ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 467

[WH-FRL-2225-1]

Aluminum Forming Point Source Category; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards

AGENCY: Environmental Protection agency (EPA).

ACTION: Proposed regulation.

SUMMARY: EPA proposes regulations to limit effluent discharges to waters of the United States and limit the introduction of pollutants into publicly owned treatment works from facilities engaged in aluminum forming. The purpose of this proposal is to provide effluent limitations guidelines based on "best practicable technology," "best available technology," and to establish new source performance standards and pretreatment standards for new and existing facilities under the Clean Water Act. After considering comments received in response to this proposal, EPA will promulgate a final rule.

DATE: Comments on this proposal must be submitted by January 18, 1983.

ADDRESS: Send comments to: Ms. Janet K. Goodwin, Effluent Guidelines Division (WH-552), Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460, Attention: EGD Docket Clerk, Proposed Aluminum Forming Rules (WH-552). The supporting information and all comments on this proposal will be available for inspection and copying at the EPA Public Information Reference Unit, room 2404 (EPA Library Rear) PM-213. Copies of technical documents may be obtained from the Distribution Officer at the above address or by calling (202) 382-7115. The economic analysis may be obtained from Mr. Joseph Yance, Economic Analysis Staff (WH-586), Environmental Protection Agency, 401 M St. S.W., Washington, D.C. 20460, or by calling (202) 382-5379.

FOR FURTHER INFORMATION CONTACT: Technical information may be obtained from Mr. Ernst P. Hall, at the address listed above, or by calling (202) 382-7126.

SUPPLEMENTARY INFORMATION:

Overview

This preamble describes the legal authority and background, the technical and economic bases, and other aspects of the proposed regulations. It also summarizes comments on a draft technical document circulated in September 1080, and solicits comments on specific areas of interest. The abbreviations, acronyms, and other terms used in the Supplementary Information section are defined in Appendix A to this notice.

This proposed regulation is supported by three major documents available from EPA. Analytical methods are discussed in *Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants.* EPA's technical conclusions are detailed in the *Development Document for Proposed Effluent Limitations Guidelines, New Source Performance Standards and Pretreatment Standards for the Aluminum Forming Point Source Category.* The Agency's economic analysis is found in *Economic Impact Analysis of Proposed Effluent Standards and Limitations for the Aluminum Forming Industry.*

Organization of This Notice

I. Legal Authority

The regulations described in this notice are proposed under authority of Sections 301, 304, 306, 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251 *et seq.*, as amended by the Clean Water Act of 1977, Pub. L. 95-217) (the "Act"). These regulations are also proposed in response to the Settlement Agreement in *Natural Resources Defense Council, Inc.* v. *Train,* 8 ERC 2120 (D.D.C. 1976), *modified,* 12 ERC 1833 (D.D.C. 1979).

II. Background

A. 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). 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 on best available demonstrated technology; and new and existing dischargers to publicly owned treatment works ("POTW") were subject to pretreatment standards under Sections 307(b) and (c) of the Act. 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 POTW (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 on 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. Moveover, 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.

EPA was unable to promulgate many of these regulations by the dates contained 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 for promulgating 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 its incorporation into the Act of several of the 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 307(a) of the Act. Likewise, EPA's programs for new source performance standards and pretreatment standards are now aimed principally at toxic pollutant controls. Moreover, to strengthen the toxics control program, Section 304(e) of the Act authorizes the Administrator to prescribe "best management practices" ("BMP") 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.

The 1977 Amendments added Section 301(b)(2)(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(a)(4) [biological oxygen demanding pollutants (BOD5),total suspended solids (TSS), fecal coliform, and pH], and any additional pollutants defined by the Administrator as "conventional" [oil and grease, 44 FR 44501, July 30, 1979].

BCT is not an additional limitation but replaces BAT for the control of conventional pollutants. In addition to other factors specified in section 304(b)(4)(B), the Act requires that BCT limitations be assessed in light of a two part "cost-reasonableness" test. *American Paper Institute* v. *EPA,* 660 F.2d 954 (4th Cir. 1981). The first test compares the cost for private industry to reduce its conventional pollutants with the costs to publicly owned treatment works for similar levels of reduction in their discharge of these pollutants. The second test examines the cost-effectiveness of additional industrial treatment beyond BPT. EPA must find that limitations are "reasonable" under both tests before establishing them as BCT. In no case may BCT be less stringent than BPT.

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

On October 29, 1982, the Agency proposed a revised BCT methodology. We are deferring proposal of BCT limitations for this category until we can apply the revised methodology to the technologies available for the control of conventional pollutants in this category.

For non-toxic, 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 these proposed regulations is to provide effluent limitations guidelines for BPT and BAT, 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.

B. Prior EPA Regulations

EPA has not previously proposed or promulgated regulations for the aluminum forming point source category.

C. Overview of the Industry

The aluminum forming industry is generally included within SIC 3353, 3354, 3355 and 3463 of the *Standard Industrial Classification Manual,* prepared in 1972 and supplemented in 1977 by the Office of Management and Budget, Executive Office of the President.

EPA studied 279 aluminum forming plants distributed throughout the United States, with the majority located east of the Mississippi River. There are 58 direct dischargers, 66 indirect dischargers, 153 plants that do not discharge wastewater and two plants that have subsequently ceased forming aluminum.

Aluminum forming has become ever more widespread since the commercial development of aluminum in the 1880s. The demand for formed aluminum products has increased greatly in the past 30 years. Two of the larger markets for aluminum formed products are in the manufacturing of aeronautical and automobile components where aluminum reduces weight and increases fuel efficiency.

Aluminum forming is the deformation of aluminum into specific shapes by hot or cold working. Many of the final products manufactured at aluminum forming facilities are sold to other manufacturers for further fabrication or incorporation into consumer goods. The aluminum forming operations include rolling, extruding, forging and drawing of aluminum. Associated operations, such as the casting of aluminum alloys for subsequent forming, heat treatment, cleaning or etching (when performed as an integral part of the forming process), and solvent degreasing, are also included.

Rolling transforms cast aluminum ingot by exerting pressure on the aluminum as it passes between rollers, reducing the thickness and cross-sectional area of the metal. Hot rolling is usually followed by cold rolling which further reduces thickness. Square ingots are usually rolled to produce rod, bar, or wire.

