintenance) in Scenario 1 will be about \$72.6 million in 1984, increasing to \$127.1 million in 1990. The incremental effect of these costs on steel prices is estimated to be an increase of about 0.6 percent in the baseline price of a ton of steel. In Scenario 2, the annualized incremental costs for the regulation will be about \$76.5 million in

1984, and increase to \$99.0 million in 1990. By the early 1990's, the price per ton of steel will increase incrementally by about 0.6 percent under this scenario.

BPT EPA estimates that the steel industry must invest an additional \$213.2 million (in constant 1980 dollars) by 1984 to comply with the final BPT limitations. In Scenario 1, those guidelines will require incremental annualized costs (including interest, depreciation, operating and maintenance) of \$27.0 million in 1984, increasing to \$29.4 million in 1990. By 1990, total BPT investments of \$1,984.8 million will result in total annual costs of \$313.2 million. Total annualized costs under the second scenario will be \$298.1 million in 1990.

BAT EPA estimates that the steel industry must invest an additional \$70.1 million by 1984 to comply with the final BAT limitations. In Scenario 1, the incremental annual costs necessary to achieve the BAT limitations are about \$15.8 million in 1984 and \$16.3 million in 1990. Total annual costs will be \$21.9 million in 1990. In Scenario 2, incremental annual costs are about \$15.5 million in 1984, and \$15.9 million in 1990. Total annual costs under this scenario will be \$21.2 million.

PSES. Compliance with the final PSES is projected to require the industry to invest an additional \$26.3 million by 1984. In Scenario 1, the incremental annual costs necessary to achieve these standards are about \$4.9 million in 1984 and \$5.2 million in 1990. By 1990 total PSES investments of \$143.1 million will result in total annual costs of \$23.8 million. In Scenario 2, total annual costs will be slightly lower than in the first scenario and will equal \$22.9 million in 1990.

NSPS. To meet the final NSPS in the first scenario, the industry must invest an estimated \$420.5 million by 1990. The annual costs necessary to achieve these standards are about \$24.9 million in 1984 and \$76.2 million by 1990. In the second scenario, capital expenditures will amount to \$273.2 million by 1990 and annual costs will be \$27.4 million in 1984 and \$51.0 million in 1990.

TABLE 1.—STEEL INDUSTRY EFFLUENT REGULATION COSTS SCENARIO 1

(Million of 1980 dollars)

	Capital Costs ¹		
	Facilities in-place ²	Facilities re-quired	Total
BPT.....	\$1,771.6	\$213.2	\$1,984.8
BAT.....	26.4	70.1	96.5
PSES.....	116.8	26.3	143.1
Total.....	1,914.8	309.6	2,224.4

TABLE 1.—STEEL INDUSTRY EFFLUENT REGULATION COSTS SCENARIO 1—Continued

(Million of 1980 dollars)

	Capital Costs ¹		
	Facilities in-place ²	Facilities re-quired	Total
NSPS.....	0	420.5	420.5
PSNS.....	NA	NA	NA

NA=Not applicable. All new sources are assumed to be direct dischargers.

¹ Does not include the costs of water pollution controls installed by the industry but not required by the final regulations.

² Facilities in-place as of June 30, 1981.

	Annual Costs			
	Incremental		Total	
	1984	1990	1984	1990
BPT.....	\$27.0	\$29.4	\$297.3	\$313.2
BAT.....	15.8	16.3	21.2	21.9
PSES.....	4.9	5.2	22.4	23.8
Total.....	47.7	50.9	340.9	358.9
NSPS.....	24.9	76.2	24.9	76.2
PSNS.....	NA	NA	NA	NA

NA=Not applicable. All new sources are assumed to be direct dischargers.

TABLE 2.—STEEL INDUSTRY EFFLUENT REGULATION COSTS SCENARIO 2

(Million of 1980 dollars)

	Capital Costs ¹		
	Facilities in-place ²	Facilities re-quired	Total
BPT.....	\$1,771.6	\$213.2	\$1,984.8
BAT.....	26.5	70.1	96.4
PSES.....	116.8	26.3	143.1
Total.....	1,914.8	309.6	2,224.4
NSPS.....	0	273.2	273.2
PSNS.....	NA	NA	NA

NA=Not applicable. All new sources are assumed to be direct dischargers.

¹ Does not include the costs of water pollution controls installed by the industry but not required by the final regulations.

² Facilities in-place as of June 30, 1981.

	Annual Costs			
	Incremental		Total	
	1984	1990	1984	1990
BPT.....	\$28.7	\$27.2	\$305.4	\$298.1
BAT.....	15.5	15.9	20.7	21.2
PSES.....	4.9	4.9	22.7	22.9
Total.....	49.1	48.0	348.8	342.2
NSPS.....	27.4	51.0	27.4	51.0
PSNS.....	NA	NA	NA	NA

NA=Not applicable. All new sources are assumed to be direct dischargers.

The above capital costs for "facilities required" are different than those presented in the Development Document. The cost differences are largely due to differences in modeling of the industry and the fact that Development Document costs are in 1978 nominal dollars and the above

costs are in 1980 real dollars. These differences are fully explained in the economic impact report described below. The aggregate differences in these costs are not significant in terms of the results of the economic impact analysis and were, in fact, accounted for in a sensitivity analysis.

To account for the uncertainties facing the steel industry over the next decade, the Agency evaluated the economic impact of this regulation using the two scenarios described previously regarding the future demand for domestically produced steel products. Both scenarios are based upon the assumption that current government policies toward the industry will continue throughout the 1980s. The policies include: The Economic Recovery Tax Act of 1981 concerning corporate income tax rates, depreciation schedules, and investment tax credits; the relaxation of formal and informal steel price controls; and, effective enforcement of steel trade law including the trigger price mechanism.

As summarized in Table 3-5, the economic impact of this regulation is relatively small under either scenario. The incremental costs associated with the regulation result in incremental short-run changes in price, market share, employment and production of about 0.6 percent or less from their respective baseline levels, and about 0.6 percent for production. Except for a small price increase of about 0.6 percent in the early 1990's there are virtually no long run impacts on production, market share, or employment under either scenario.

The reduced economic impact associated with the recommended regulation compared to that of the proposed regulation is a result of the following: (1) Lower cost of this regulation; (2) a more favorable projected economic climate for the industry; and (3) a decrease in the Agency's estimate of the impact on capacity due to foregone industry modernization and reworks associated with water pollution control costs.

The economic impact analysis contains sensitivity analyses which account for effects of higher inflation rates and higher water pollution control costs than those contained in both scenarios; the stretchout of air pollution control costs; and whether profits will be increased or the price of the product will be reduced due to certain cost savings. These results are also summarized in Table 6. The projected economic impacts of the regulation do not differ significantly under the sensitivity analyses from the results described above except where the

estimates of water pollution control costs were doubled. In this case, the 1985 impacts increased from about 0.6 percent or less to about 1.2 percent or less. These impacts are also projected to disappear by 1990, except for a price increase of 0.9 percent. Thus the impact of the regulation remained minor even with doubling of water pollution control costs.

In addition to the industry-wide economic impact analysis, the Agency analyzed the impact of increased costs associated with this regulation upon potential plant closures. The Agency analyzed models of the twelve steel plants which were expected to be most seriously affected by additional water pollution control costs. For each model plant analyzed, the incremental increases in total production costs associated with compliance with the BPT and BAT limitations are less than one percent. On that basis, the Agency concluded that increases in operating costs associated with this regulation are unlikely to result in the closure of any of the model plants or processes within those plants.

In summary, the Agency concludes that the economic impacts of the additional water pollution control costs likely to be incurred as a result of this regulation are not significant.

TABLE 3.—SHORT-RUN ECONOMIC IMPACT OF FINAL WATER POLLUTION CONTROL REGULATIONS, 1984

	Price (1980 dollars per ton)	Domestic shipments (millions of tons)	Market share (percent)	Employment (thousands of employees)
Industry Status in 1980 ¹	1496.84	83.90	83.70	399.00
Scenario 1:				
Baseline.....	519.33	100.71	80.28	441.66
Added Water Costs.....	520.11	100.10	79.80	439.48
Scenario 2:				
Baseline.....	519.45	102.71	83.53	462.54
Added Water Costs.....	520.18	102.06	83.01	460.15

¹Price as of December 30, 1980.
²Source: AISI Statistical Report 1980.

TABLE 4.—SHORT-RUN ECONOMIC IMPACT OF FINAL WATER POLLUTION CONTROL REGULATIONS, 1985

	Price (1980 dollars per ton)	Domestic shipments (millions of tons)	Market share (percent)	Employment (thousands of employees)
Industry Status in 1980 ¹	1496.84	83.90	83.70	399.00
Scenario 1:				
Baseline.....	533.86	98.77	77.28	425.78
Added Water Costs.....	535.18	98.15	76.80	423.60

TABLE 4.—SHORT-RUN ECONOMIC IMPACT OF FINAL WATER POLLUTION CONTROL REGULATIONS, 1985—Continued

	Price (1980 dollars per ton)	Domestic shipments (millions of tons)	Market share (percent)	Employment (thousands of employees)
Scenario 2:				
Baseline.....	533.21	101.21	82.87	448.67
Added Water Costs.....	534.52	100.54	82.32	446.20

¹Price of December 30, 1980.
²Source: AISI Statistical Report 1980

TABLE 5.—LONG-RUN ECONOMIC IMPACT OF FINAL WATER POLLUTION CONTROL REGULATIONS, 1990

	Price (1980 dollars per ton)	Domestic shipments (millions of tons)	Market share (percent)	Employment (thousands of employees)
Industry Status in 1980 ¹	1496.84	83.90	83.70	399.00
Scenario 1:				
Baseline.....	558.80	116.00	84.50	459.11
Added Water Costs.....	562.06	116.00	84.50	459.96
Scenario 2:				
Baseline.....	555.28	103.39	80.67	401.86
Added Water Costs.....	556.72	102.95	80.33	400.78

¹Prices as of December 30, 1980.
²Source: AISI Statistical Report 1980.

XXII. Non-Water Quality Aspects of Pollution Control

The elimination or reduction of one form of pollution may aggravate other environmental problems. Sections 304(b) and 306 of the Act require EPA to consider the non-water quality environmental impacts (including energy requirements) of certain regulations. In compliance with these provisions, EPA considered the effect of this regulation on air pollution, solid waste generation, water consumption, and energy consumption. This regulation was circulated to and reviewed by EPA personnel responsible for non-water quality programs. While it is difficult to balance pollution problems against each other and against energy use, EPA is promulgating a regulation which it believes best serves often competing national goals.

A detailed discussion of these impacts is contained in Section VIII of each subcategory report of the Development Document. Following is a summary of the non-water quality environmental impacts associated with this regulation:

A. Air Pollution. Industry compliance with the proposed BPT, BAT, NSPS, PSES, and PSNS limitations and

standards will not create any substantial air pollution problems. However, in several subcategories, slight air impacts can be expected. For example, minimal amounts of volatile organic compounds may be released to the atmosphere by aeration of cokemaking wastewaters in biological treatment; small emissions of air pollution may result if ironmaking wastewaters are used to quench the hot slag generated in the process; and, water vapor containing some particulate matter will be released from the cooling tower systems used in several of the subcategories. The Agency does not consider any of these impacts to be significant.

B. Solid Waste. The Agency has determined that about 20 million tons per year of solid waste (at 30% solids) have been and will be generated by the steel industry in complying with this regulation. Of this amount, almost all is currently generated by the steel industry in complying with current NPDES permit conditions. This solid waste is comprised almost entirely of treatment plant sludges. EPA recognizes that significant quantities of other solid wastes, such as steelmaking slag and blast furnace slag, are generated by the steel industry. However, those solid wastes are generated by the manufacturing processes and are not associated with this water pollution control regulation. For this reason, process solid wastes are not included in this impact analysis. The cost of disposing of these solid wastes were included as baseline costs in the economic impact analysis.

The data gathered for this study demonstrate that the industry collects and disposes of most sludges currently generated in existing treatment systems. Hence, the industry is presently incurring sludge disposal costs and finding the necessary disposal sites. The Agency believes that the industry will continue to be able to do so. (EPA is unable to accurately estimate the number of disposal sites that are secure, well maintained operations). The average sludge disposal cost used in this analysis is \$5.00 per ton for sludges not classified as hazardous under RCRA and \$18.00 per ton for hazardous wastes. These costs were included in the economic impact analysis. The Agency has determined that the solid waste impacts associated with this regulation are small.

C. Consumptive Water Loss. Water loss is a remand issue of the 1974 and 1976 regulations. As discussed in detail in Section III of Volume I of the Development Document, the Agency

concludes that the benefits derived from compliance with the limitations justify the negative impacts associated with the consumption of water. The Agency has reached this conclusion after considering this issue on both an industry-wide basis and on a water-scarce regional basis.

D. Energy Requirements. EPA estimates that compliance with this regulation will result in a net increase of electrical energy consumption at the BPT and BAT levels of treatment as shown below:

Treatment level	Net energy consumption (kw-hr) (billion)
BPT.....	1.24
BAT.....	0.08
PSES.....	0.09
Total.....	1.41

The electric power requirements associated with the limitations and standards for existing sources amount to 2.7 percent of the 52.3 billion kw-hrs of electrical energy consumed by the steel industry in 1980. This amounts to only 0.2 percent of the total energy (electrical and non-electric) consumed by the industry. The Agency concludes that the impacts of energy consumed from compliance with this regulation are justified by the benefits derived from compliance with the limitations and standards.

XXIII. Best Management Practices (BMPs)

Section 304(e) of the Clean Water Act authorizes the Administrator to prescribe "best management practices" ("BMPs"). EPA intends to develop BMPs which are: (1) Applicable to all industrial sites; (2) applicable to a designated industrial category; and (3) provide guidance to permit authorities in establishing BMPs required by unique circumstances at a given plant.

EPA is not promulgating BMPs specific to the steel industry in this regulation.

XXIV. Upset and Bypass Provisions

An issue of recurrent concern has been whether industry guidelines should include provisions authorizing noncompliance with effluent limitations during periods of "upset" or "bypass." An upset, sometimes called an "excursion," is unintentional noncompliance occurring for reasons beyond the reasonable control of the permittee. It has been argued that an upset provision in EPA's effluent

guidelines is necessary because such upsets will inevitably occur in even properly operated control equipment. Because technology-based limitations are based upon what technology can achieve, it is claimed that liability for such situations is improper. When confronted with this issue, courts have been divided on the question of whether an explicit upset or excursion incidents may be handled through EPA's exercise of enforcement discretion. Compare *Marathon Oil Co. v. EPA*, 564 F.2d 1253 (9th Cir. 1977) with *Weyerhaeuser v. Costle, supra* and *Corn Refiners Association, et al. v. Costle*, 594 F.2d 1223 (8th Cir. 1979). See also *American Petroleum Institute v. EPA*, 540 F.2d 1023 (10th Cir. 1976); *CPC International, Inc. v. Train*, 540 F.2d 1320 (8th Cir. 1976); *FMC Corp. v. Train*, 539 F.2d 973 (4th Cir. 1976).