A cooling and lubricating compound is used during rolling to prevent excessive wear on the rolls, to prevent adhesion of aluminum to the rolls, and to maintain a

suitable uniform rolling temperature. Oil-water emulsions are used for this purpose in hot rolling. Most cold rolling operations use mineral oil or kerosene based lubricants.

The steel rolls used in the rolling operations require periodic machining to remove aluminum build-up in an operation called rolling grinding. The common lubricant used in this operation is an oil-water emulsion which is recycled and discharged periodically with other emulsion waste streams.

Extrusion is the application of force to an aluminum billet causing the metal to flow through a die orifice. The resulting product is an elongated shape or tube of uniform cross-sectional area.

Aluminum can be extruded cold, but is usually first heated to a temperature ranging from 375°C to 525°C. Heat treatment is frequently done after extrusion. At some plants, the extrusion is cooled by direct contact with water as it leaves the press. This is called press heat treatment and can be done one of three ways; with a water spray near the die, by immersion in a water tank adjacent to the run-out table, or by passing the aluminum through a water wall.

The steel dies used in the extrusion process require frequent dressing and repairing to insure the necessary dimensional precision and surface quality of the product. The aluminum that has adhered to the die orifice is typically removed by soaking the die in a caustic solution that is frequently followed by a water rinse of the dies. This is called die cleaning.

Forging is the application of impact force to dies or rolls forcing heated aluminum to take the desired shape. Closed die forging, the most commonly used method, is the process of hammering or impacting the aluminum between two steel dies.

Proper lubrication of the dies is essential in forging aluminum alloys. Colloidal graphite in either a water or an oil medium is usually sprayed onto dies. Frequently, it is necessary to use some type of air pollution control with the forging press due to the volume of lubricant that volitilizes. The two types of air pollution control devices used at aluminum forming facilities are baghouses and wet scrubbers.

Drawing refers to the pulling of aluminum through a die or succession of dies to reduce its diameter, alter the cross-sectional shape, or increase its hardness.

To ensure uniform drawing temperatures and avoid excessive wear on the dies and mandrels a suitable lubricant is applied during drawing. A wide variety of lubricants are used for this purpose. Heavier draws, which greatly reduce the cross-sectional areas, may require oil-based lubricants. Oil-water emulsions are used for many applications, and soap solutions may also be used for some lighter draws. Drawing oils are usually recycled until their lubricating properties are exhausted.

Heat treatment is an integral part of aluminum forming practiced at nearly every plant in the category. It is fequently used both in-process and as a final step in forming to give the aluminum alloy the desired mechanical properties. The general types of heat treatment applied are: homogenizing, annealing, solution heat treatment, and artificial aging.

Homogenizing, annealing, and aging are dry processes, while solution heat treatment typically involves significant quantities of contact cooling water.

The quenching techniques used in solution heat treatment are usually critical to achieving the desired mechanical properties. Although alloy sensitivity to quenching varies, delays in transferring the product from the furnace to the quench, a quenching rate that is incorrect or not uniform, and the quality of the quenching medium used can all have serious detrimental effects. Contact cooling water is commonly used to quench solution heat treated products, usually performed by immersing the aluminum formed products into a water bath. Spray or flush quenching is sometimes used to quench thick products. Air or glycol can also be used to cool certain products.

All surface treatment operations performed as an integral part of the forming process are considered to be within the scope of the aluminum forming category.

Solvent cleaners are used to remove oil and grease compounds from the surface of aluminum products. This process is principally used to remove cold rolling and drawing lubricants before products are annealed, finished or shipped. The three basic methods of solvent degreasing are vapor degreasing, cold cleaning and emulsified solvent degreasing.

Vapor degreasing, the predominant method of solvent cleaning, uses the hot vapors of chlorinated solvents to remove oils, greases and waxes. Trichloroethylene, 1,1,1-trichloroethane and perchloroethylene are the solvents most commonly used. Vapor degreasing solvents are frequently recovered by distillation. The sludge generated in the recovery process is toxic and may be flammable.

Alkaline cleaning is the most common method of cleaning aluminum surfaces. The alkaline solutions vary in pH and chemical composition. Inhibitiors are frequently added to minimize or prevent corrosion of the metal. Alkaline cleaners can emulsify vegetable and animal oils and greases to a certain degree and are effective in the removal of lard, oil and other such compounds. Mineral oil and grease are not emulsified by alkaline cleaning solutions.

Aluminum products can be cleaned with an alkaline solution either by immersion or spray. Rinsing, preferably with warm water, may follow the alkaline cleaning process to prevent the solution from drying on the product.

Acid solutions can also be used for aluminum cleaning but they are less effective than either alkaline or solvent cleaning. Their use is generally limited to the removal of oxides and smut. The acid solutions typically contain nitric, sulfuric, phosphoric, chromic, hydrofluoric or a mixture of two of these acids. Surface treatment shall include conversion coating and chemical or electrochemical anodizing when practiced as an integral part of aluminum forming. Surface treatment of aluminum prior to painting in the coil coating category is similar to the surface treatments of cleaning or etching in the aluminum forming category. Both employ the same chemical treatments on the same basis material to achieve the same results, thus the wastewater characteristics are very similar. Seventeen aluminum forming plants reported that they also do aluminum coil coating. To simplify compliance with two regulations at these 17 plants, we have established mass limitations for both categories based on the application of the same treatment. Permissible discharge would be calculated by simply adding the masses that may be discharged for each category. In addition the same pollutants are limited for both aluminum coil coating and aluminum forming, thus making it easier for plants to co-treat wastewaters from these processes.

There are three methods that are used in aluminum forming plants to cast aluminum, direct chill, stationary or pig, and continuous casting. Casting aluminum is the final operation in the process of producing primary aluminum. An aluminum ingot or billet is the material on which forming operations begin. Usually casting of ingots and billets is performed at the primary aluminum plant. However, a number of aluminum forming plants perform casting to recycle scrap, to obtain a useable ingot or billet, or to make a desired alloy. The equipment and methods of casting used at aluminum

forming plants are the same as those employed by primary aluminum plants and the water requirements and waste characteristics are also very similar. Therefore, the Agency has pooled the casting flow and waste characteristics data from primary aluminum plants and aluminum forming plants to develop limitations and characterize the raw wastewater. The two sets of limitations are based on the same flows. Casting done at a plant which does both primary aluminum reduction and aluminum forming will be subject to the casting limitations for the primary aluminum subcategory if they cast the aluminum directly without cooling. If the aluminum is a remelted primary aluminum product then the casting subsequent to the remelting will be subject to the aluminum forming limitations. The limitations for casting in the primary aluminum subcategory of the nonferrous metals manufacturing category will be proposed in the future.

Of the three casting methods, direct chill is the most widely used method of casting aluminum for subsequent forming. The molten aluminum is tapped from the melting furnace and flows through a distributor channel into a shallow mold. Noncontact cooling water circulates within this mold causing the aluminum to solidify. The base of the mold is attached to a hydraulic cylinder which is gradually lowered as pouring continues. As the solidified aluminum leaves the mold it is sprayed with contact cooling water reducing the temperature of the ingot. The cylinder continues to lower into a tank of water, further cooling the ingot as it is immersed. When the cylinder has reached its lowest position, pouring stops and the ingot is lifted from the pit.

A relatively new technology, continuous casting of aluminum first came into practice in the 1950's. Current applications include the casting of plate, sheet, and rod. Because continuous casting affects the mechanical properties of the aluminum cast, the use of continuous casting is limited by the alloys used, the nature of subsequent forming operations and the desired properties of the finished product.

The continuous casting process has been found to significantly reduce the energy requirements by replacing the more conventional direct chill casting and rolling operation and can reduce or eliminate the use of contact cooling water and oil lubricants.

Stationary or pig casting is generally used to recycle in-house aluminum scrap. In this process molten aluminum is poured into cast iron molds and allowed to air cool. Lubricants and cooling water are not required. Although water may be sprayed onto the molten aluminum to increase the cooling rate, this should not result in any discharge.

The characteristics of the wastewater generated by an aluminum forming facility may vary depending on the operations performed. The most important pollutants or pollutant parameters are:

(1) Toxic priority pollutants—cadmium, chromium, copper, cyanide, lead, nickel, and zinc, (2) conventional pollutants—oil and grease, suspended solids, and pH, and (3) nonconventional pollutants—aluminum.

Toxic organics were found at significant concentrations in concentrated oily waste streams and the forging air pollution scrubber wastewater.

III. Scope of This Rulemaking and Summary of Methodology

This proposed regulation is a part of a new chapter in water pollution control requirements. For most industries the 1973–1976 round of rulemaking emphasized 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 (or "classical") pollutants. However, for this category, BPT was not proposed or promulgated.

In this round of rulemakings EPA is emphasizing the achievement by July 1, 1984, of the best available technology economically achievable (BAT), which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants. In general, this technology level represents the very 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 a lengthy list of toxic substances.

In developing this regulation, EPA studied the aluminum forming category to determine whether differences in raw materials, final products, manufacturing processes, equipment, age and size of plants, water use, wastewater constituents, or other factors required the development of separate effluent limitations and standards for different segments (or subcategories) of the industry. This study included the identification of raw waste and treated effluent characteristics, including: The sources and volume of water used, the processes employed, and the sources of pollutants and wastewaters. Sampling and analysis of specific waste streams enabled EPA to determine the presence and concentration of priority pollutants in wastewater discharges.

EPA also identified both actual and potential control and treatment technologies (including both in-process and end-of-process technologies). The Agency analyzed both historical and newly generated data on the performance, operational limitations, and reliability of these technologies. In addition, EPA considered the impacts of these technologies on air quality, solid waste generation, water scarcity, and energy requirements.

The Agency then estimated the costs of each control and treatment technology using cost equations developed by standard engineering analyses. EPA derived unit process costs for 104 discharging plants using data and characteristics (production and flow) applied to each treatment process (i.e., hexavalent chromium reduction, metals precipitation, sedimentation, granular bed—multi-media filtration, etc.). These unit process costs were added to yield the total cost at each treatment level.

After confirming the reasonableness of this methodology by comparing EPA cost estimates to treatment system costs supplied by the industry, the Agency evaluated the economic impacts of these costs.

On the basis of these factors, EPA identified various control and treatment technologies, as BPT, BAT, NSPS, PSES and PSNS. The proposed regulation, however, does not require the installation of any particular technology. Rather, it requires achievement of effluent limitations equivalent to those achieved by the proper operation of these or equivalent technologies.

Except for pH requirements, the effluent limitations for BPT, BAT, and NSPS are expressed as mass limitations—a mass of pollutant per unit of production (mg/kkg). They were calculated by combining three figures: (1) Treated effluent concentrations determined by analyzing control technology performance data; (2) production-weighted wastewater flow for the "core" and "ancillary" operations in each subcategory ("core" operations are basic aluminum forming operations; "ancillary" operations are operations often associated with the core operations; see the discussion of subcategorization further in this document for more details); and (3) any relevant process or treatment variability factor (e.g., mean versus maximum day). This basic calculation was performed for each regulated pollutant or pollutant paramter for each core and ancillary operation of each subcategory.

Pretreatment standards-PSES and PSNS—are also expressed as mass limitations rather than concentration limits to ensure a reduction in the total quantity of pollutant discharges by reducing the volume of process wastewater treated. Regulation on the basis of concentration only is not appropriate because it will not adequately control the amount of toxic pollutants released. Therefore, the Agency is not proposing concentation based pretreatment standards (40 CFR 403.6).

IV. Data Gathering Efforts

The data gathering program is described briefly in Section III and in substantial detail in Section V of the Development Document. A data collection portfolio (DCP) was developed to collect information about the industry and was mailed, under the authority of section 308 of the Clean Water Act, to each company known or believed to perform aluminum forming in the United States. Data were received from 279 aluminium froming plants. Analytical data were collected from 20 sampled plants. Supplemental data were obtained from NPDES permit files and engineering studies on treatment technologies, used in the aluminum forming category. The Agency used all available pertinent data solicited from all known aluminum forming sources in developing these limitations. However, the analytical data from aluminum forming is limited, especially data across a treatment system such as raw waste influent to treatment and treated effluent. Therefore, the Agency evaluated and established the effectiveness of treatment technologies by examining their performance on aluminum forming and other similar wastewaters. A detailed discussion of these data and their use is included under Control Technologies Considered further in this preamble and in Section VII of the technical development document.

V. Sampling and Analytical Program

EPA focused its sampling and analysis on the toxic pollutants designated in the Clean Water Act. However, we also sampled and analyzed conventional and nonconventional pollutants. We have explained our analysis methods for toxic organic pollutants in the preamble to the proposed regulation for the Leather Tanning Point Source Category, 40 CFR Part 425 (44 FR 38749 (July 2, 1979)). Before proceeding to analyze aluminum forming wastes, we had to isolate 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. To make the task more manageable, therefore, EPA has selected 129 specific toxic pollutants for study in this rulemaking and other industry rulemakings.