While an upset is an unintentional episode during which effluent limits are exceeded, a bypass is an act of intentional noncompliance during which waste treatment facilities are circumvented. Bypass provisions covering emergency situations have, in the past, been included in NPDES permits.

EPA has determined that both upset and bypass provisions should be included in NPDES permits and they are included in the NPDES regulations, 40 CFR § 122.60, 45 FR 33298; May 19, 1980. The upset provisions 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. Because this issue is resolved in the NPDES permit regulations, this regulation does not address these issues.

XXV. Variances and Modifications

Upon the promulgation of this regulation, the numerical effluent limitations for the appropriate subcategory must be included in all federal and state NPDES permits thereafter issued to steel industry direct dischargers. In addition, the pretreatment standards are directly applicable to indirect dischargers upon promulgation.

For the BPT limitations, the only exception to the binding limitations is EPA's "fundamentally different factors" variance. See *E. I. duPont de Nemours and Co. v. Train*, 430 U.S. 112 (1977); *Weyerhaeuser Co. v. Costle, supra*. This variance recognizes factors concerning a particular discharger which are fundamentally different from the factors considered in this rulemaking. Although this variance clause was set forth in

EPA's 1974-1976 steel industry regulations, it is now included in the NPDES regulations and is not included in the steel or other industry regulations. See the final NPDES regulations, Act 45 FR 33290 (May 19, 1980), for the text and explanation of the "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 non-toxic and non-conventional pollutants are subject to modifications under sections 301(c) and 301(g) of the Act. According to section 301(j)(1)(B), applications for these modifications must be filed within 270 days after promulgation of final effluent limitations guidelines. See 40 CFR Part 125 Part D. Under section 301(1) of the Act, these statutory modifications are not applicable to "toxic" pollutants. Likewise, limitations on nonconventional pollutants used as "indicators" for toxic pollutants are not subject to section 301(c) or section 301(g) modifications, unless the discharger demonstrates that a waste stream does not contain any of the toxic pollutants for which the "indicator" was designed to demonstrate removal.

Pretreatment standards for existing sources are subject to the "fundamentally different factors" variance and credits for pollutants removed by POTWs. See 40 CFR 403.7, 403.13; 43 FR 27736 (June 26, 1978). Pretreatment standards for new sources are subject only to the credits provision in 40 CFR 403.7. New source performance standards are not subject to EPA's "fundamentally different factors" variance or any statutory or regulatory modifications. See *duPont v. Train, supra*.

XXVI. Relationship to NPDES Permits

1. Administrative Issues. The BPT, BAT, and NSPS limitations and standards in this regulation will be applied to individual steel plants through NPDES permits issued by EPA or approved state agencies under section 402 of the Act. The preceding section of this preamble discussed the binding effect of this regulation of NPDES permits, except to the extent that variances and modifications are expressly authorized. This section describes several other aspects of the interaction of this regulation and NPDES permits.

One matter which has been subject to different judicial views is the scope of NPDES permit proceedings in the absence of effluent limitations, guidelines and standards. Under

currently applicable EPA regulations, states and EPA Regions issuing NPDES permits prior to promulgation of this regulation and before June 30, 1981 must include a "reopener clause," providing for permits to be modified to incorporate "toxics" regulations when they are promulgated. Permits issued after June 30, 1981 must meet the requirements of sections 301(b)(2) of the Clean Water Act whether or not applicable effluent limitation guidelines have been promulgated. See 40 CFR 122.62(c), 44 FR 33290, 33339 (May 19, 1980).

The promulgation of this regulation does not restrict the power of any permit-issuing authority to act in any manner not inconsistent with law or these or any other EPA regulations, guidelines or policy. For example, the fact that this regulation does not control a particular pollutant does not preclude the permit issuer from limiting such pollutant on a case-by-case basis when 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.

2. Enforcement. An additional topic that warrants discussion is the operation of EPA's NPDES enforcement program, many aspects of which have been considered in developing this regulation. The Agency wishes to emphasize that, although the Clean Water Act is a strict liability statute, the initiation of enforcement proceedings by EPA is discretionary. EPA has exercised and intends to exercise that discretion in a manner which recognizes and promotes good faith compliance efforts and conserves enforcement resources so as to maximize their availability for actions against those who fail to make good faith efforts to comply with the Act.

3. Application of Effluent Limitations. As noted in each subcategory report of the Development Document, all of the limitations and standards contained in this regulation were developed on a gross basis; that is, the performance of the model treatment systems was determined without subtracting contributions of regulated pollutants in intake waters. The Agency determined

that in no case it investigated did regulated pollutant levels found in the intake waters have an impact on the effluent quality from the model treatment systems. All of the limitations and standards contained in this regulation should be applied on a gross basis with no allowance for pollutants in the intake waters, except in those instances where allowances may be granted in accordance with the net/gross provisions of the consolidated NPDES permit regulations.

4. Alternate Effluent Limitations—Water Bubble. The Agency's responses to comments received on the proposed water bubble policy are presented in Section XVI. The final water bubble policy as it pertains to the steel industry is outlined in Section XVI and presented in the regulation, (Section 420.03).

XXVII. Executive Order 12291

Under Executive Order 12291, The Agency must determine whether a regulation is "Major" and therefore subject to the requirement of a Regulatory Impact Analysis. This regulation is Major and requires a Regulatory Impact Analysis because the annual effect on the economy is more than \$100 million. The Regulatory Impact Analysis for this regulation can be obtained from Alec McBride, Monitoring and Data Support Division, WH-553, US EPA, 401 M Street, S.W., Washington, D.C. 20460.

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291. Any comments from OMB to EPA and any EPA response to those comments are available for public inspection at the EPA Public Information Reference Unit, Room 2922 (EPA Library), Environmental Protection Agency, 401 M Street, S.W., Washington, D.C.

XXVIII. Regulatory Flexibility Analysis

Pub. L. 96-354 requires EPA to prepare an Initial regulatory Flexibility Analysis for all regulations that may have a significant impact on a substantial number of small entities. This analysis may be done in conjunction with or as a part of any other analysis conducted by the Agency. The economic impact analysis described above indicates that there will not be a significant impact on any segment of the regulated population, large or small. Therefore, the Agency

determined that a formal regulatory flexibility analysis is not required for this regulation.

XXIX. List of Subjects in 40 CFR Part 420

Iron, Steel, Water pollution control, Wastewater treatment and disposal.

Dated: May 18, 1982.

Ann M. Gorsuch,
Administrator.

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.
- BMP—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)
- Direct Discharger—A facility which discharges or may discharge pollutants directly into waters of the United States
- Indirect Discharger—A facility which introduces or may introduce 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) of the Act
- PSNS—Pretreatment standards for new sources of direct 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—Development of Regulated Pollutant List Iron & Steel Industry

No	Pollutant	Not deleted	Unique occurrence	Not treatable	Regulation Considered
001	Acenaphthene	-	-	-	X
002	Acrolein	X	-	-	-

Appendix B—Development of Regulated Pollutant List Iron & Steel Industry—Continued

No	Pollutant	Not deleted	Unique occurrence	Not treatable	Regulation Considered
003	Acrylonitrile	-	-	-	X
004	Benzene	-	-	-	X
005	Benzidine	X	-	-	-
006	Carbon Tetrachloride	X	-	-	X
007	Chlorobenzene	X	-	-	-
008	1,2,4-Trichlorobenzene	X	-	-	-
009	Hexachlorobenzene	-	-	-	X
010	1,2-Dichloroethane	-	-	X	-
011	1,1,1-Trichloroethane	-	-	-	X
012	Hexachloroethane	X	-	-	-
013	1,1-Dichloroethane	-	-	-	X
014	1,1,2-Trichloroethane	-	X	-	-
015	1,1,2,2-Tetrachloroethane	-	-	X	-
016	Chloroethane	X	-	-	-
017	Bis(chloromethyl)ether	X	-	-	-
018	Bis(2-chloroethyl)ether	X	-	-	-
019	2-Chloroethyl vinyl ether	X	-	-	-
020	2-Chloronaphthalene	-	-	X	-
021	2,4,6-Trichlorophenol	-	-	X	-
022	Parachlorometacresol	-	-	-	X
023	Chloroform	-	-	-	X
024	2-Chlorophenol	-	-	X	-
025	1,2-Dichlorobenzene	-	-	X	-
026	1,3-Dichlorobenzene	X	-	-	-
027	1,4-Dichlorobenzene	-	-	X	-
028	3,3'-Dichlorobenzidine	X	-	-	-
029	1,1-Dichloroethylene	-	X	-	-
030	1,2-Transdichloroethylene	-	-	X	-
031	2,4-Dichlorophenol	-	-	X	-
032	1,2-Dichloropropane	X	-	-	-
033	1,2-Dichloropropylene	X	-	-	-
034	2,4-Dimethylphenol	-	-	-	X
035	2,4-Dinitrotoluene	-	-	-	X
036	2,6-Dinitrotoluene	-	-	-	X
037	1,2-Diphenylhydrazine	-	-	X	-
038	Ethylbenzene	-	-	-	X
039	Fluoranthene	-	-	-	X
040	4-Chlorophenyl phenyl ether	X	-	-	-
041	4-Bromophenyl phenyl ether	X	-	-	-
042	Bis (2-chloroisopropyl)ether	X	-	-	-
043	Bis (2-chloroethoxy)methane	X	-	-	-
044	Methylene chloride	-	-	X	-
045	Methyl chloride	X	-	-	-
046	Methyl bromide	X	-	-	-
047	Bromoform	X	-	-	-
048	Dichlorobromomethane	-	-	X	-
049	Trichlorofluoromethane	X	-	-	-
050	Dichlorodifluoromethane	X	-	-	-
051	Chlorodibromomethane	X	-	-	-
052	Hexachlorobutadiene	X	-	-	-
053	Hexachlorocyclopentadiene	X	-	-	-
054	Isophorone	-	-	X	-
055	Naphthalene	-	-	-	X
056	nitrobenzene	-	-	X	-
057	2-Nitrophenol	-	-	X	-
058	4-Nitrophenol	-	-	-	X
059	2,4-Dinitrophenol	-	-	X	-
060	4,6-Dinitro-o-cresol	-	-	-	X
061	N-Nitrosodimethylamine	X	-	-	-
062	N-Nitrosodiphenylamine	X	-	-	-
063	N-Nitrosod-n-propylamine	X	-	-	-
064	Pentachlorophenol	-	-	-	X
065	Phenol	-	-	-	X
066	Bis(2-ethylhexyl)phthalate	-	-	-	X
067	Butyl benzyl phthalate	-	-	-	X
068	Di-n-butyl phthalate	-	-	-	X
069	Di-n-octyl phthalate	-	-	-	X
070	Diethyl phthalate	-	-	-	X
071	Dimethyl phthalate	-	-	-	X
072	Benzo(a)anthracene	-	-	-	X
073	Benzo(a)pyrene	-	-	-	X
074	3,4-Benzofluoranthene	-	X	-	-
075	Benzo(k)fluoranthene	-	X	-	-
076	Chrysene	-	-	-	X
077	Acenaphthylene	-	-	-	X
078	Anthracene	-	-	-	X
079	Benzo(ghi)perylene	-	X	-	-
080	Fluorene	-	-	-	X
081	Phenanthrene	-	-	-	X
082	Dibenzo(a,h)-anthracene	-	X	-	-
083	Indeno(1,2,3,cd)pyrene	-	X	-	-
084	Pyrene	-	-	-	X
085	Tetrachloroethylene	-	-	-	X
086	Toluene	-	-	-	X
087	Trichloroethylene	-	-	-	X
088	Vinyl Chloride	-	X	-	-
089	Aldrin	-	X	-	-
090	Dieldrin	-	X	-	-
091	Chlordane	-	X	-	-
092	4,4'-DDT	-	X	-	-
093	4,4'-DDE	-	X	-	-

Appendix B—Development of Regulated Pollutant List Iron & Steel Industry—Continued

No	Pollutant	Not deleted	Unique occurrence	Not treatable	Regulation Considered
094	4,4'-DDD.....	-	X	-	-
095	a-endosulfan-Alpha.....	-	X	-	-
096	b-endosulfan-Beta.....	-	X	-	-
097	Endosulfan sulfate.....	-	X	-	-
098	Endrin.....	-	X	-	-
099	Endrin aldehyde.....	-	X	-	-
100	Heptachlor.....	-	X	-	-
101	Heptachlorepoxyde.....	-	X	-	-
102	a-BHC-Alpha.....	-	X	-	-
103	b-BHC-Beta.....	-	X	-	-
104	r-BHC-Gamma.....	-	X	-	-
105	g-BHC-Delta.....	-	X	-	-
106	PCB-1242.....	-	X	-	-
107	PCB-1254.....	-	X	-	-
108	PCB-1221.....	-	X	-	-
109	PCB-1232.....	-	X	-	-
110	PCB-1248.....	-	X	-	-
111	PCB-1260.....	-	X	-	-
112	PCB-1016.....	-	X	-	-
113	Toxaphene.....	-	X	-	-
114	Antimony.....	-	-	-	X
115	Arsenic.....	-	-	-	X
116	Asbestos.....	X	-	-	-
117	Beryllium.....	-	-	X	-
118	Cadmium.....	-	-	-	X
119	Chromium.....	-	-	-	X
120	Copper.....	-	-	-	X
121	Cyanide.....	-	-	-	X
122	Lead.....	-	-	-	X
123	Mercury.....	-	-	X	-
124	Nickel.....	-	-	-	X
125	Selenium.....	-	-	-	X
126	Silver.....	-	-	-	X
127	Thallium.....	-	-	-	X
128	Zinc.....	-	-	-	X
129	2,3,7,8-Tetrachlorodibenzo-p-dioxin.....	X	-	-	-
130	Xylene.....	-	-	-	X
	Aluminum.....	-	-	-	X
	Ammonia-n.....	-	-	-	X
	Dissolved Iron.....	-	-	-	X
	Fluoride.....	-	-	-	X
	Hexavalent Chromium.....	-	-	-	X
	Manganese.....	-	X	-	-
	Oil and Grease.....	-	-	-	X
	pH.....	-	-	-	X
	Phenols(4AAP).....	-	-	-	X
	Chlorine Residual.....	-	-	-	X
	Total Suspended Solids.....	-	-	-	X

Key:
 X: Indicates heading which applies to pollutant.
 -: Indicates heading which does not apply to pollutant.
 Not Detected: Not detected in any raw waste samples analyzed.
 Unique Occurrence: Found at one or two plants at low levels.
 Not Treatable: Detected at levels below practical treatability levels.
 Reg. Considered: Found in average concentrations of greater than 10 ppb in at least one iron and steel subcategory.