In addition to the 129 pollutants, EPA checked for the presence, frequency, and concentration of xylenes, aluminum, magnesium, calcium, sodium, boron, barium, cobalt, iron, manganese, molybdenum, tin, titanium, vanadium, ytrium, TSS, oil and grease, pH, chemical oxygen demand, total phenols, total organic carbon, and total dissolved solids.

Screen samples were collected from at least one plant for each major forming operation, and these samples were analyzed (screened) for the presence and magnitude of each of the 129 specific toxic pollutants plus conventional and selected nonconventional pollutants.

VI. Industry Subcategorization

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

The aluminum forming manufacturing processes of rolling, extruding, forging, and drawing are universally recognized in the industry. They also provide a convenient basis for normalizing limitations from one plant to another based on mass of aluminum passed through the processes. EPA has subcategorized the aluminum forming industry based primarily on manufacturing processes. The subcategories are defined as (1) rolling with neat oils, (2) rolling with emulsions, (3) extrusion, (4) forging, (5) drawing with neat oils, and (6) drawing with emulsions or soaps.

Each subcategory is divided into two segments. The first segment, called the core, consists of the specific forming operation and related operations that almost always occur in conjunction with the forming operation. The core also includes operations that are not always found in conjunction with the forming operation, but do not discharge wastewater. The effluent flow from the core for each of the subcategories is production normalized, i.e., related to the mass of aluminum processed through the forming operation, and the limitations are based on the effluent flow and the treatment effectiveness.

The second segment of each subcategory consists of ancillary operations that generate wastewater and when practiced are an integral part of the aluminum forming process. These ancillary operations, such as solution heat treatment, cleaning or etching, and casting, are practiced to achieve desired characteristics or finishes on the aluminum products and are characterized by the generation of large volumes of wastewater. Because they are not found at every plant in a subcategory and they are not always unique to a specific subcategory, they were not included in the core. Instead, a separate limitation is proposed for ancillary operations based on the waste streams generated by these operations and normalized by the mass of aluminum processed through the ancillary operation. An aluminum forming plant would be permitted to discharge pollutants equivalent to the sum of the limitations established for the core and the individual ancillary operation(s) practiced at the plant.

VII. Available Wastewater Control and Treatment Technology

A. Control Technologies Considered

The control and treatment technologies available for this category include both in-process and end-of-pipe treatments. These technologies were considered appropriate for the treatment of aluminum forming wastewater and formed the basis of the regulatory options.

In-process treatment includes a variety of water flow reduction steps and major process changes. The following in-process treatments are considered for this proposal:

Countercurrent rinsing: Countercurrent rinsing is a mechanism commonly encountered in metal processing operations. The cleanest water is used for final rinsing of an item, preceded by rinse stages using water with progressively more contaminants to partially rinse the item. Clean make-up water is added at the final rinse and contaminated rinse water is discharged from the initial rinse stage. The make-up water for all but the final rinse is from the following rinse stage.

Recycle: Recycling of process water is the practice of treating and returning water to be used again for the same purpose. Total recycle can be employed, although build up of dissolved solids may make it necessary to discharge a bleed stream or to discharge periodically to allow for clean out of the tank.

Regeneration of chemical baths: Regeneration of chemical baths consists of treating and purifying a spent or used bath to restore its chemical properties, thus allowing a bath to be used indefinitely. This process of regeneration may be carried out with, advanced technologies such as reverse osmosis or simple pH adjustment to allow precipitation and settling of dissolved impurities. Some plants report that the addition of chemicals to make up for losses by drag out on the product is all that is necessary to maintain the bath indefinitely.

Alternate degassing methods: Aluminum in a molten state prior to casting requires degassing to remove air and some impurities from the melt. In the past one of the agents used to degas aluminum was chlorine. The reaction of chlorine with the molten aluminum produced corrosive off-gases that required scrubbing usually with a wet scrubber. Most plants have replaced the chlorine rich degassing agent with a mixture of inert gases and a much lower proportion of chlorine. The result is that a wet scrubber can be replaced with a dry system thus zero discharge.

End-of-pipe treatments that were considered appropriate for application on aluminum forming wastewaters include technologies that are common for the treatment of metal bearing wastewaters, and some less commonly used technologies.

Chemical precipitation. Chemical precipitation generally involves adjusting the pH and adding a flocculating agent to precipitate out of solution metal ions and certain anions. The chemical commonly associated with this treatment is lime.

Sedimentation. Sedimentation is a process which removes solid particles from a liquid matrix by gravitational force. This is done by reducing the velocity of the feed stream in a large volume tank or lagoon so that gravitational settling can occur. This treatment when combined with chemical precipitation is frequently referred to as lime and settle treatment.

Chromium reduction. The addition of a strong reducing agent produces a chemical reaction reducing hexavalent chromium to trivalent chromium. The reduction allows removal of chromium from solution in conjunction with other metallic salts by chemical precipitation.

Cyanide destruction or removal. With the addition of oxidizing agents or complexing agents cyanide can either be oxidized (destroyed) or complexed. Complexed cyanide can be precipitated out of solution.

Oil skimming. Oil and other materials with a specific gravity less than water often float unassisted to the surface of the wastewater. Skimming removes these floating wastes usually in a tank designed to allow floating debris to rise while the water flows to an outlet located below the floating layer. A variety of devices are used to remove the floating layer from the surface.

Chemical emulsion breaking. Chemical emulsion breaking is used to break stable oil and water emulsions. By adding chemicals, and adjusting the pH, the oil to water attraction induced in the emulsion is diminished thus allowing the oil fraction to separate and float on the water fraction where it can be skimmed off.

Thermal emulsion breaking. Dispersed oil droplets in a spent emulsion can be destabilized by the application of heat to the waste. Thermal emulsion breaking separates an emulsion into distilled water, oils and other floating materials and sludge. The oils and sludge can be disposed of and the water can be reused.

Carbon adsorption. The use of activated carbon to remove dissolved organics is one of the most efficient organic removal processes available. The carbon removes contaminants from water by the process of adsorption or the attraction and accumulation of one substance on the surface of another. Activated carbon preferentially adsorbs organic compounds and because of this selectivity is particularly effective in removing organic compounds from aqueous solution.

The Agency examined data from aluminum forming and four other categories and made the technical judgment that wastewaters from aluminum forming, copper forming, coil coating, battery manufacturing, and porcelain enameling are similar in all material respects and that lime and settle treatment was equally applicable to all such wastewaters. This judgment was further confirmed by a statistical analysis of variance which showed that the combined or pooled data set was homogeneous and that homogeneity was unaffected by the removal of data from any one category. We attempted to add electroplating wastewater data to the pooled data but found that it substantially reduced the homogeneity of the data set and, therefore, electroplating was not included in the pooled data set. We supplemented aluminum forming lime and settle data with data from the other four categories forming a larger and more substantial data pool for analysis and use. Based on this substantial data base, the Agency concludes that aluminum forming wastewaters can be effectively treated by lime and settle technology to achieve the treatment performance derived from the pooled data set.

The Agency also examined the performance of lime, settle and filter based on the performance of full scale commercial systems treating porcelain enameling wastewaters. One aluminum forming plant reported that they are using a filter thus, this technology is demonstrated on aluminum forming wastewaters. However, we do not have data on the performance of this technology on aluminum forming wastewaters. The Agency requests data from aluminum forming plants that use lime settle and filter technology. The Agency made the determination that wastewaters from porcelain enameling and aluminum forming are similar in all material respects based on the analysis of the combined data set, therefore, the performance of lime, settle and filter can be applied to the aluminum forming wastewaters.

The treatment performance data is used to obtain maximum daily and monthly average pollutant concentrations. These concentrations (mg/l) along with the aluminum forming production normalized flows (1/kkg of aluminum processed) are used to obtain the maximum daily and monthly average values (mg/kkg) for effluent limitations and standards. The monthly average values are based on the average of ten consecutive sampling days. The ten day average value was selected as the minimum number of consecutive samples which need to be averaged to arrive at a stable slope on a statistically based curve relating one day and 30 day average values and it approximates the most frequent monitoring requirement of direct discharge permits. The monthly average numbers shown in the regulation are to be used by plants with combined waste streams that use the "combined waste stream formula" set forth at 40 CFR 403.6(e) and by permit writers in writing direct discharge permits.

B. Status of In-Place Technology

Current wastewater treatment practices in the aluminum forming category range from no treatment at 65 plants to treatment with chemical precipitation, sedimentation and

filtration at one aluminum forming plant. Of the 124 discharging plants for which data are available, 58 are direct dischargers. Thirteen of these plants have treatment to remove metals and suspended solids, twelve have technologies for oil removal, four remove suspended solids, two remove oil and suspended solids, and nine have technologies capable of removing all three groups. The remainder of the direct dischargers did not report any treatment for their aluminum forming wastewaters. Out of the 66 indirect discharging plants, 47 have no treatment for their aluminum forming wastewaters, three have oil removal technologies, two have technologies to remove oil and suspended solids, seven have technologies to remove metals and suspended solids, four remove suspended solids and three plants have the technology capable of removing metals, suspended solids, and oil and grease.

VIII. Best Practicable Technology (BPT) Effluent Limitations

The factors considered in defining best practicable control technology currently available (BPT) include the total cost of applying technology in relation to the effluent reduction benefits derived, the age of equipment and facilities involved, the processes employed, non-water quality environmental impacts (including energy requirements), and other factors the Administrator considers appropriate. In general, the BPT 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 category. Limitations based on 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 such 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. *American Iron and Steel Institute* v. *EPA*, 526 F.2d 1027 (3rd Cir. 1975). 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 impacts 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. Accordingly, water quality considerations were not the basis for selecting the proposed BPT. See *Weyerhaeuser Company* v. *Costle*, 590 F.2d 1011 (D.C. Cir. 1978).

In developing the proposed BPT limitations, the Agency considered the amount of water used per unit production in each waste stream. These data were used to determine the average water discharge for each subcategory core and ancillary operation. Aberrant flows were excluded from mean calculations. In that the proposed BPT limitations were based on the average water discharge, plants with greater than average discharge flows may have to implement some method of flow reduction in order to achieve the effluent limits of BPT.

Next, the end-of-pipe treatment technology appropriate for BPT level treatment was selected. The proposed BPT level treatment consists of hexavalent chromium reduction, and chemical emulsion breaking, where applicable; oil skimming, chemical precipitation and sedimentation to remove the resultant precipitate and other suspended solids. All aspects of BPT technology are demonstrated at aluminum forming plants and, BPT performance is known to be achieved for all pollutant parameters at three aluminum forming plants sampled by the Agency.

Cyanide removal, where applicable, is also included in BPT. Significant amounts of cyanide were detected in process wastewater from aluminum forming plants. Existing in-place technology for the aluminum forming category is uniformly inadequate; in fact, cyanide removal is not demonstrated within the category. However, cyanide removal is used on similar wastes from the aluminum subcategory of the coil coating point source category by some of the same companies that also do aluminum forming. Because the processes and raw wastewater characteristics are similar and because the Agency believes that cyanide removal technology as used in the coil coating category will perform as effectively for aluminum forming, the Agency is proposing cyanide removal at BPT. See *Tanners' Council of American* v. *Train*, 540 F.2d 1188 (4th Cir. 1976).

The effluent expected to result from the application of these technologies was evaluated against the known performance of some of the best plants in the category and was found to be consistent. BPT technology as outlined above applies to five of the aluminum forming subcategories. The sixth subcategory, forging is excluded from BPT and BAT limitations because there are no direct discharge forging plants (see Section XIV of this preamble). The effluent concentrations resulting from the application of the technology are identical in each subcategory, however, the mass limitations vary due to different water uses among the subcategories.

Fifty-eight plants are direct dischargers. The Agency estimates that investment costs in 1982 dollars for these plants would be $43.7 million and that total annual costs would be $22.5 million. Removal of toxic pollutants over estimates of current removals would be 92,900 kg/yr (205,000 lb/yr). EPA expects no plant closures, unemployment, or changes in industry production capacity as a result of this BPT limitation. If all costs were passed on to consumers, price increases would be minimal. The Agency has determined the effluent reduction benefits associated with compliance with BPT limitations justify the costs.

IX. 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 applying such technology (Section 304(b)(2)(B) of the Clean Water Act). At a minimum, the BAT technology level represents the best economically achievable performance of plants of various ages, sizes, processes or other shared characteristics. As with BPT, where the Agency has found the existing performance to be uniformly inadequate, BAT may be transferred from a different subcategory or category. BAT may include feasible process changes or internal controls, even when not common industry practice.