Appendix C—Regulated Pollutants Iron & Steel Industry

- A. Cokemaking
 - Total Suspended Solids
 - Oil & Grease
 - Ammonia
 - Cyanide
 - Phenols (4AAP)
 - Benzene
 - Naphthalene
 - Benzo (a)pyrene
 - pH
- B. Sintering
 - Total Suspended Solids
 - Oil & Grease
 - Ammonia
 - Cyanide
 - Phenols (4AAP)
 - Total Residual Chlorine
 - Lead
 - Zinc
 - pH
- C. Ironmaking
 - Total Suspended Solids

- Oil & Grease
- Ammonia
- Cyanide
- Phenols (4AAP)
- Benzene
- Total Residual Chlorine
- Lead
- Zinc
- pH
- D. Steelmaking
 - 1. Basic Oxygen Furnace
 - Total Suspended Solids
 - Lead
 - Zinc
 - pH
 - 2. Open Hearth Furnace
 - Total Suspended Solids
 - Lead
 - Zinc
 - pH
 - 3. Electric Arc Furnace
 - Total Suspended Solids
 - Lead
 - Zinc
 - pH

- E. Vacuum Degassing
 - Total Suspended Solids
 - Lead
 - Zinc
 - pH
- F. Continuous Casting
 - Total Suspended Solids
 - Oil & Grease
 - Lead
 - Zinc
 - pH
- G. Hot Forming
 - Total Suspended Solids
 - Oil & Grease
 - pH
- H. Scale Removal
 - 1. Oxidizing
 - Total Suspended Solids
 - Chromium
 - Nickel
 - pH
 - 2. Reducing
 - Total Suspended Solids
 - Cyanide

- Chromium
Nickel
pH
- I. Acid Pickling**
1. Sulfuric Acid Pickling
Total Suspended Solids
Lead
Zinc
pH
2. Hydrochloric Acid Pickling
Total Suspended Solids
Lead
Zinc
pH
3. Combination Acid Pickling
Total Suspended Solids
Chromium
Nickel
pH
- J. Cold Forming**
Total Suspended Solids
Oil & Grease
Chromium
Lead
Nickel
Zinc
Naphthalene
Tetrachloroethylene
pH
- K. Alkaline Cleaning**
Total Suspended Solids
Oil and Grease
pH
- L. Hot Coating**
Total Suspended Solids
Oil & Grease
Chromium (Hexavalent)
Lead
Zinc
pH
- Title 40 of the Code of Federal Regulations is amended by revising Part 420 to read as follows:

**PART 420—IRON AND STEEL
MANUFACTURING POINT SOURCE
CATEGORY**

General Provisions

- Sec.
420.01 Applicability.
420.02 General definitions.
420.03 Alternate effluent limitations

Subpart A—Cokemaking Subcategory

- 420.10 Applicability; description of the cokemaking subcategory.
420.11 Specialized definitions.
420.12 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
420.13 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
420.14 New source performance standards (NSPS).
420.15 Pretreatment standards for existing sources (PSES).

- Sec.
420.16 Pretreatment standards for new sources (PSNS).
420.17 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Subpart B—Sintering Subcategory

- 420.20 Applicability; description of the sintering subcategory.
420.21 Specialized definitions.
420.22 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
420.23 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
420.24 New source performance standards (NSPS).
420.25 Pretreatment standards for existing sources (PSES).
420.26 Pretreatment standards for new sources (PSNS).
420.27 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

Subpart C—Ironmaking Subcategory

- 420.30 Applicability; description of the ironmaking subcategory.
420.31 Specialized definitions.
420.32 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
420.33 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
420.34 New source performance standards (NSPS).
420.35 Pretreatment standards for existing sources (PSES).
420.36 Pretreatment standards for new sources (PSNS).
420.37 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

Subpart D—Steelmaking Subcategory

- 420.40 Applicability; description of the steelmaking subcategory.
420.41 Specialized definitions.
420.42 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
420.43 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
420.44 New source performance standards (NSPS).
420.45 Pretreatment standards for existing sources (PSES).

- Sec.
420.46 Pretreatment standards for new sources (PSNS).
420.47 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

Subpart E—Vacuum Degassing Subcategory

- 420.50 Applicability; description of the vacuum degassing subcategory.
420.51 Specialized definitions.
420.52 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
420.53 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
420.54 New source performance standards (NSPS).
420.55 Pretreatment standards for existing sources (PSES).
420.56 Pretreatment standards for new sources (PSNS).
420.57 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

Subpart F—Continuous Casting Subcategory

- 420.60 Applicability; description of the continuous casting subcategory.
420.61 Special definitions.
420.62 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
420.63 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
420.64 New source performance standards (NSPS).
420.65 Pretreatment standards for existing sources (PSES).
420.66 Pretreatment standards for new sources (PSNS).
420.67 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Subpart G—Hot Forming Subcategory

- 420.70 Applicability; description of the hot forming subcategory.
420.71 Specialized definitions.
420.72 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
420.73 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

- Sec.
 420.74 New source performance standards (NSPS).
 420.75 Pretreatment standards for existing sources (PSES).
 420.76 Pretreatment standards for new sources (PSNS).
 420.77 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Subpart H—Scale Removal Subcategory

- 420.80 Applicability; description of the scale removal subcategory.
 420.81 Specialized definitions.
 420.82 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
 420.83 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
 420.84 New source performance standards (NSPS).
 420.85 Pretreatment standards for existing sources (PSES).
 420.86 Pretreatment standards for new sources (PSNS).
 420.87 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Subpart I—Acid Pickling Subcategory

- 420.90 Applicability; description of the acid pickling subcategory.
 420.91 Specialized definitions.
 420.92 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
 420.93 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
 420.94 New source performance standards (NSPS).
 420.95 Pretreatment standards for existing sources (PSES).
 420.96 Pretreatment standards for new sources (PSNS).
 420.97 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Subpart J—Cold Forming Subcategory

- 420.100 Applicability; description of the cold forming subcategory.
 420.101 Specialized definitions.
 420.102 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
 420.103 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).
 420.104 New source performance standards (NSPS).

- Sec.
 420.105 Pretreatment standards for existing sources (PSES).
 420.106 Pretreatment standards for new sources (PSNS).
 420.107 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Subpart K—Alkaline Cleaning Subcategory

- 420.110 Applicability; description of the alkaline cleaning subcategory.
 420.111 Specialized definitions.
 420.112 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).
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 420.114 New source performance standards (NSPS).
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Subpart L—Hot Coating Subcategory

- 420.120 Applicability; description of the hot coating-galvanizing subcategory.
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 420.124 New source performance standards (NSPS).
 420.125 Pretreatment standards for existing sources (PSES).
 420.126 Pretreatment standards for new sources (PSNS).
 420.127 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

Authority: Sections 301; 304 (b), (c), (e), and (g); 306 (b) and (c); 307; 308 and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, as amended by the Clean Water Act of 1977) (the "Act"); 33 U.S.C. 1311; 1314 (b), (c), (e), and (g); 1316 (b) and (c); 1317; 1318; and 1361; 86 Stat. 816, Pub. L. 92-500; 91 Stat. 1567; Pub. L. 95-217.

General Provisions

§ 420.01 Applicability.

(a) The provisions of this part apply to discharges and to the introduction of pollutants into a publicly owned treatment works resulting from production operations in the Iron and Steel Point Source Category.

(b) Control Treatment Facilities: The following central treatment facilities presently discharging through the specified outfall are temporarily excluded from the provisions of this part, *provided*, the owner or operator of the facility requests the Agency to consider establishing alternative effluent limitations and provides the Agency with the information set out in section (b)(2), on or before July 26, 1982.

Plant	NPDES permit No.	Central treatment facility
1. Armco Steel, Ashland, KY.	KY 0000485	Total Plant.
2. Bethlehem Steel, Sparrows Point, MD.	MD 0001201	Humphrey's Creek Outfall 014.
3. Bethlehem Steel, Burns Harbor, IN.	IN 0000175	Total Plant.
4. Ford Motor Co., Dearborn, MI.	MI 0003361	Schaefer Road Treatment Plant.
5. Interlake, Inc., ¹ Riverdale, IL.	IL 0002119	Discharge to POTW.
6. J&L Steel, Aliquippa, PA.	PA 0006131	Chemical Rinse Treatment Plant Outfall 018.
7. J&L Steel, Cleveland, OH.	OH 0000850	Hot Forming and Finishing Treatment Plant.
8. J&L Steel, Hennepin, IL.	IL 0002631	Total Plant.
9. J&L Steel, Louisville, OH.	OH 0007188	Total Plant.
10. J&L Steel, East Chicago, IN.	IN 0000205	Terminal Treatment Plant.
11. Laclede Steel, Alton, IL.	IL 0000612	Total Plant.
12. National Steel, Granite City, IL.	IL 0000329	Total Plant.
13. National Steel, Portage, IN.	IN 0002445	Total Plant.
14. National Steel, Weirton, WV.	WV 0003336	Outfall B.
15. Republic Steel, Gadsden, AL.	AL 0003522	Total Plant.
16. Republic Steel, ¹ Chicago, IL 0002593.	IL 0002593	Discharge to POTW.
17. U.S. Steel, Lorain, OH.	OH 0001562	Pipe Mill Lagoon.
18. U.S. Steel, Provo, UT.	UT 0000361	Total Plant.
19. U.S. Steel, Fairless Hills, PA.	PA 0013463	Terminal Treatment Plant.
20. U.S. Steel, Gary, IN.	IN 0000281	Terminal Lagoons.
21. U.S. Steel, ¹ Chicago, IL.	IL 0002691	Discharge to POTW.

¹The request for alternative effluent limitations for these plants are for indirect discharges to POTWs

(2) The information to be submitted with the request for consideration of alternative effluent limitations is to include:

(i) A schematic diagram of the existing wastewater treatment facility showing each source of wastewater, cooling water, and other waters entering the treatment facility; discharge and recycle flow rates for each water source and each major treatment component;

(ii) Existing monitoring data relating to discharges to and from the central treatment facility including pollutant concentrations, flows and mass loadings; As a minimum, monitoring data should be provided for a six month period of normal operation of the

production and treatment facilities. The complete data as well as a data summary including the maximum, minimum, and mean gross discharge loadings and the standard deviation of the discharge loadings for each monitored pollutant should be provided. Any supplemental monitoring data for toxic pollutants should also be provided.

(iii) A scale map of the area of the plant served by the wastewater treatment facility, including the treatment facility and water supply and discharge points;

(iv) An estimate of the least costly investment required to meet the generally applicable limitations or standards for the facility and a description of such treatment system including schematic diagrams showing the major treatment system components and flow rates through the system. As a minimum, the cost estimates should be comprised of a single page summary for each water pollution control system showing estimated installed direct cost totals for mechanical equipment; piping and instrumentation; foundations and structural components; and, electrical components. Indirect costs for contingencies, overhead and profit, engineering fees, and any other indirect costs must be itemized separately. The sum of the direct and indirect costs which represents the owner's or operator's total estimate, must be shown.

(v) The effluent limitations or standards which could be achieved if the discharger were to spend an amount equal to the Agency's model treatment system cost estimate for the facility and the treatment facilities which would be used to meet those limitations or standards. Schematic diagrams and cost estimates as outlined in paragraph (b)(2)(iv) above should be provided for each treatment system; and,

(vi) Production rates in tons per day for each process contributing wastewater to the central treatment facility consistent with those reported by the owner or operator in the NPDES permit application for the central treatment facility.

(3) The request described in subsection (b)(1) above must be based upon the owner's or operator's belief that the cost of bringing the specified central treatment facilities into compliance with the provisions of this part would require expenditures so high compared to the Agency's model treatment system cost estimate applicable to that facility that the applicable limitations or standards would not represent BPT, BAT, BCT, or

PSES, as the case may be, for the facility.

§ 420.02 General definitions.

In addition to the definitions set forth in 40 CFR Part 401, the following definitions apply to this part:

(a) The term "TSS" (or total suspended solids, or total suspended residue) means the value obtained by the method specified in 40 CFR 136.3.

(b) The term "oil and grease" (or O&G) means the value obtained by the method specified in 40 CFR 136.3.

(c) The term "ammonia-N" (or ammonia-nitrogen) means the value obtained by manual distillation (at pH 9.5) followed by the Nesslerization method specified in 40 CFR 136.3.

(d) The term "cyanide" means total cyanide and is determined by the method specified in 40 CFR 136.3.

(e) The term "phenols 4AAP" (or phenolic compounds) means the value obtained by the method specified in 40 CFR 136.3.

(f) The term "TRC" (or total residual chlorine) means the value obtained by the iodometric titration with an amperometric endpoint method specified in 40 CFR 136.3.

(g) The term "chromium" means total chromium and is determined by the method specified in 40 CFR 136.3.

(h) The term "hexavalent chromium" (or chromium VI) means the value obtained by the method specified in 40 CFR 136.3.

(i) The term "copper" means total copper and is determined by the method specified in 40 CFR 136.3.

(j) The term "lead" means total lead and is determined by the method specified in 40 CFR 136.3.

(k) The term "nickel" means total nickel and is determined by the method specified in 40 CFR 136.3.

(l) The term "zinc" means total zinc and is determined by the method specified in 40 CFR 136.3.

(m) The term "benzene" (or priority pollutant No. 4) means the value obtained by the standard method Number 602 specified in 44 FR 69464, 69570 (December 3, 1979).

(n) The term "benzo(a)pyrene" (or priority pollutant No. 73) means the value obtained by the standard method Number 610 specified in 44 FR 69464, 69570 (December 3, 1979).

(o) The term "naphthalene" (or priority pollutant No. 55) means the value obtained by the standard method Number 610 specified in 44 FR 69464, 69571 (December 3, 1979).

(p) The term "tetrachloroethylene" (or

priority pollutant No. 85) means the value obtained by the standard method Number 610 specified in 44 FR 69464, 69571 (December 3, 1979).

(q) The term "pH" means the value obtained by the standard method specified in 40 CFR 136.3.

§ 420.03 Alternative effluent limitations representing the degree of effluent reduction attainable by the application of best practicable control technology currently available, best available technology, and best conventional technology.

Except as provided in paragraphs (a) through (c) below, any existing point source subject to this part may qualify for alternative effluent limitations to those specified in Part 420, Subparts A through L for a number of its processes representing the degree of effluent reduction attainable by the application of best practicable control technology currently available, best available technology economically achievable, and best conventional technology. The alternative effluent limitations are determined for a combination of processes by totaling the mass limitations of each pollutant allowed under the applicable Subparts A through L. The point source must achieve the total mass limitation for each pollutant for the combination of processes.

(a) A discharger cannot qualify for alternative effluent limitations if the application of such alternative effluent limitations would result in an increase in the amount of pollutants discharged from a combination of processes over that allowed under the limitations established by applicable Subparts A through L.

(b) A discharger cannot qualify for alternative effluent limitations if the application of such alternative effluent limitations would result in violation of any applicable state water quality standards.

(c) Each outfall from which process wastewaters are discharged must have specific, fixed effluent limitations for each pollutant limited by the applicable Subparts A through L.