The required 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 proposed BAT, however, EPA has given substantial weight to the reasonableness of cost. The Agency has considered the

volume and nature of discharges expected after application of BAT, the general environmental effects of the pollutants, and the costs and economic impacts of the required pollution control levels.

Despite this expanded consideration of costs, the primary determinant of BAT is still 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 aluminum forming processes discharge approximately 45 different toxic pollutants. These toxics include seven toxic metals, cyanide, and some 37 toxic organics, which are contained in the emulsified lubricants used throughout the category. EPA has selected BAT technology options which will reduce this toxic pollution by a significant amount.

The Agency has considered six major sets of technology options which might be applied at the BAT level. Each of these options would substantially reduce the discharge of toxic pollutants. These options are described in detail in Section X of the Development Document and are outlined below. Briefly, the following technology options were considered for BAT.

Option 1: Consists of chromium reduction, cyanide removal, chemical emulsion breaking, where applicable; oil skimming, chemical precipitation, and sedimentation; with flow normalization to the mean. This option is equivalent to the technology selected for the proposed BPT limits.

Option 2: Option 1 plus flow reduction. Specifically consists of chromium reduction, cyanide removal, chemical emulsion breaking, where applicable; oil skimming, chemical precipitation, and sedimentation; with flow reduction through the application of recycle, countercurrent rinsing, hauling or regeneration of chemical baths, and alternate degassing methods.

Option 3: Option 2 plus a filter. Specifically consists of chromium reduction, cyanide removal, chemical emulsion breaking, where applicable; oil skimming; chemical precipitation, sedimentation, and filtration; with flow reduction through the application of recycle, countercurrent rinsing, regeneration of chemical baths, and alternate degassing methods. EPA's treatment model is based on the gravity mixed-media type filter, although other filters such as rapid sand or pressure would perform satisfactorily as well.

Option 4: Option 2 plus thermal emulsion breaking. Specifically consists of chromium reduction, cyanide removal, thermal emulsion breaking, where applicable; oil skimming, chemical precipitation, and sedimentation, with flow reduction through the application of recycle, countercurrent rinsing, regeneration of chemical baths, and alternate degassing methods.

BAT limitations based on Option 4 build on the requirement of Option 2 by requiring zero discharge of emulsified lubricants. One plant currently achieves zero discharge from its concentrated emulsion waste stream using chemical emulsion breaking, ultrafiltration and clarification with recycle or reuse of the treated effluent. Another plant uses land application of emulsions to achieve zero discharge. Thermal emulsion breaking can also achieve zero discharge of pollutants by recovering the water content and recycling the oil for salvage. The Agency has used the thermal emulsion breaking process for control technology and costing although other zero discharge options are available.

Option 5: Option 4 plus filter. Specifically consists of chromium reduction, cyanide removal, thermal emulsion breaking, where applicable; oil skimming, chemical precipitation, sedimentation, and filtration; with flow reduction through the application of recycle, countercurrent rinsing, regeneration of chemical baths, and alternate degassing methods.

Option 6: Option 5 plus activated carbon. Specifically consists of chromium reduction, cyanide removal, thermal emulsion breaking, and activated carbon, where applicable; oil skimming, chemical precipitation, sedimentation, filtration, with flow reduction through the application of recycle, countercurrent rinsing, regeneration of chemical baths, and alternate degassing methods.

BAT Selection and Decision Criteria—EPA has selected Option 2 as the basis for proposed BAT effluent limitations. This option was selected becuase it provides protection of the environment consistent with proven operation of in-process controls and treatment effectiveness. The reduction of pollutants in the effluent especially toxic metals is substantial and economically achievable; there are minimal economic impacts on the industry (see Section XVI of this preamble).

Option 2 builds upon the technologies established for BPT. Flow reduction measures are the principal mechanisms for reducing pollutant discharges at Option 2. Flow reduction measures result in eliminating some wastewater streams and concentrating the pollutants in others. Treatment of a more concentrated stream allows a greater net removal of pollutants and a reduced flow may reduce the size of the treatment equipment and hence the cost of treatment. Methods for reducing process wastewater generation include:

- Heat treatment contact cooling water recycle through cooling towers;
- Scrubber liquor recycle;
- Continuous rod casting contact cooling water recycle;
- Hauling or regeneration of cleaning or etch line chemical baths;
- Countercurrent rinsing applied to cleaning or etch line and die cleaning rinses; and
- Alternative fluxing methods for molten aluminum.

The Agency considered establishing a Total Toxic Organics (TTO) limitation at BAT for the toxic organic pollutants listed in Appendix G. However, data from aluminum forming plants shows a 97 percent reduction in the concentrations of toxic organics with the effective treatment and removal of oil and grease (see Section X of the technical development document). Thus, the Agency has determined that the oil and grease limitation at BPT will provide adequate control of the toxic organics and, therefore, is not establishing a TTO limit at BAT. The basis for this decision are the provisions set forth under Paragraph 8(a)(iii) of the Revised Settlement Agreement, which allows the Administrator to exclude from regulation toxic pollutants effectively controlled by technologies upon which are based other effluent limitations and guidelines.

All of the technologies or control methods recommended for BAT are presently employed in one or more aluminum forming plant with the exception of cyanide removal as discussed previously. The application of technologies such as countercurrent rinsing to cleaning or etch lines is not expected to cause serious interruptions in production since these operations tend to be used intermittently allowing process changes to be scheduled.

The Agency recommends that cleaning or etching chemical baths be either contract hauled or regenerated to avoid discharge. The Agency based cost estimates on contract hauling as a means of achieving zero discharge. However, fifteen plants presently are not discharging their chemical baths by applying the chemical principles of regeneration which are to precipitate unwanted metal salts out of solution, achievable through a shift in temperature, adding makeup chemical to the bath to restore its properties, and periodically removing the solids. Two of the plants contacted indicated that their

regeneration technologies are either patented or proprietary. Although the Agency knows that regeneration is an effective and efficient means of treating these wastes, it may not be universally available. We therefore, request comments on the availability of this technology and the assumption that the costs of its application are balanced by the savings in formulations for a new bath and the disposal of spent chemical baths.

The incremental mass of toxic pollutants removed in going from Option 1 or BPT to Option 2 is 16,000 kg/yr (35,000 lb/yr) with an associated cost of $11.7 million capital investment and $4.1 million annually.

The Agency examined the addition of a polishing filter, which is known to be in use at one aluminum forming plant, as Option 3. Although EPA is proposing effluent limitations based on technology Option 2, the Agency will give equivalent consideration to promulgating final limitations based on technology Option 3. Option 3 consists of Option 2 plus filtration and would remove 4,200 kg/yr (9,200 lb/yr) toxic pollutants above Option 2 at a capital cost of $7.3 million and annual costs of $2.0 million. Section VII of the Development Document contains a discussion of the treatment effectiveness that can be achieved using Option 3 and Section II of the Development Document contains effluent limitations tables based on Option 3 technology. The Agency requests comment of these two options. See section XXII of this preamble for a discussion of the type of information the Agency specifically requests.

The Agency decided not to propose BAT based on Options 4 and 5 because of the extremely high energy requirements and costs associated with retrofitting thermal emulsion breaking technology into existing aluminum forming plants. In addition there is a small difference in pollutant reduction benefits achieved over Option 2.

The incremental mass of pollutants removed in going from Option 2 technology to Option 4 technology is 240 kg/yr (530 lb/yr) of toxic pollutants. The incremental capital cost for Option 4 above Option 2 is $89.2 million, the incremental annual cost is $19.1 million/yr.

The incremental mass toxic pollutants removed in going from Option 2 to Option 5 is 4,500 kg/yr (9,900 lb/yr). The incremental capital costs in going from Option 2 to Option 5 is $97.6 million, and the incremental annual cost is $21.6 million/yr.

Option 6 is applicable only to the forging subcategory because the forging scrubber liquors may contain significant concentrations of organics from the volatilization of forging lubricants. Activated carbon was eliminated from consideration early in the decision process due to the high cost ($41,700 capital and $65,000/yr) associated with its application and the minimal incremental removals (15.1 kg/yr, or 33 lb/yr) of toxic organics achieved.

X. 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. New plants have the opportunity to design and use the best and most efficient aluminum forming processes and wastewater treatment technologies, without facing the added costs and restrictions encountered in retrofitting an existing plant. Therefore, Congress 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 examined Options 1 through 5 identical to the BAT options for selection of NSPS technology. The option selected for NSPS is Option 3 which consists of flow reduction, and end-of-pipe treatment of oil skimming, lime, settle and filter, plus preliminary treatment when necessary of chemical emulsion breaking, chromium reduction, and cyanide removal. Option 3 is selected because it provides greater protection of the environment than either Option 1 or 2 and because it is based on technology that is fully demonstrated and is in use at one existing aluminum forming plant. The Agency did not select Option 4 or 5 because of the very high costs and high energy requirements for thermal emulsion breaking technology and the small incremental removal of toxic pollutants over Option 3. The data relied upon for selection of NSPS were primarily the data developed for existing sources which included costs on a plant-by-plant basis along with retrofit costs where applicable. The Agency believes that compliance costs could be lower for new sources than our cost estimates for equivalent existing sources, because production processes can be designed on the basis of lower flows and there will be no costs associated with retrofitting the in-process controls. Furthermore, since Option 3 when applied to existing sources is not expected to cause any plant closures or job losses, the Agency does not believe that applying this level of technology to new sources will create a barrier to entry into the category.

XI. Pretreatment Standards For Existing Sources (PSES)

Section 307(b) of the Act requires EPA to promulgate pretreatment standards for existing sources (PSES) to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with the operation of POTW. These standards must be achieved within three years of promulgation.

Before proposing pretreatment standards, the Agency examines whether the pollutants discharged by the industry pass through the POTW or interfere with the POTW operation or its chosen sludge disposal practices. In determining whether pollutants pass through a POTW, the Agency compares the percentage of a pollutant removed by POTW with the percentage removed by direct dischargers applying the best available technology economically achievable. A pollutant is deemed to pass through the POTW when the average percentage removed nationwide by well-operated POTW meeting secondary treatment requirements, is less than the percentage removed by direct dischargers complying with BAT effluent limitations guidelines for that pollutant.

This definition of pass through satisfies two competing objectives set by Congress: (1) That standards for indirect dischargers be equivalent to standards for direct dischargers, while, at the same time, (2) that the treatment capability and performance of the POTW be recognized and taken into account in regulating the discharge of pollutants from indirect dischargers. The Agency compares percentage removal rather than the mass or concentration of pollutants discharged because the latter would not take into account the mass of pollutants discharged to the POTW from non-industrial sources nor the dilution of the pollutants in the POTW effluent to lower concentrations due to the addition of large amounts of non-industrial wastewater.

In the aluminum forming category, the Agency has concluded that the toxic metals that would be regulated under these proposed standards pass through the POTW. The average percentage of toxic metals removed by well-operated POTW meeting secondary treatment requirements nationwide is about 50 percent (ranging from 20 to 65 percent), whereas the percentage that can be removed by an aluminum forming direct discharger applying the best available technology economically achievable is

expected to be about 91 percent (ranging from 79 to 97 percent). Accordingly, these pollutants pass through POTW.

As mentioned previously under BAT, there are some 37 toxic organics associated with the emulsified lubricants used in aluminum forming. At BAT, these toxic organics are not specifically regulated, since the oil and grease limitation proposed at BPT should provide adequate removal, approximately 97 percent. As demonstrated in the Development Document, direct dischargers who comply with the BPT limitation for oil and grease will remove a greater percentage of the toxic organics than a well operated POTW achieving secondary treatment. Accordingly, the Agency believes that there may be pass through of toxic organic pollutants associated with oil waste streams. Given the mix of toxic organic pollutants found in these waste streams, for example tetrachloroethylene and PCB's, and the fact that they may pass through POTW, we propose to establish a pretreatment standard for total toxic organics (TTO) to control these pollutants. The proposed TTO standard is based on the application of oil and grease removal technology to achieve the same removal of TTO as BPT level of treatment. Oil and grease removal is a relatively inexpensive technology which may be used to control toxic organics as compared with more conventional treatment technologies such as biological treatment or activated carbon. In addition, oil and grease removal may be an important part of good treatment for metals removal.

The Agency considered five options for the proposed PSES technology which parallel Options 1 through 5 previously described. The technology option selected as the basis of proposed standards is Option 2 which consists of end-of-pipe treatment with oil skimming, lime and settle; and cyanide removal, hexavalent chromium reduction, and chemical emulsion breaking, where applicable. The option selected includes wastewater flow reduction by countercurrent rinsing and major in-process changes (See Section X of the technical Development Document for a detailed discussion of Option 2 technology).