(d) Subcategory—Specific Restrictions
(1) There shall be no alternate effluent limitations for cokemaking process wastewaters.

(2) There shall be no alternate effluent limitations for cold forming process wastewaters.

Subpart A—Cokemaking Subcategory

§ 420.10 Applicability; description of the cokemaking subcategory.

The provisions of this subpart are

applicable to discharges and introduction of pollutants into publicly owned treatment works resulting from by-product and beehive cokemaking operations.

§ 420.11 Specialized definitions.

(a) The term "beehive cokemaking" means those operations in which coal is heated with the admission of air in controlled amounts for the purpose of producing coke. There are no by-product recovery operations associated with beehive cokemaking operations.

(b) The term "by-product cokemaking" means those cokemaking operations in which coal is heated in the absence of air to produce coke. In this process, by-products may be recovered from the gases and liquids driven from the coal during cokemaking.

(c) The term "merchant" means those by-product cokemaking operations which provide more than fifty percent of the coke produced to operations, industries, or processes other than iron making blast furnaces associated with steel production.

(d) The term "iron and steel" means those by-product cokemaking operations other than merchant cokemaking operations.

(e) The term "wet desulfurization system" means those systems which remove sulfur compounds from coke oven gases and produce a contaminated process wastewater.

(f) The term "indirect ammonia recovery system" means those systems which recover ammonium hydroxide as a by-product from coke oven gases and waste ammonia liquors.

(g) The term "physical chemical treatment system" means those full scale coke plant wastewater treatment systems incorporating full scale granular activated carbon adsorption units which were in operation prior to January 7, 1981, the date of proposal of this regulation.

§ 420.12 Effluent limitations 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-.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.

(a) By-product cokemaking—iron and steel.

SUBPART A

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.253	0.131
O&G.....	0.0327	0.0109
Ammonia-N.....	0.274	0.0912
Cyanide.....	0.0657	0.0219
Phenols (4AAP).....	0.00451	0.00150
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(1) Increased loadings, not to exceed 11 percent of the above limitations, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 27 percent of the above limitations, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent that such systems generate an increased effluent volume.

(b) By-product cokemaking—merchant.

SUBPART A

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.270	0.140
O&G.....	0.0349	0.0116
Ammonia-N.....	0.292	0.0973
Cyanide.....	0.0701	0.0234
Phenols (4AAP).....	0.00481	0.00160
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(1) Increased loadings, not to exceed 10 percent of the above limitations, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 25 percent of the above limitations, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent that such systems generate an increased effluent volume.

(c) *Beehive cokemaking.* No discharge of process wastewater pollutants to navigable waters.

§ 420.13 Effluent limitations 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-.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 available technology economically achievable.

(a) By-product cokemaking—iron and steel.

SUBPART A

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Ammonia-N.....	0.0543	0.0160
Cyanide.....	0.00638	0.00351
Phenols (4AAP).....	0.0000638	0.0000319
Benzene.....	0.0000319	.....
Naphthalene.....	0.0000319	.....
Benzo(a)pyrene.....	0.0000319	.....

(1) Increased loadings, not to exceed 16 percent of the above limitations, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 39 percent of the above limitations, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(3) The following BAT effluent limitations shall be applicable to by-product coke plants with physical chemical treatment systems:

SUBPART A

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Ammonia-N.....	0.0645	0.0322
Phenols (4AAP).....	0.0000859	0.0000430
Benzene.....	0.0000215	.....
Naphthalene.....	0.0000215	.....
Benzo(a)pyrene.....	0.0000215	.....

Increased loadings, not to exceed 24 percent of the above limitations, are allowed for by-product coke plants with physical chemical treatment systems which have wet desulfurization systems

but only to the extent such systems generate an increased effluent volume.

(b) *By-product cokemaking—merchant.*

SUBPART A

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Ammonia-N.....	0.0603	0.0177
Cyanide.....	0.00709	0.00390
Phenols (4AAP).....	0.0000709	0.0000355
Benzene.....	0.0000355	
Naphthalene.....	0.0000355	
Benzo(a)pyrene.....	0.0000355	

(1) Increased loadings, not to exceed 15 percent of the above limitations, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 35 percent of the above limitations, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(3) The following BAT effluent limitations shall be applicable to by-product coke plants with physical chemical treatment systems:

SUBPART A

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Ammonia-N.....	0.0751	0.0375
Phenols(4AAP).....	0.000100	0.0000501
Benzene.....	0.0000250	
Naphthalene.....	0.0000250	
Benzo(a)pyrene.....	0.0000250	

Increased loadings, not to exceed 21 percent of the above limitations, are allowed for by-product coke plants with physical chemical treatment systems which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(c) *Beehive cokemaking.* No discharge of process wastewater pollutants to navigable waters.

§ 420.14 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) *By-product cokemaking—iron and steel.*

SUBPART A

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.172	0.0894
O&G.....	0.00638	
Ammonia-N.....	0.0543	0.0160
Cyanide.....	0.00638	0.00351
Phenols (4AAP).....	0.0000838	0.0000319
Benzene.....	0.0000319	
Naphthalene.....	0.0000319	
Benzo(a)pyrene.....	0.0000319	
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(1) Increased loadings, not to exceed 16 percent of the above standards, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 39 percent of the above standards, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(b) *By-product cokemaking—merchant.*

SUBPART A

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.192	0.0993
O&G.....	0.00709	
Ammonia-N.....	0.0603	0.0177
Cyanide.....	0.00709	0.00390
Phenols (4AAP).....	0.0000709	0.0000355
Benzene.....	0.0000355	
Naphthalene.....	0.0000355	
Benzo(a)pyrene.....	0.0000355	
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(1) Increased loadings, not to exceed 15 percent of the above standards, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 35 percent of the above standards, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(c) *Beehive cokemaking.*

No discharge of process wastewater pollutants to navigable waters.

§ 420.15 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.

(a) *By-product cokemaking—iron and steel.*

SUBPART A

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Ammonia-N.....	0.0645	0.0322
Cyanide.....	0.0172	0.00859
Phenols (4AAP).....	0.0430	0.0215

(1) Increased loadings, not to exceed 24 percent of the above standards, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 58 percent of the above standards, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(b) *By-product cokemaking—merchant.*

SUBPART A

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Ammonia-N.....	0.0751	0.0375
Cyanide.....	0.0200	0.0100
Phenols (4AAP).....	0.0501	0.0250

(1) Increased loadings, not to exceed 21 percent of the above standards, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 50 percent of the above standards, are

allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(c) *Beehive cokemaking* [Reserved].

§ 420.16 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.

(a) *By-product cokemaking—iron and steel.*

SUBPART A

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N.....	0.0645	0.0322
Cyanide.....	0.0172	0.00859
Phenols (4AAP).....	0.0430	0.0215

(1) Increased loadings, not to exceed 24 percent of the above standards, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 58 percent of the above standards, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(b) *By-product cokemaking—merchant.*

SUBPART A

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N.....	0.0751	0.0375
Cyanide.....	0.0200	0.0100
Phenols (4AAP).....	0.0501	0.0250

(1) Increased loadings, not to exceed 21 percent of the above standards, are allowed for by-product coke plants which have wet desulfurization systems

but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 50 percent of the above standards, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent such systems generate an increased effluent volume.

(c) *Beehive cokemaking* [Reserved].

§ 420.17 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR §§ 125.30–32, 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 conventional technology.

(a) *By-product cokemaking—iron and steel.*

SUBPART A

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.253	0.131
O&G.....	0.0327	0.0109
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(1) Increased loadings, not to exceed 11 percent of the above limitations, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 27 percent of the above limitations, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent that such systems generate an increased effluent volume.

(b) *By-product cokemaking—merchant.*

SUBPART A

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.270	0.140
O&G.....	0.0348	0.0116

SUBPART A—Continued

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(1) Increased loadings, not to exceed 10 percent of the above limitations, are allowed for by-product coke plants which have wet desulfurization systems but only to the extent such systems generate an increased effluent volume.

(2) Increased loadings, not to exceed 25 percent of the above limitations, are allowed for by-product coke plants which include indirect ammonia recovery systems but only to the extent that such systems generate an increased effluent volume.

(c) *Beehive cokemaking.* No discharge of process wastewater pollutants to navigable waters.

Subpart B—Sintering Subcategory

§ 420.20 Applicability; description of the sintering subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from sintering operations conducted by the heating of iron bearing wastes (mill scale and dust from blast furnaces and steelmaking furnaces) together with fine iron ore, limestone, and coke fines in an ignition furnace to produce an agglomerate for charging to the blast furnace.

§ 420.21 Specialized definitions [Reserved].

§ 420.22 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30–32, 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.

SUBPART B

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0751	0.0250
O&G.....	0.0150	0.00501
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

§ 420.23 Effluent limitations 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-.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 available technology economically achievable.

SUBPART B

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N ¹	0.0150	0.00501
Cyanide ¹	0.00100	0.000501
Phenols (4AAP) ¹	0.000100	0.0000501
TRC ¹	0.000250	
Lead.....	0.000375	0.000125
Zinc.....	0.000450	0.000150

¹ The limitations for ammonia-N, cyanide, phenols (4AAP), and TRC shall be applicable only when sintering wastewaters are treated with ironmaking wastewaters.

§ 402.24 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

SUBPART B

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0200	0.00751
O&G.....	0.00501	
Ammonia-N ¹	0.0150	0.00501
Cyanide ¹	0.00100	0.000501
Phenols(4AAP) ¹	0.000100	0.0000501
TRC ¹	0.000250	
Lead.....	0.000375	0.000125
Zinc.....	0.000450	0.000150

SUBPART B—Continued

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
pH.....	(¹)	(¹)

¹ The standards for ammonia-N, cyanide, phenols (4AAP), and TRC shall be applicable only when sintering wastewaters are treated with ironmaking wastewaters.
² Within the range of 6.0 to 9.0.

§ 420.25 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.

SUBPART B

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N ¹	0.0150	0.00501
Cyanide ¹	0.00100	0.000501
Phenols(4AAP) ¹	0.000100	0.0000501
Lead.....	0.000375	0.000125
Zinc.....	0.000450	0.000150

¹ The standards for ammonia-N, cyanide, and phenols (4AAP), shall be applicable only when sintering wastewaters are treated with ironmaking wastewaters.

§ 420.26 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.

SUBPART B

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Ammonia-N ¹	0.0150	0.00501
Cyanide ¹	0.00100	0.000501
Phenols (4AAP) ¹	0.000100	0.0000501
Lead.....	0.000375	0.000125
Zinc.....	0.000450	0.000150

¹ The standards for ammonia-N, cyanide, and phenols (4AAP) shall be applicable only when sintering wastewaters are treated with ironmaking wastewaters.

§ 420.27 [Reserved]

Subpart C—Ironmaking Subcategory

§ 420.30 Applicability; description of the ironmaking subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from ironmaking operations in which iron ore is reduced to molten iron in a blast furnace.

§ 420.31 Specialized definitions.

(a) The term "ferromanganese blast furnace" means those blast furnaces which produce molten iron containing more than fifty percent manganese.

(b) The term "iron blast furnace" means all blast furnaces except ferromanganese blast furnaces.

§ 420.32 Effluent limitations 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-.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.

(a) *Iron blast furnace.*

SUBPART C

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0782	0.0260
Ammonia-N.....	0.161	0.0537
Cyanide.....	0.0234	0.00782
Phenols (4AAP).....	0.00628	0.00210
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(b) *Ferromanganese blast furnace.*

SUBPART C

Pollutant or pollutant property	BPT effluent limitations	Average of daily values for 30 consecutive days
	Maximum for 1 day	
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.313	0.104
Ammonia-N.....	1.29	0.429
Cyanide.....	0.469	0.156
Phenols (4AAP).....	0.0624	0.0208
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

§ 420.33 Effluent limitations 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-.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 available technology economically achievable.

(a) *Iron blast furnace.*

SUBPART C

Pollutant or pollutant property	BAT effluent limitations	Average of daily values for 30 consecutive days
	Maximum for any 1 day	
Kg/kgk (pounds per 1,000 lb) of product		
Ammonia-N.....	0.00876	0.00292
Cyanide.....	0.000584	0.000292
Phenols (4AAP).....	0.0000584	0.0000292
TRC ¹	0.000146	
Lead.....	0.000219	0.0000730
Zinc.....	0.000263	0.0000876

¹The limitation for TRC shall be applicable only when chlorination of ironmaking wastewaters is practiced.

(b) *Ferromanganese blast furnace*
[Reserved].

§ 420.34 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) *Iron blast furnace.*

SUBPART C

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kgk (pounds per 1,000 lb) of products		
TSS.....	0.0117	0.00438
O&G.....	0.00292	
Ammonia-N.....	0.00876	0.00292
Cyanide.....	0.000584	0.000292
Phenols (4AAP).....	0.0000584	0.0000292
TRC ¹	0.000146	
Lead.....	0.000219	0.0000730
Zinc.....	0.000263	0.0000876
pH.....	(²)	(²)

¹The standards for TRC shall be applicable only when chlorination of ironmaking wastewaters is practiced.

²Within the range of 6.0 to 9.0.

(b) *Ferromanganese blast furnace.*
[Reserved]

§ 420.35 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.

(a) *Iron blast furnace.*

SUBPART C

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kgk (pounds per 1,000 lb) of products		
Ammonia-N.....	0.00876	0.00292
Cyanide.....	0.000584	0.000292
Phenols (4AAP).....	0.0000584	0.0000292
Lead.....	0.000219	0.0000730
Zinc.....	0.000263	0.0000876

(b) *Ferromanganese blast furnace.*
[Reserved]

§ 420.36 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.

(a) *Iron blast furnace.*

SUBPART C

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kgk (pounds per 1,000 lb) of product		
Ammonia-N.....	0.00876	0.00292
Cyanide.....	0.000584	0.000292
Phenols (4AAP).....	0.0000584	0.0000292
Lead.....	0.000219	0.0000730
Zinc.....	0.000263	0.0000876

(b) *Ferromanganese blast furnace.*
[Reserved]

§ 420.37 [Reserved]

Subpart D—Steelmaking Subcategory

§ 420.40 Applicability; description of the steelmaking subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from steelmaking operations conducted in basic oxygen, open hearth, and electric arc furnaces.

§ 420.41 Specialized definitions.

(a) The term "basic oxygen furnace steelmaking" means the production of steel from molten iron, steel scrap,

fluxes, and various combinations thereof, in refractory lined furnaces by adding oxygen.

(b) The term "open hearth furnace steelmaking" means the production of steel from molten iron, steel scrap, fluxes, and various combinations thereof, in refractory lined fuel-fired furnaces equipped with regenerative chambers to recover heat from the flue and combustion gases.

(c) The term "electric arc furnace steelmaking" means the production of steel principally from steel scrap and fluxes in refractory lined furnaces by passing an electric current through the scrap or steel bath.

(d) The term "wet" means those steelmaking air cleaning systems that primarily use water for furnace gas cleaning.

(e) The term "semi-wet" means those steelmaking air cleaning systems that use water for the sole purpose of conditioning the temperature and humidity of furnace gases such that the gases may be cleaned in dry air pollution control systems.

(f) The term "open combustion" means those basic oxygen furnace steelmaking wet air cleaning systems which are designed to allow excess air to enter the air pollution control system for the purpose of combusting the carbon monoxide in furnace gases.

(g) The term "suppressed combustion" means those basic oxygen furnace steelmaking wet air cleaning systems which are designed to limit or suppress the combustion of carbon monoxide in furnace gases by restricting the amount of excess air entering the air pollution control system.

§ 420.42 Effluent limitations 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-.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.

(a) *Basic oxygen furnace steelmaking—semi-wet; and electric arc furnace steelmaking—semi-wet.* No discharge of process wastewater pollutants to navigable waters.

(b) *Basic oxygen furnace steelmaking—wet-suppressed combustion.*

SUBPART D

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of Product	
TSS.....	0.0312 (¹)	0.0104 (¹)
pH.....		

¹ Within the range of 6.0 to 9.0

(c) *Basic oxygen furnace steelmaking—wet open combustion; open hearth furnace steelmaking—wet; and electric arc furnace steelmaking—wet.*

SUBPART D

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0687 (¹)	0.0229 (¹)
pH.....		

¹ Within the range of 6.0 to 9.0.

§ 420.43 Effluent limitations 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-.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 available technology economically achievable.

(a) *Basic oxygen furnace steelmaking—semi-wet; and electric arc furnace steelmaking—semi-wet.* No discharge of process wastewater pollutants to navigable waters.

(b) *Basic oxygen furnace steelmaking—wet-suppressed combustion.*

SUBPART D

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.000188	0.0000626
Zinc.....	0.000282	0.0000939

(c) *Basic oxygen furnace steelmaking—wet open combustion; open hearth furnace steelmaking—wet;*

and electric arc furnace steelmaking—wet;

SUBPART D

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.000413	0.000138
Zinc.....	0.000620	0.000207

§ 420.44 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) *Basic oxygen furnace steelmaking—semi-wet; and electric arc furnace steelmaking—semi-wet.* [Reserved]

(b) *Basic oxygen furnace steelmaking—wet-suppressed combustion.*

SUBPART D

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0148	0.00522
Lead.....	0.000188	0.0000626
Zinc.....	0.000282	0.0000939
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(c) *Basic oxygen furnace steelmaking—wet open combustion; and electric arc furnace steelmaking—wet.*

SUBPART D

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0821	0.0115
Lead.....	0.000413	0.000138
Zinc.....	0.000620	0.000207
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(d) *Open hearth furnace steelmaking—wet.* [Reserved]

§ 420.45 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.

(a) *Basic oxygen furnace steelmaking—semi-wet; and electric arc furnace steelmaking—semi-wet.* [Reserved]

(b) *Basic oxygen furnace steelmaking—wet-suppressed combustion.*

SUBPART D

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.000188	0.0000626
Zinc.....	0.000282	0.0000939

(c) *Basic oxygen furnace steelmaking—wet open combustion; open hearth furnace steelmaking—wet; and electric arc furnace steelmaking—wet.*

SUBPART D

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.000413	0.000138
Zinc.....	0.000620	0.000207

§ 420.46 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.

(a) *Basic oxygen furnace steelmaking—semi-wet; and electric arc furnace steelmaking—semi-wet.* [Reserved]

(b) *Basic oxygen furnace steelmaking—wet-suppressed combustion.*

SUBPART D

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead	0.000188	0.000626
Zinc	0.000282	0.000939

(c) *Basic oxygen furnace steelmaking—wet—open combustion; electric arc furnace steelmaking—wet.*

SUBPART D

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead	0.000413	0.000138
Zinc	0.000620	0.000207

(d) *Open hearth furnace steelmaking—wet.* [Reserved]

§ 420.47 **Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional control technology.**

(a) *Basic oxygen furnace steelmaking—semi-wet; and electric arc furnace steelmaking—semi-wet.* No discharge of process wastewater pollutants to navigable waters.

(b) *Basic oxygen furnace steelmaking—wet-suppressed combustion.* [Reserved]

(c) *Basic oxygen furnace steelmaking—wet—open combustion; electric arc furnace steelmaking—wet.* [Reserved]

(d) *Open hearth furnace steelmaking—wet.* [Reserved]

Subpart E—Vacuum Degassing Subcategory

§ 420.50 **Applicability; description of the vacuum degassing subcategory.**

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from vacuum degassing operations conducted by applying a vacuum to molten steel.

§ 420.51 **Specialized definitions.** [Reserved]

§ 420.52 **Effluent limitations 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-.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.

SUBPART E

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS	0.0156	0.00521
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

§ 420.53 **Effluent limitations 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-.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 available technology economically achievable.

SUBPART E

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469

§ 420.54 **New source performance standards.**

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the values set forth below.

SUBPART E

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS	0.00730	0.00261
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

§ 420.55 **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.

SUBPART E

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469

§ 420.56 **Pretreatment standards for new sources.**

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.

SUBPART E

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead	0.0000939	0.0000313
Zinc	0.000141	0.0000469

§ 420.57 [Reserved]

Subpart F—Continuous Casting Subcategory

§ 420.60 **Applicability; description of the continuous casting subcategory.**

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from the continuous casting of molten steel into intermediate or semi-finished steel products through water cooled molds.

§ 420.61 **Specialized definitions.** [Reserved]

§ 420.62 **Effluent limitations 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-.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.

SUBPART F

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0780	0.0260
Oil & Grease.....	0.0234	0.0078
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

§ 420.63 **Effluent limitations 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-.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 available technology economically achievable.

SUBPART F

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.0000939	0.0000313
Zinc.....	0.000141	0.0000469

§ 420.64 **New source performance standards.**

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

SUBPART F

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.00730	0.00261
O&G.....	0.00313	0.00104
Lead.....	0.0000939	0.0000313
Zinc.....	0.000141	0.0000469
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

§ 420.65 **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.

SUBPART F

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.0000939	0.0000313
Zinc.....	0.000141	0.0000469

§ 420.66 **Pretreatment standards for new sources.**

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.

SUBPART F

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.0000939	0.0000313

SUBPART F—Continued

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Zinc.....	0.000141	0.0000469

§ 420.67 [Reserved]

Subpart G—Hot Forming Subcategory

§ 420.70 **Applicability; description of the hot forming subcategory.**

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from hot forming operations conducted in primary, section, flat, and pipe and tube mills.

§ 420.71 **Specialized definitions.**

(a) The term "hot forming" means those steel operations in which solidified, heated steel is shaped by rolls.

(b) The term "primary mill" means those steel hot forming operations that reduce ingots to blooms or slabs by passing the ingots between rotating steel rolls. The first hot forming operation performed on solidified steel after it is removed from the ingot molds is carried out on a "primary mill".

(c) The term "section mill" means those steel hot forming operations that produce a variety of finished and semi-finished steel products other than the products of those mills specified below in subsections (d), (e), (g), and (h).

(d) The term "flat mill" means those steel hot forming operations that reduce heated slabs to plates, strip and sheet, or skelp.

(e) The term "pipe and tube mill" means those steel hot forming operations that produce butt welded or seamless tubular steel products.

(f) The term "scarfing" means those steel surface conditioning operations in which flames generated by the combustion of oxygen and fuel are used to remove surface metal imperfections from slabs, billets, or blooms.

(g) The term "plate mill" means those steel hot forming operations that produce flat hot-rolled products which are (1) between 8 and 48 inches wide and over 0.23 inches thick; or (2) greater than 48 inches wide and over 0.18 inches thick.

(h) The term "hot strip and sheet mill" means those steel hot forming

operations that produce flat hot-rolled products other than plates.

(i) The term "specialty steel" means those steel products containing alloying elements which are added to enhance the properties of the steel product when individual alloying elements (e.g., aluminum, chromium, cobalt, columbium, molybdenum, nickel, titanium, tungsten, vanadium, zirconium) exceed 3% or the total of all alloying elements exceed 5%.

(j) The term "carbon steel" means those steel products other than specialty steel products.

(k) The term "carbon hot forming operation" (or "carbon") means those hot forming operations which produce a majority, on a tonnage basis, of carbon steel products..

(l) The term "specialty hot forming operation" (or "specialty") applies to all hot forming operations other than "carbon hot forming operations."

§ 420.72 Effluent limitations 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-.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.

(a) Primary mills, carbon and specialty.

(1) Without scarfing.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.150	0.0561
O&G.....	0.0374	(¹)
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

(2) With scarfing.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.221	0.0830
O&G.....	0.0553	(¹)

SUBPART G—Continued

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

(b) Section mills.

(1) Carbon.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.357	0.134
O&G.....	0.0894	(¹)
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

(2) Specialty.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.224	0.0841
O&G.....	0.0561	(¹)
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

(c) Flat mills.

(1) Hot strip and sheet mills, carbon and specialty.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.427	0.160
O&G.....	0.107	(¹)
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

(2) Carbon plate mills.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.227	0.0851
O&G.....	0.0568	(¹)
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

(3) Specialty plate mills.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.100	0.0376
O&G.....	0.0250	(¹)
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

(d) Pipe and tube mills, carbon and specialty.

SUBPART G

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.212	0.0795
O&G.....	0.0530	(¹)
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

§ 420.73 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The Agency has determined that there are not significant quantities of toxic pollutants in hot forming wastewaters after compliance with applicable BPT limitations. Accordingly, since the BPT level of treatment provides adequate control, the Agency is not promulgating more stringent BAT limitations.

§ 420.74 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) Primary mills, carbon and specialty.

(1) Without scarfing.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.0150	0.00563
O&G.....	0.00373	
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) With scarfing.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.0234	0.00876
O&G.....	0.00584	
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(b) Section mills.

(1) Carbon.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.0334	0.0125
O&G.....	0.00834	
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) Specialty.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.0217	0.00813
O&G.....	0.00542	
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(c) Flat mills.

(1) Hot strip and sheet mills, carbon and specialty.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of products		
TSS.....	0.0435	0.0163
O&G.....	0.0109	
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0

(2) Carbon plate mills.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of products		
TSS.....	0.0234	0.00876
O&G.....	0.00584	
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0

(3) Specialty plate mills.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of products		
TSS.....	0.0100	0.00375
O&G.....	0.00250	
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0

(d) Pipe and tube mills, carbon and specialty.

SUBPART G

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of products		
TSS.....	0.0369	0.0138
O&G.....	0.00917	
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0

§ 420.75 Pretreatment standards for existing sources.

Any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403.

§ 420.76 Pretreatment standards for new sources.

Any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403.

§ 420.77 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR 125.30-32, 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 conventional technology.

(a) Primary mills, carbon and specialty.

(1) Without scarfing.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.150	0.0561
O&G.....	0.0374	
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) With scarfing.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.221	0.0830
O&G.....	0.0553	
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(b) Section mills.

(1) Carbon.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.357	0.134
O&G.....	0.0894	
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

(2) Specialty.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.224	0.0841
O&G.....	0.0561	
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

(c) Flat mills.

(1) Hot strip and sheet mills, carbon and specialty.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.427	0.160
O&G.....	0.107	
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

(2) Carbon plate mills.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.227	0.0851
O&G.....	0.0568	
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

(3) Speciality plate mills.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.100	0.0376
O&G.....	0.0250	
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

(d) Pipe and tube mills, carbon and speciality.

SUBPART G

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.212	0.0795
O&G.....	0.0530	
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

Subpart H—Salt Bath Descaling Subcategory

§ 420.80 Applicability; description of the salt bath descaling subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from oxidizing and reducing salt bath descaling operations.

§ 420.81 Specialized definitions.

(a) The term "salt bath descaling, oxidizing" means the removal of scale from semi-finished steel products by the action of molten salt baths other than those containing sodium hydride.

(b) The term "salt bath descaling, reducing" means the removal of scale from semi-finished steel products by the action of molten salt baths containing sodium hydride.

(c) The term "batch, sheet and plate" means those descaling operations that remove surface scale from sheet and plate products in batch processes.

(d) The term "batch, rod and wire" means those descaling operations that remove surface scale from rod and wire products in batch processes.

(e) The term "batch, pipe and tube" means those descaling operations that remove surface scale from pipe and tube products in batch processes.

(f) The term "continuous" means those descaling operations that remove

surface scale from the sheet or wire products in continuous processes.

(g) The term "batch" means those descaling operations in which the products are processed in discrete batches.

§ 420.82 Effluent limitations 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-.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.

(a) Salt bath descaling, oxidizing.
(1) Batch, sheet and plate.

SUBPART H

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.204	0.0876
Chromium.....	0.00292	0.00117
Nickel.....	0.00263	0.000876
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

(2) Batch, rod and wire.

SUBPART H

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0123	0.0526
Chromium.....	0.00175	0.000701
Nickel.....	0.00158	0.000526
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

(3) Batch, pipe and tube.

SUBPART H

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.496	0.213
Chromium.....	0.00709	0.00284
Nickel.....	0.00638	0.00213
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

(4) Continuous.

SUBPART H

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0964	0.0413
Chromium.....	0.00138	0.000551
Nickel.....	0.00124	0.000413
pH.....	(?)	(?)

¹Within the range of 6.0 to 9.0.

(b) Salt bath descaling, reducing.

(1) Batch.

SUBPART H

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0949	0.0407
Cyanide.....	0.00102	0.000339
Chromium.....	0.00138	0.000542
Nickel.....	0.00122	0.000407
pH.....	(?)	(?)

¹Within the range of 6.0 to 9.0.

(2) Continuous.

SUBPART H

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0532	0.228
Cyanide.....	0.00569	0.00180
Chromium.....	0.00759	0.00304
Nickel.....	0.00683	0.00228
pH.....	(?)	(?)

¹Within the range of 6.0 to 9.0.

§ 420.83 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30-32, 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 available

technology economically achievable.

(a) Salt bath descaling, oxidizing.

(1) Batch, sheet and plate.

SUBPART H

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium.....	0.00292	0.00117
Nickel.....	0.00263	0.000876

(2) Batch, rod and wire.

SUBPART H

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium.....	0.00175	0.000701
Nickel.....	0.00158	0.000526

(3) Batch, pipe and tube.

SUBPART H

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium.....	0.00709	0.00284
Nickel.....	0.00638	0.00213

(4) Continuous.

SUBPART H

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium.....	0.00138	0.000551
Nickel.....	0.00124	0.000413

(b) Salt bath descaling, reducing.

(1) Batch.

SUBPART H

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Cyanide.....	0.00102	0.000339
Chromium.....	0.00138	0.000542
Nickel.....	0.00122	0.000407

(2) Continuous.

SUBPART H

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Cyanide.....	0.00569	0.00190
Chromium.....	0.00759	0.00304
Nickel.....	0.00683	0.00228

§ 420.84 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) Salt bath descaling, oxidizing.

(1) Batch, sheet and plate.

SUBPART H

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.204	0.0876
Chromium.....	0.00292	0.00117
Nickel.....	0.00263	0.000876
pH.....	(?)	(?)

¹Within the range of 6.0 to 9.0.

(2) Batch, rod and wire.

SUBPART H

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.123	0.0526
Chromium.....	0.00175	0.000701
Nickel.....	0.00158	0.000526

SUBPART H—Continued

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

(3) Batch, pipe and tube.

SUBPART H

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.496	0.213
Chromium.....	0.00709	0.00284
Nickel.....	0.00638	0.00213
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

(4) Continuous.

SUBPART H

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.0964	0.0413
Chromium.....	0.00138	0.000551
Nickel.....	0.00124	0.000413
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

(b) Salt bath descaling, reducing.
(1) Batch.

SUBPART H

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.0949	0.0407
Cyanide.....	0.00102	0.000339
Chromium.....	0.00136	0.000542
Nickel.....	0.00122	0.000407
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

(2) Continuous.

SUBPART H

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.532	0.228
Cyanide.....	0.00569	0.00190
Chromium.....	0.00759	0.00304
Nickel.....	0.00683	0.00228
pH.....	(?)	(?)

¹ Within the range of 6.0 to 9.0.

§ 420.85 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.

(a) Salt bath descaling, oxidizing.
(1) Batch, sheet and plate.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Chromium.....	0.00292	0.00117
Nickel.....	0.00263	0.000876

(2) Batch, rod and wire.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Chromium.....	0.00175	0.000701
Nickel.....	0.00158	0.000526

(3) Batch, pipe and tube.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Chromium.....	0.00709	0.00284
Nickel.....	0.00638	0.00213

(4) Continuous.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Chromium.....	0.00138	0.000551
Nickel.....	0.00124	0.00413

(b) Salt bath descaling, reducing.
(1) Batch.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Cyanide.....	0.00102	0.000339
Chromium.....	0.00136	0.000542
Nickel.....	0.00122	0.000407

(2) Continuous.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Cyanide.....	0.00569	0.00180
Chromium.....	0.00759	0.00304
Nickel.....	0.00683	0.00228

§ 420.86 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.

(a) Salt bath descaling, oxidizing.
(1) Batch, sheet and plate.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium	0.00292	0.00117
Nickel	0.00263	0.000876

(2) Batch, rod and wire.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium	0.00175	0.000701
Nickel	0.00158	0.000526

(3) Batch, pipe and tube.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium	0.00709	0.00284
Nickel	0.00638	0.00213

(4) Continuous.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium	0.00138	0.000551
Nickel	0.00124	0.000413

(b) Salt bath descaling, reducing.

(1) Batch.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Cyanide	0.00102	0.000339
Chromium	0.00136	0.000542
Nickel	0.00122	0.000407

(2) Continuous.

SUBPART H

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Cyanide	0.00569	0.000190
Chromium	0.00759	0.000304
Nickel	0.00683	0.000228

§ 420.87 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR 125.30-.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 conventional technology.

(a) Salt bath descaling, oxidizing.
(1) Batch, sheet and plate.

SUBPART H

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS	0.204	0.0876
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) Batch, rod and wire.

SUBPART H

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS	0.123	0.0526
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(3) Batch, pipe and tube.

SUBPART H

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS	0.496	0.213
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(4) Continuous.

SUBPART H

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS	0.0964	0.0413
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(b) Salt bath descaling, reducing.
(1) Batch.

SUBPART H

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS	0.0949	0.0407
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(2) Continuous.

SUBPART H

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0532 (¹)	0.228 (¹)
pH.....		

¹Within the range of 6.0 to 9.0.

Subpart I—Acid Pickling Subcategory

§ 420.90 Applicability; description of the acid pickling subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from sulfuric acid, hydrochloric acid, or combination acid pickling operations.

§ 420.91 Specialized definitions.

(a) The term "sulfuric acid pickling" means those operations in which steel products are immersed in sulfuric acid solutions to chemically remove oxides and scale, and those rinsing operations associated with such immersions.

(b) The term "hydrochloric acid pickling" means those operations in which steel products are immersed in hydrochloric acid solutions to chemically remove oxides and scale, and those rinsing operations associated with such immersions.

(c) The term "combination acid pickling" means those operations in which steel products are immersed in solutions of more than one acid to chemically remove scale and oxides, and those rinsing steps associated with such immersions.

(d) The term "fume scrubber" means those pollution control devices used to remove and clean fumes originating in pickling operations.

(e) The term "batch" means those pickling operations which process steel products such as coiled wire, rods, and tubes in discrete batches or bundles.

(f) The term "continuous" means those pickling operations which process steel products other than in discrete batches or bundles.

(g) The term "acid recovery" means those sulfuric acid pickling operations that include processes for recovering the unreacted acid from spent pickling acid solutions.

(h) The term "acid regeneration"

means those hydrochloric acid pickling operations that include processes for regenerating acid from spent pickling acid solutions.

(i) The term "neutralization" means those acid pickling operations that do not include acid recovery or acid regeneration processes.

(j) The term "spent acid solution" (or spent pickle liquor) means those solutions of steel pickling acids which have been used in the pickling process and are discharged or removed therefrom.

(k) The term "rod, wire and coil" means those acid pickling operations that pickle rod, wire or coiled rod and wire products.

(l) The term "bar, billet and bloom" means those acid pickling operations that pickle bar, billet or bloom products.

(m) The term "strip, sheet and plate" means those acid pickling operations that pickle strip, sheet or plate products.

(n) The term "pipe, tube and other" means those acid pickling operations that pickle pipes, tubes or any steel product other than those included in paragraphs (k), (l) and (m) herein.

§ 420.92 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Except as provided in 40 CFR 125.30-32, 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.

(a) Sulfuric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire and coil.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0818	0.0350
O&G ¹	0.0350	0.0117
Lead.....	0.000526	0.000176
Zinc.....	0.000350	0.000117
pH.....	(²)	(²)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(2) Bar, billet and bloom.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0263	0.0113
O&G ¹	0.0113	0.00375
Lead.....	0.000169	0.0000563
Zinc.....	0.000113	0.0000375
pH.....	(²)	(²)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(3) Strip, sheet and plate.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0526	0.0225
O&G ¹	0.0225	0.00751
Lead.....	0.000938	0.000113
Zinc.....	0.000225	0.0000751
pH.....	(²)	(²)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(4) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.146	0.0626
O&G ¹	0.0626	0.0209
Lead.....	0.000939	0.000313
Zinc.....	0.000626	0.000209
pH.....	(²)	(²)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(5) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS.....	5.72	2.45
O&G ¹	2.45	0.819
Lead.....	0.0368	0.0123
Zinc.....	0.0245	0.00819
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a sulfuric acid pickling operation.

(b) Hydrochloric acid pickling (spent acid solutions and rinse waters).
 (1) Rod, wire and coil.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.143	0.0613
O&G ¹	0.0613	0.0204
Lead.....	0.000920	0.000307
Zinc.....	0.000613	0.000204
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

(2) Strip, sheet and plate.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0818	0.0350
O&G ¹	0.0350	0.0117
Lead.....	0.000526	0.000175
Zinc.....	0.000350	0.000117
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

(3) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.298	0.128
O&G ¹	0.128	0.0428
Lead.....	0.00192	0.000638
Zinc.....	0.00126	0.000426
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

(4) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS.....	5.72	2.45
O&G ¹	2.45	0.819
Lead.....	0.0368	0.0123
Zinc.....	0.0245	0.00819
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a hydrochloric acid pickling operation.

(5) Acid regeneration.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS.....	38.2	16.3
O&G ¹	16.3	5.45
Lead.....	0.245	0.0819
Zinc.....	0.163	0.0545
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to the absorber vent scrubber wastewater associated with hydrochloric acid regeneration plants.

(c) Combination acid pickling (spent acid solution and rinse waters).
 (1) Rod, Wire, and Coil.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.149	0.0638
O&G ¹	0.0638	0.0213
Chromium.....	0.00213	0.000852
Nickel.....	0.00192	0.000638
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0672	0.0288
O&G ¹	0.0288	0.00960
Chromium.....	0.000960	0.000384
Nickel.....	0.000864	0.000288
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

(3) Strip, sheet, and plate—continuous.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.438	0.188
O&G ¹	0.188	0.0628
Chromium.....	0.00628	0.00250
Nickel.....	0.00563	0.00188
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

(4) Strip, sheet and plate—batch.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.134	0.0576
O&G ¹	0.0576	0.0192
Chromium.....	0.00192	0.000768
Nickel.....	0.00173	0.000576
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

(5) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.225	0.0964
O&G ¹	0.0964	0.0322
Chromium.....	0.00322	0.00129
Nickel.....	0.00289	0.000964
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

(6) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS.....	5.72	2.45
O&G ¹	2.45	0.819
Chromium.....	0.0819	0.0327
Nickel.....	0.0735	0.0245
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a combination acid pickling operation.

§ 420.93 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30-32, 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 available technology economically achievable.
 (a) Sulfuric acid pickling (spent acid solutions and rinse waters).
 (1) Rod, wire and coil.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.000526	0.000175
Zinc.....	0.000350	0.000117

(2) Bar, billet and bloom.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.000169	0.0000563
Zinc.....	0.000118	0.0000375

(3) Strip, sheet and plate.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.000338	0.000113
Zinc.....	0.000225	0.0000751

(4) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.000939	0.000313
Zinc.....	0.000326	0.000209

(5) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead.....	0.0368	0.0123
Zinc.....	0.0245	0.00819

The above limitations shall be applicable to each fume scrubber associated with a sulfuric acid pickling operation.

(b) Hydrochloric acid pickling (spent acid solutions and rinse waters).
 (1) Rod, wire and coil.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.000920	0.000307
Zinc.....	0.000613	0.000204

(2) Strip, sheet and plate.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.000526	0.000175
Zinc.....	0.000350	0.000117

(3) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead.....	0.00192	0.000638
Zinc.....	0.00128	0.000426

(4) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kilograms per day		
Lead	0.0368	0.0123
Zinc	0.0245	0.00819

The above limitations shall be applicable to each fume scrubber associated with a hydrochloric acid pickling operation.

(5) Acid regeneration.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kilograms per day		
Lead	0.245	0.0819
Zinc	0.163	0.0545

The above limitations shall be applicable to the absorber vent scrubber wastewater associated with hydrochloric acid regeneration plants.

(c) Combination acid pickling (spent acid solution and rinse waters).

Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Chromium	0.00213	0.000852
Nickel	0.00192	0.000638

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Chromium	0.000960	0.000384
Nickel	0.000864	0.000288

(3) Strip, sheet, and plate—continuous.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Chromium	0.00626	0.00250
Nickel	0.00563	0.00188

(4) Strip, sheet, and plate—batch.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Chromium	0.00192	0.000768
Nickel	0.00173	0.000576

(5) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Chromium	0.00322	0.00129
Nickel	0.00289	0.000964

(6) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kilograms per day		
Chromium	0.0819	0.0327
Nickel	0.0735	0.0245

The above limitations shall be applicable to each fume scrubber associated with a combination acid pickling operation.

§ 420.94 New source performance standards.

The discharge of wastewater pollutants from any new source subject

to this subpart shall not exceed the standards set forth below.

(a) Sulfuric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
kg/kg (pounds per 1,000 lb) of product		
TSS	0.0146	0.00626
O&G [*]	0.00626	0.00209
Lead	0.000939	0.000313
Zinc	0.000626	0.000209
pH	(¹)	(¹)

^{*}The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

¹Within the range of 6.0 to 9.0.

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
kg/kg (pounds per 1,000 lb) of product		
TSS	0.00876	0.00376
O&G [*]	0.00376	0.00125
Lead	0.000563	0.000188
Zinc	0.000376	0.000125
pH	(¹)	(¹)

^{*}The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

¹Within the range of 6.0 to 9.0.

(3) Strip, sheet, and plate.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS	0.0117	0.00501
O&G ¹	0.00501	0.00167
Lead	0.000751	0.000250
Zinc	0.000501	0.000167
pH	(²)	(²)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(4) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0204	0.00876
O&G ¹	0.00876	0.00292
Lead.....	0.000131	0.0000438
Zinc.....	0.0000876	0.0000292
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(5) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS.....	5.72	2.45
O&G ¹	2.45	0.819
Lead.....	0.0368	0.0123
Zinc.....	0.0245	0.00819
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a sulfuric acid pickling operation.

(b) Hydrochloric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0175	0.00751
O&G ¹	0.00751	0.00250
Lead.....	0.000113	0.0000378
Zinc.....	0.0000751	0.0000250
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(2) Strip, sheet, and plate.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0117	0.00501
O&G ¹	0.00501	0.00167
Lead.....	0.0000751	0.0000250
Zinc.....	0.0000501	0.0000167
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(3) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0321	0.0138
O&G ¹	0.0138	0.00459
Lead.....	0.000208	0.0000688
Zinc.....	0.000138	0.0000459
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(4) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS.....	5.72	2.45
O&G ¹	2.45	0.819
Lead.....	0.0368	0.0123
Zinc.....	0.0245	0.00819
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a hydrochloric acid pickling operation.

(c) Combination acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0204	0.00876
O&G ¹	0.00876	0.00292
Chromium.....	0.000292	0.000117
Nickel.....	0.000263	0.0000876
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0117	0.00501
O&G ¹	0.00501	0.00167
Chromium.....	0.000167	0.0000667
Nickel.....	0.000150	0.0000501
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(3) Strip, sheet and plate—continuous.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0496	0.0213
O&G ¹	0.0213	0.00710
Chromium.....	0.000710	0.000284
Nickel.....	0.000638	0.000213
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(4) Strip, sheet, and plate—batch.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0175	0.00751
O&G ¹	0.00751	0.00250
Chromium.....	0.000250	0.000100
Nickel.....	0.000225	0.0000751
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(5) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0292	0.0125
O&G ¹	0.0125	0.00418
Chromium.....	0.000418	0.000167
Nickel.....	0.000376	0.000125
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(6) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS.....	5.72	2.45
O&G ¹	2.45	0.819
Chromium.....	0.0819	0.0327
Nickel.....	0.0735	0.0245
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a combination acid pickling operation.

§ 420.95 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.

(a) Sulfuric acid (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead.....	0.000526	0.000175
Zinc.....	0.000350	0.000117

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead.....	0.000169	0.0000563
Zinc.....	0.000113	0.0000375

(3) Strip, sheet, and plate.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead.....	0.000338	0.0000113
Zinc.....	0.000225	0.0000751

(4) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead.....	0.000939	0.000313
Zinc.....	0.000626	0.000209

(5) Fume scrubber.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead.....	0.0368	0.0123
Zinc.....	0.0245	0.00819

NOTE.—The above limitations are applicable to each fume scrubber associated with sulfuric acid pickling operations.

(b) Hydrochloric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead.....	0.000920	0.000307
Zinc.....	0.000613	0.000204

(2) Strip, sheet, and plate.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead.....	0.000526	0.000175
Zinc.....	0.000350	0.000117

(3) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead.....	0.00192	0.000638
Zinc.....	0.00128	0.000426

(4) Fume scrubber.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead	0.0368	0.0123
Zinc	0.0245	0.00819

NOTE.—The above limitations shall be applicable for each fume scrubber associated with hydrochloric acid pickling operations.

(5) Acid regeneration.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead	0.245	0.0819
Zinc	0.163	0.0544

NOTE.—The above limitations shall be applicable to the absorber vent scrubber wastewater associated with hydrochloric acid regeneration plants.

(c) Combination acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium	0.00213	0.000852
Nickel	0.00192	0.000638

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Chromium	0.00960	0.000384
Nickel	0.00864	0.000288

(3) Strip, sheet, and plate—continuous.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium	0.00626	0.00250
Nickel	0.00563	0.00188

(4) Strip, sheet, and plate—batch.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium	0.00192	0.000768
Nickel	0.00173	0.000576

(5) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium	0.00322	0.00129
Nickel	0.00269	0.000964

(6) Fume scrubber.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Chromium	0.0819	0.0327
Nickel	0.0735	0.0245

NOTE.—The above limitations shall be applicable to each fume scrubber associated with a combination acid pickling operation.

§ 420.96 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.

(a) Sulfuric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, coil.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead	0.0000839	0.0000313
Zinc	0.0000626	0.0000209

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead	0.0000563	0.0000188
Zinc	0.0000376	0.0000125

(3) Strip, sheet, and plate.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead	0.0000751	0.0000250
Zinc	0.0000501	0.0000167

(4) Pipe, tube, other products.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Lead	0.0000131	0.0000438
Zinc	0.0000876	0.0000292

(5) Fume scrubber.

SUBPART I		
Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kilograms per day		
Lead	0.0368	0.0123
Zinc	0.0245	0.00819

(b) Hydrochloric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, coil.

SUBPART I		
Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Lead	0.000113	0.0000376
Zinc	0.0000751	0.0000250

(2) Strip, sheet, and plate.

SUBPART I		
Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Lead	0.0000751	0.0000250
Zinc	0.0000501	0.0000167

(3) Pipe, tube, and other products.

SUBPART I		
Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Lead	0.000206	0.0000688
Zinc	0.000138	0.0000459

(4) Fume scrubber.

SUBPART I

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kilograms per day		
Lead	0.0368	0.0123
Zinc	0.0245	0.00819

NOTE.—The above limitations shall be applicable for each fume scrubber associated with hydrochloric acid pickling operations.

(c) Combination acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire, and coil.

SUBPART I		
Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
kg/kg (pounds per 1,000 lb) of product		
Chromium	0.000292	0.000117
Nickel	0.000263	0.0000876

(2) Bar, billet, and bloom.

SUBPART I		
Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
kg/kg (pounds per 1,000 lb) of product		
Chromium	0.000167	0.0000667
Nickel	0.000150	0.0000501

(3) Strip, sheet, and plate—continuous.

SUBPART I		
Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
kg/kg (pounds per 1,000 lb) of product		
Chromium	0.000710	0.000284
Nickel	0.000638	0.000213

(4) Strip, sheet, and plate—batch.

SUBPART I		
Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
kg/kg (pounds per 1,000 lb) of product		
Chromium	0.000250	0.000100
Nickel	0.000225	0.0000751

(5) Pipe, tube, and other products.

SUBPART I		
Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
Chromium	0.000418	0.000167
Nickel	0.000376	0.000125

(6) Fume scrubber.

SUBPART I		
Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kilograms per day		
Chromium	0.0819	0.0327
Nickel	0.0735	0.0245

§ 420.97 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR 125.30-.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 conventional technology.

(a) Sulfuric acid pickling (spent acid solutions and rinse waters)

(1) Rod, wire and coil.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.0819	0.0350
O&G ¹	0.0350	0.0117
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(2) Bar, billet and bloom.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.0263	0.0113
O&G ¹	0.0113	0.00376
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(3) Strip, sheet and plate.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.0526	0.0225
O&G ¹	0.0225	0.00751
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(4) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.146	0.0626
O&G ¹	0.0626	0.0209
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(5) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kilograms per day		
TSS.....	5.72	2.45
O&G ¹	2.45	0.819
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a sulfuric acid pickling operation.

(b) Hydrochloric acid pickling (spent acid solutions and rinse waters).

(1) Rod, wire and coil.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.143	0.0613
O&G ¹	0.0613	0.0204
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(2) Strip, sheet and plate.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.0819	0.0350
O&G ¹	0.0350	0.0117
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(3) Pipe, tube and other products.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.298	0.128
O&G ¹	0.128	0.0426
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(4) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kilograms per day		
TSS.....	5.72	2.45
O&G ¹	2.45	0.819
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a hydrochloric acid pickling operation.

(5) Acid regeneration.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kilograms per day		
TSS.....	38.2	16.3
O&G ¹	16.3	5.45
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to the absorber vent scrubber wastewater associated with hydrochloric acid regeneration plants.

(c) Combination acid pickling (spent acid solution and rinse waters).

(1) Rod, wire, and coil.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.149	0.0638
O&G ¹	0.0638	0.0213
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

(2) Bar, billet, and bloom.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0672	0.0288
O&G ¹	0.0288	0.00960
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

(3) Strip, sheet, and plate—continuous.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.438	0.188
O&G ¹	0.188	0.0626
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

(4) Strip, sheet and plate—batch.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.134	0.0576
O&G ¹	0.0576	0.0192
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.

²Within the range of 6.0 to 9.0.

(5) Pipe, tube, and other products.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.225	0.0964
O&G ¹	0.0964	0.0321
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

(6) Fume scrubbers.

SUBPART I

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS.....	6.72	2.45
O&G ¹	2.45	0.819
pH.....	(?)	(?)

¹The limitations for oil and grease shall be applicable when acid pickling wastewaters are treated with cold rolling wastewaters.
²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with a combination acid pickling operation.

Subpart J—Cold Forming Subcategory

§ 420.100 Applicability; description of the cold forming subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works from cold rolling and cold working pipe and tube operations in which unheated steel is passed through rolls or otherwise processed to reduce its thickness, to produce a smooth surface, or to develop controlled mechanical properties in the steel.

§ 420.101 Specialized definitions.

(a) The term "recirculation" means those cold rolling operations which include recirculation of rolling solutions at all mill stands.

(b) The term "combination" means those cold rolling operations which include recirculation of rolling solutions at one or more mill stands, and once-through use of rolling solutions at the remaining stand or stands.

(c) The term "direct application" means those cold rolling operations which include once-through use of rolling solutions at all mill stands.

(d) The term "single stand" means those recirculation or direct application cold rolling mills which include only one stand of work rolls.

(e) The term "multiple stands" means those recirculation or direct application cold rolling mills which include more than one stand of work rolls.

(f) The term "cold worked pipe and tube" means those cold forming operations that process unheated pipe and tube products using either water or oil solutions for cooling and lubrication.

§ 420.102 Effluent limitations 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-.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.

- (a) Cold rolling mills.
- (1) Recirculation—single stand.

SUBPART J

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.00125	0.000626
O&G.....	0.000522	0.000209
Chromium ¹	0.0000209	0.0000084
Lead.....	0.0000094	0.0000031
Nickel ¹	0.0000188	0.0000063
Zinc.....	0.0000063	0.0000021
Naphthalene.....	0.0000021	
Tetrachloroethylene.....	0.0000031	
pH.....	(?)	(?)

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.
²Within the range of 6.0 to 9.0.

- (2) Recirculation—multiple stands.

SUBPART J

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.00626	0.00313
O&G.....	0.00261	0.00104
Chromium ¹	0.000104	0.0000418
Lead.....	0.0000469	0.0000166
Nickel ¹	0.0000939	0.0000313

SUBPART J—Continued

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Zinc.....	0.0000313	0.0000104
Naphthalene.....	0.0000104	
Tetrachloroethylene.....	0.0000156	
pH.....	(?)	(?)

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

²Within the range of 6.0 to 9.0.

(3) Combination.

SUBPART J

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0751	0.0376
O&G.....	0.0313	0.0125
Chromium ¹	0.00125	0.000501
Lead.....	0.000563	0.000188
Nickel ¹	0.00113	0.000376
Zinc.....	0.000376	0.000125
Naphthalene.....	0.000125	
Tetrachloroethylene.....	0.000188	
pH.....	(?)	(?)

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are pretreated with descaling or combination acid pickling wastewaters.

²Within the range of 6.0 to 9.0.

(4) Direct application—single stand.

SUBPART J

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0225	0.0113
O&G.....	0.00939	0.00376
Chromium ¹	0.000376	0.000150
Lead.....	0.000169	0.0000563
Nickel ¹	0.000338	0.000113
Zinc.....	0.000113	0.0000376
Naphthalene.....	0.0000376	
Tetrachloroethylene.....	0.0000563	
pH.....	(?)	(?)

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

²Within the range of 6.0 to 9.0.

(5) Direct application—multiple stands.

SUBPART J

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.100	0.0501
O&G.....	0.0417	0.0167
Chromium ¹	0.00167	0.000688
Lead.....	0.000751	0.000250
Nickel ¹	0.00150	0.000501
Zinc.....	0.000501	0.000167
Naphthalene.....	0.000167	
Tetrachloroethylene.....	0.000250	
pH.....	(?)	(?)

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

²Within the range of 6.0 to 9.0.

(b) Cold worked pipe and tube.

(1) Using water. No discharge of process wastewater pollutants to navigable waters.

(2) Using oil solutions. No discharge of process wastewater pollutants to navigable waters.

§ 420.103 Effluent limitations 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-.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 available technology economically achievable.

(a) Cold rolling mills.

(1) Recirculation—single stand.

SUBPART J

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.0000209	0.0000084
Lead.....	0.0000094	0.0000031
Nickel ¹	0.0000188	0.0000063
Zinc.....	0.0000063	0.0000021
Naphthalene.....	0.0000021	
Tetrachloroethylene.....	0.0000031	

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(2) Recirculation—multiple stands.

SUBPART J

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.000104	0.0000418
Lead.....	0.0000469	0.0000156
Nickel ¹	0.0000939	0.0000313
Zinc.....	0.0000313	0.0000104
Naphthalene.....	0.0000104	
Tetrachloroethylene.....	0.0000156	

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(3) Combination.

SUBPART J

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.00125	0.000501
Lead.....	0.000563	0.000188
Nickel ¹	0.00113	0.000376
Zinc.....	0.000376	0.000125
Naphthalene.....	0.000125	
Tetrachloroethylene.....	0.000188	

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are pretreated with descaling or combination acid pickling wastewaters.

(4) Direct application—single stand.

Subpart J

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.000376	0.000150
Lead.....	0.000169	0.0000563
Nickel ¹	0.000338	0.000113
Zinc.....	0.000113	0.0000376
Naphthalene.....	0.0000376	
Tetrachloroethylene.....	0.0000563	

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(5) Direct application—multiple stands.

SUBPART J		
Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.00167	0.000688
Lead.....	0.000751	0.000250
Nickel ¹	0.00150	0.000501
Zinc.....	0.000501	0.000167
Naphthalene.....	0.000187	.....
Tetrachloroethylene.....	0.000250	.....

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(b) Cold worked pipe and tube.

(1) *Using water.* No discharge of process wastewater pollutants to navigable waters.

(2) *Using oil solutions.* No discharge of process wastewater pollutants to navigable waters.

§ 420.104 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) Cold rolling mills.

(1) Recirculation—single stand.

SUBPART J		
Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.00125	0.000626
O&G.....	0.000522	0.000209
Chromium ¹	0.0000209	0.0000084
Lead.....	0.0000094	0.0000031
Nickel ¹	0.0000188	0.0000063
Zinc.....	0.0000063	0.0000021
Naphthalene.....	0.0000021	.....
Tetrachloroethylene.....	0.0000031	.....
pH.....	(?)	(?)

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are cotreated with descaling or combination acid pickling wastewaters.

²Within the range of 6.0 to 9.0.

(2) Recirculation—multiple stands.

SUBPART J

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.00250	0.00125
O&G.....	0.00104	0.000417
Chromium ¹	0.0000418	0.0000167
Lead.....	0.0000188	0.0000063
Nickel ¹	0.0000378	0.0000125
Zinc.....	0.0000125	0.0000042
Naphthalene.....	0.0000042	.....
Tetrachloroethylene.....	0.0000063	.....
pH.....	(?)	(?)

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

²Within the range of 6.0 to 9.0.

(3) Combination.

SUBPART J

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0326	0.0163
O&G.....	0.0136	0.00543
Chromium ¹	0.000543	0.000217
Lead.....	0.000244	0.0000814
Nickel ¹	0.000488	0.000163
Zinc.....	0.000163	0.0000542
Naphthalene.....	0.0000542	.....
Tetrachloroethylene.....	0.0000813	.....
pH.....	(?)	(?)

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

²Within the range of 6.0 to 9.0.

(4) Direct application—single stand.

SUBPART J

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.00626	0.00313
O&G.....	0.00261	0.00104
Chromium ¹	0.000104	0.0000418
Lead.....	0.0000469	0.0000158
Nickel ¹	0.0000939	0.0000313
Zinc.....	0.0000313	0.0000104
Naphthalene.....	0.0000104	.....
Tetrachloro-ethylene.....	0.0000158	.....
pH.....	(?)	(?)

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

²Within the range of 6.0 to 9.0.

(5) Direct application—multiple stands.

SUBPART J

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
TSS.....	0.0726	0.0363
O&G.....	0.0302	0.0121
Chromium ¹	0.00121	0.000484
Lead.....	0.000545	0.000182
Nickel ¹	0.00109	0.000363
Zinc.....	0.000363	0.000121
Naphthalene.....	0.000121	.....
Tetrachloro-ethylene.....	0.000182	.....
pH.....	(?)	(?)

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

²Within the range of 6.0 to 9.0.

(b) Cold worked pipe and tube mills.

(1) *Using water.* No discharge of process wastewater pollutants to navigable waters.

(2) *Using oil solutions.* No discharge of process wastewater pollutants to navigable waters.

§ 420.105 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.

(a) Cold rolling.

(1) Recirculation—single stand.

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.0000209	0.0000084
Lead.....	0.0000094	0.0000031
Nickel ¹	0.0000188	0.0000063
Zinc.....	0.0000063	0.0000021
Naphthalene.....	0.0000021	.....
Tetrachloroethylene.....	0.0000031	.....

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(2) Recirculation—multiple stands.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.000104	0.0000418
Lead.....	0.0000469	0.0000156
Nickel ¹	0.0000939	0.0000313
Zinc.....	0.0000313	0.0000104
Naphthalene.....	0.0000104	
Tetrachloroethylene.....	0.0000156	

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(3) Combination.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.00125	0.000501
Lead.....	0.000563	0.000188
Nickel ¹	0.00113	0.000376
Zinc.....	0.000376	0.000125
Naphthalene.....	0.000125	
Tetrachloroethylene.....	0.000188	

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(4) Direct application—single stand.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.000376	0.000150
Lead.....	0.000169	0.0000563
Nickel ¹	0.000338	0.000113
Zinc.....	0.000113	0.0000376
Naphthalene.....	0.0000376	
Tetrachloroethylene.....	0.0000563	

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(5) Direct application—multiple stands.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.00167	0.000688
Lead.....	0.000751	0.000250
Nickel ¹	0.00150	0.000501
Zinc.....	0.000501	0.000167
Naphthalene.....	0.000167	
Tetrachloroethylene.....	0.000250	

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(b) Cold worked pipe and tube mills.

(1) Using water. No discharge of process wastewater pollutants to publicly owned treatment works.

(2) Using oil solutions. No discharge of process wastewater pollutants to publicly owned treatment works.

§ 420.106 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.

(a) Cold rolling.

(1) Recirculation—single stand.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.0000209	0.0000084
Lead.....	0.0000094	0.0000031
Nickel ¹	0.0000188	0.0000063
Zinc.....	0.000063	0.0000021
Naphthalene.....	0.0000021	
Tetrachloroethylene.....	0.0000031	

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(2) Recirculation—multiple stands.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.0000418	0.0000167
Lead.....	0.0000188	0.0000063
Nickel ¹	0.0000376	0.0000125
Zinc.....	0.0000125	0.0000042
Naphthalene.....	0.0000042	
Tetrachloroethylene.....	0.0000063	

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(3) Combination.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.000543	0.000217
Lead.....	0.000244	0.0000814
Nickel ¹	0.000488	0.000163
Zinc.....	0.000163	0.0000542
Naphthalene.....	0.0000542	
Tetrachloroethylene.....	0.0000813	

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(4) Direct application—single stand.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kg (pounds per 1,000 lb) of product	
Chromium ¹	0.000104	0.0000418
Lead.....	0.0000469	0.0000156
Nickel ¹	0.0000939	0.0000313
Zinc.....	0.0000313	0.0000104
Naphthalene.....	0.0000104	
Tetrachloroethylene.....	0.0000156	

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(5) Direct application—multiple stands.

SUBPART J

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg pounds per 1,000 lb) of product	
Chromium ¹	0.00121	0.000484
Lead.....	0.000545	0.000182
Nickel ¹	0.00109	0.000363
Zinc.....	0.000363	0.000121
Naphthalene.....	0.000121	
Tetrachloroethylene.....	0.000182	

¹The limitations for chromium and nickel shall be applicable in lieu of those for lead and zinc when cold rolling wastewaters are treated with descaling or combination acid pickling wastewaters.

(b) Cold worked pipe and tube mills.

(1) Using water. No discharge of process wastewater pollutants to publicly owned treatment works.

(2) Using oil solutions. No discharge of process wastewater pollutants to publicly owned treatment works.

§ 420.107 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR 125.30-.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 conventional technology.

(a) Cold rolling mills.

(1) Recirculation—single stand.

SUBPART J

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.00125	0.000626
O&G.....	0.000522	0.000209
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

(2) Recirculation—multiple stands.

SUBPART J

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.00626	0.00313
O&G.....	0.00261	0.00104

SUBPART J—Continued

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

(3) Combination.

SUBPART J

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0751	0.0376
O&G.....	0.0313	0.0125
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

(4) Direct application—single stand.

SUBPART J

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0225	0.0113
O&G.....	0.00939	0.00376
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

(5) Direct application—multiple stands.

SUBPART J

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.100	0.0501
O&G.....	0.0417	0.0167
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

(b) Cold worked pipe and tube.

(1) Using water. No discharge of process wastewater pollutants to navigable waters.

(2) Using oil solutions. No discharge of process wastewater pollutants to navigable waters.

Subpart K—Alkaline Cleaning Subcategory

§ 420.110 Applicability; description of the alkaline cleaning subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from operations in which steel and steel products are immersed in alkaline cleaning baths to remove mineral and animal fats or oils from the steel, and those rinsing operations which follow such immersion.

§ 420.111 Specialized definitions.

(a) The term "batch" means those alkaline cleaning operations which process steel products such as coiled wire, rods, and tubes in discrete batches or bundles.

(b) The term "continuous" means those alkaline cleaning operations which process steel products other than in discrete batches or bundles.

§ 420.112 Effluent limitations 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-.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.

(a) Batch.

SUBPART K

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0730	0.0313
O&G.....	0.0313	0.0104
pH.....	(¹)	(¹)

¹Within the range of 6.0 to 9.0.

(b) Continuous.

SUBPART K

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of products	
TSS.....	0.102	0.0438
O&G.....	0.0438	0.0146

SUBPART K—Continued

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

§ 420.113 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The Agency has determined that there are not significant quantities of toxic pollutants in alkaline cleaning wastewaters after compliance with applicable BPT limitations. Accordingly, since the BPT level of treatment provides adequate control, the Agency is not promulgating more stringent BAT limitations.

§ 420.114 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) Batch and continuous.

SUBPART K

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.0146	0.00626
O&G.....	0.00626	0.00209
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

§ 420.115 Pretreatment standards for existing sources.

Any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403.

§ 420.116 Pretreatment standards for new sources.

Any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403.

§ 420.117 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR 125.30-.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 conventional technology.

(a) Batch.

SUBPART K

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.0730	0.0313
O&G.....	0.0313	0.0104
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(b) Continuous.

SUBPART K

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.102	0.0438
O&G.....	0.0438	0.0146
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

Subpart L—Hot Coating Subcategory

§ 420.120 Applicability; description of the hot coating subcategory.

The provisions of this subpart are applicable to discharges and to the introduction of pollutants into publicly owned treatment works resulting from the operations in which steel is coated with zinc, terne metal, or other metals by the hot dip process, and those rinsing operations associated with that process.

§ 420.121 Specialized definitions.

(a) The term "galvanizing" means coating steel products with zinc by the hot dip process including the immersion of the steel product in a molten bath of zinc metal, and the related operations preceding and subsequent to the immersion phase.

(b) The term "terne coating" means coating steel products with terne metal by the hot dip process including the immersion of the steel product in a molten bath of lead and tin metals, and the related operations preceding and subsequent to the immersion phase.

(c) The term "other coatings" means coating steel products with metals other than zinc or terne metal by the hot dip process including the immersion of the steel product in a molten bath of metal,

and the related operations preceding the subsequent to the immersion phase.

(d) The term "fume scrubber" means wet air pollution control devices used to remove and clean fumes originating from hot coating operations.

(e) The term "strip, sheet, and miscellaneous products" means steel products other than wire products and fasteners.

(f) The term "wire products and fasteners" means steel wire, products manufactured from steel wire, and steel fasteners manufactured from steel wire or other steel shapes.

§ 420.122 Effluent limitations 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-.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.

(a) Galvanizing, terne coating, and other coatings.

(1) Strip, sheet, and miscellaneous products.

SUBPART L

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.175	0.0751
O&G.....	0.0751	0.0250
Lead.....	0.00113	0.000378
Zinc.....	0.000751	0.000250
Chromium (hexavalent) ¹	0.000150	0.0000501
pH.....	(²)	(²)

¹ The limitations for hexavalent chromium shall apply only to galvanizing operations which discharge wastewaters from the chromate rinse step.

² Within the range of 6.0 to 9.0.

(b) Galvanizing and other coatings.

(1) Wire products and fasteners.

SUBPART L

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
Kg/kg (pounds per 1,000 lb) of product		
TSS.....	0.701	0.300
O&G.....	0.300	0.100
Lead.....	0.00451	0.00150
Zinc.....	0.00300	0.00100
Chromium (hexavalent) ¹	0.000600	0.000200
pH.....	(²)	(²)

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

²Within the range of 6.0 to 9.0.

(c) Fume scrubbers.

SUBPART L

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg per day	
TSS.....	38.1	16.3
O&G.....	16.3	5.45
Lead.....	0.245	0.0819
Zinc.....	0.163	0.0545
Chromium (hexavalent) ¹	0.0327	0.0109
pH.....	(?)	(?)

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead.....	0.00451	0.00150
Zinc.....	0.00300	0.00100
Chromium (hexavalent) ¹	0.000601	0.000200

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with any or the coating operations specified above.

§ 420.123 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

Except as provided in 40 CFR 125.30-32, 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 available technology economically achievable.

(a) Galvanizing, terne coating and other coatings.

(1) Strip, sheet, and miscellaneous products scrubbers.

SUBPART L

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead.....	0.00113	0.000376
Zinc.....	0.000751	0.000250
Chromium (hexavalent) ¹	0.000150	0.0000501

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0438	0.0188
O&G.....	0.0188	0.00626
Lead.....	0.000282	0.0000939
Zinc.....	0.000188	0.0000626
Chromium (hexavalent) ¹	0.0000376	0.0000125
pH.....	(?)	(?)

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewater from the chromate rinse step.

(b) Galvanizing and other coatings.

(1) Wire products and fasteners.

SUBPART L

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead.....	0.00451	0.00150
Zinc.....	0.00300	0.00100
Chromium (hexavalent) ¹	0.000601	0.000200

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.175	0.0751
O&G.....	0.0751	0.0250
Lead.....	0.00113	0.000376
Zinc.....	0.000751	0.000250
Chromium (hexavalent) ¹	0.000150	0.0000501
pH.....	(?)	(?)

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

(c) Fume scrubbers.

SUBPART L

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg per day	
Lead.....	0.0368	0.0123
Zinc.....	0.0245	0.00819
Chromium (hexavalent) ¹	0.00490	0.00163

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/per day	
TSS.....	5.72	2.45
O&G.....	2.45	0.819
Lead.....	0.0368	0.0123
Zinc.....	0.0245	0.00819
Chromium (hexavalent) ¹	0.00490	0.00163
pH.....	(?)	(?)

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

The above limitations shall be applicable to each fume scrubber associated with any of the coating operations specified above.

§ 420.124 New source performance standards.

The discharge of wastewater pollutants from any new source subject to this subpart shall not exceed the standards set forth below.

(a) Galvanizing, terne coating and other coatings.

(1) Strip, sheet, and miscellaneous products.

SUBPART L

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.0438	0.0188
O&G.....	0.0188	0.00626
Lead.....	0.000282	0.0000939
Zinc.....	0.000188	0.0000626
Chromium (hexavalent) ¹	0.0000376	0.0000125
pH.....	(?)	(?)

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/per day	
TSS.....	5.72	2.45
O&G.....	2.45	0.819
Lead.....	0.0368	0.0123
Zinc.....	0.0245	0.00819
Chromium (hexavalent) ¹	0.00490	0.00163
pH.....	(?)	(?)

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with any of the coating operations specified above.

(b) Galvanizing and other coatings.

(1) Wire products and fasteners.

SUBPART L

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS.....	0.175	0.0751
O&G.....	0.0751	0.0250
Lead.....	0.00113	0.000376
Zinc.....	0.000751	0.000250
Chromium (hexavalent) ¹	0.000150	0.0000501
pH.....	(?)	(?)

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/per day	
TSS.....	5.72	2.45
O&G.....	2.45	0.819
Lead.....	0.0368	0.0123
Zinc.....	0.0245	0.00819
Chromium (hexavalent) ¹	0.00490	0.00163
pH.....	(?)	(?)

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

²Within the range of 6.0 to 9.0.

(c) Fume scrubbers.

SUBPART L

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/per day	
TSS.....	5.72	2.45
O&G.....	2.45	0.819
Lead.....	0.0368	0.0123
Zinc.....	0.0245	0.00819
Chromium (hexavalent) ¹	0.00490	0.00163
pH.....	(?)	(?)

Pollutant or pollutant property	New source performance standards	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	kg/per day	
TSS.....	5.72	2.45
O&G.....	2.45	0.819
Lead.....	0.0368	0.0123
Zinc.....	0.0245	0.00819
Chromium (hexavalent) ¹	0.00490	0.00163
pH.....	(?)	(?)

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

²Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with any of the coating operations specified above.

§ 420.125 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.

(a) Galvanizing, terne coating and other coatings.

(1) Strip, sheet, and miscellaneous products.

SUBPART L

Pretreatment standards for existing sources	Pollutant or pollutant property	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.00113	0.000376
Zinc	0.000751	0.000250
Chromium (hexavalent) ¹	0.000150	0.0000501

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

- (b) Galvanizing and other coatings.
(1) Wire products and fasteners.

SUBPART L

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.00451	0.00150
Zinc	0.00300	0.00100
Chromium (hexavalent) ¹	0.000601	0.000200

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

- (c) Fume scrubbers.

SUBPART L

Pollutant or pollutant property	Pretreatment standards for existing sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg per day	
Lead	0.0368	0.0123
Zinc	0.0245	0.00819
Chromium (hexavalent) ¹	0.00490	0.00163

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

The above limitations shall be applicable to each fume scrubber associated with any of the coating operations specified above.

§ 420.126 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:

- (a) Galvanizing, terne coatings and other coatings.

- (1) Strip, sheet, and miscellaneous products.

SUBPART L

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.000282	0.0000939
Zinc	0.000188	0.0000626
Chromium (hexavalent) ¹	0.0000376	0.0000125

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

- (b) Galvanizing and other coatings.
(1) Wire products and fasteners.

SUBPART L

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
Lead	0.00113	0.000376
Zinc	0.000751	0.000250
Chromium (hexavalent) ¹	0.000150	0.0000501

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

- (c) Fume scrubbers.

SUBPART L

Pollutant or pollutant property	Pretreatment standards for new sources	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
Lead	0.0368	0.0123
Zinc	0.0245	0.00819
Chromium (Hexavalent) ¹	0.00490	0.00163

¹The limitations for hexavalent chromium shall be applicable only to galvanizing operations which discharge wastewaters from the chromate rinse step.

The above limitations shall be applicable to each fume scrubber associated with any of the coating operations specified above.

§ 420.127 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional technology.

Except as provided in 40 CFR 125.30-.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 conventional technology.

- (a) Galvanizing, terne coating, and other coatings.

- (1) Strip, sheet, and miscellaneous products.

SUBPART L

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.175	0.0751
O&G	0.0751	0.0250
pH	(?)	(?)

¹Within the range of 6.0 to 9.0.

- (b) Galvanizing and other coatings.
(1) Wire products and fasteners.

SUBPART L

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kg/kkg (pounds per 1,000 lb) of product	
TSS	0.701	0.300
O&G	0.300	0.100
pH	(?)	(?)

¹Within the range of 6.0 to 9.0.

- (c) Fume scrubbers.

SUBPART L

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Kilograms per day	
TSS	38.1	16.3
O&G	16.3	5.45
pH	(?)	(?)

¹Within the range of 6.0 to 9.0.

The above limitations shall be applicable to each fume scrubber associated with any of the coating operations specified above.

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