The application of Option 2 technology to the indirect dischargers would remove 109,000 kg/yr (240,000 lb/yr) of toxic pollutants above current removals; and would have an investment cost of $32.3 million and an annual cost of $15.7 million.

Although, the Agency is proposing PSES based on Option 2, we will give equivalent consideration to Option 3 which includes filtration as the basis for PSES. The technologies associated with Option 3 are set forth in Sections X and XII and the standards which would apply if Option 3 is selected as the basis for PSES are set forth in Section II of the technical development document. We urge interested persons to study these data and comment on the pollutant limitations, environmental benefits and costs resulting from this option. See section XXII of this preamble for a discussion of the type of information the Agency specifically requests.

If the proposed pretreatment standards were applied to all indirect discharging facilities, the Agency estimates that there would be five potential closures in the extrusion and drawing with emulsions or soaps subcategories. To avoid this adverse affect the Agency is proposing to exclude from compliance with these categorical pretreatment standards, plants in the extrusion subcategory that produce less than three million pounds per year and plants in the drawing with emulsions or soaps subcategory that produce less than one million pounds per year. (General pretreatment standards remain applicable.) This exclusion is necessary to avoid excessive economic impacts on this segment of the industry. The Agency was unable to identify any technologies less costly than the one chosen which would remove significant amounts of toxic pollutants in these subcategories. Accordingly, the small plant cut-off in these two subcategories is the only option available to avoid severe economic impacts on these subcategories.

EPA proposes to establish a Total Toxic Organics (TTO) limitation based on the data presented in Section X of the technical development document. The list of organics included under TTO is also presented in Section X of the Development Document. Analysis of toxic organics is costly and requires delicate and sensitive equipment. Therefore, the Agency proposes to establish as an alternative to monitoring for total toxic organics, an oil and grease limit equivalent to the BPT limit, for which the analysis is much less costly and frequently can be done at the plant. Data indicate that the toxic organics are in the oil and grease, and by removing the oil and grease the toxic organics will also be removed. We request comment on the TTO limit and the alternate monitoring parameter of oil and grease. EPA also requests comment on whether we should simply promulgate an oil and grease limitation to effectively control toxic organics.

The limitations and standards set forth in this proposed regulation are expressed in terms of mass limitations rather then concentration limitations. Mass limitations are necessary because flow reduction is an important part of the PSES technology basis for the standards. For this reason, no alternative concentration standards are proposed for indirect dischargers. The Agency requests comment on whether it would be more appropriate to promulgate pretreatment standards on concentration basis.

A POTW could easily monitor compliance by calculating a "personalized" concentration limit for each plant through the following procedure: The POTW would measure the influent flow to the aluminum forming plant, and, through the use of flow meters inserted at appropriate places in the process wastewater lines, measure the process flow for each regulated process. The POTW would then obtain from the plant the average daily mass of aluminum processed by the plant. With these data, the POTW could calculate a concentration limit for the plant. First, the pretreatment standard for the core is multiplied by the mass of aluminum formed to obtain the mass of the pollutant that can be discharged daily for a core regulated process stream. This operation is repeated for any other core or ancillary process streams in the plant. The total masses for all process streams are then added together and divided by the total plant influent flow to obtain a concentration limit for the plant. Dividing by total influent flow rather than process flow accounts for non-process streams that would dilute the wastewater, and thus lower without treatment the concentration of pollutants. Once an end-of-plant concentration limit is obtained, this limit can be applied routinely to the plant. The influent flow could be monitored monthly and compared to the flow used in this calculation to ensure that no major changes had taken place in plant water use. If a major change had occurred, the above procedure could be repeated to obtain a new "personalized" concentration limit for the plant.

Monitoring requirements for pretreatment standards are proposed on the basis of a one day maximum not to be exceeded and a monthly average which shall apply for use in the combined waste stream formula.

The Agency proposes that these standards shall become effective three years after the date of promulgation. We estimate that plants will need that time to install the treatment needed to

comply with these standards, since few indirect discharge aluminum forming plants have installed treatment technology. The Agency invites comment on this proposed date.

XII. 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 will produce wastes having the same pass through problems as described for existing dischargers. 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.

For these reasons the Agency is proposing PSNS based on the same technology as NSPS which includes flow reduction, oil skimming, lime, settle, and filter, plus preliminary treatment with chemical emulsion breaking, chromium reduction, and cyanide removal when necessary. The Agency believes that compliance costs could be lower for new sources than our cost estimates for equivalent existing sources, because production processes can be designed on the basis of lower flows and there will be no costs associated with retrofitting the in-process controls. Since, as discussed under NSPS, new source costs should be no greater than that for equivalent existing sources, we do not expect PSNS to cause a barrier to entry.

The mass limitations set forth as PSES are presented here as the only method of designating pretreatment standards for new sources for the reasons set for the above. As with PSES requirements the Agency requests comment on the appropriateness of mass based limitations.

XIII. Regulated Pollutants

The basis upon which the controlled pollutants were selected, as well as the general nature and environmental effects of these pollutants, is set out in Sections V, VI, IX and X of the Development Document. Some of these pollutants are designated as toxic under Section 307(a) of the Act. Three pollutants have been deleted from the list of 129. These are dichlorodifluoromethane, trichlorofluoromethane 46 FR 2266 (January 8, 1981) and bis(chloromethyl)ether 46 FR 10723 (February 4, 1981).

A. *BPT*—The pollutants controlled by the BPT limitations are chromium, cyanide, zinc, aluminum, oil and grease, TSS, and pH. The discharge is controlled by maximum daily and monthly average mass effluent limitations stated in milligrams (mg) per metric ton (kkg) of aluminum processed.

B. *BAT and NSPS*—The toxic and nonconventional pollutants specifically limited by BAT and NSPS are the same as those limited by BPT. The conventional pollutants of oil and grease, TSS and pH are also limited at NSPS.

C. *PSES and PSNS*—The toxic pollutants specifically limited by PSES and PSNS are Total Toxic Organics (TTO), which includes acenaphthene, p-chloro-m-cresol, 2-chlorophenol, 2,4-dinitrotoluene, 1,2-diphenylhydrazine, ethylbenzene, fluoranthene, isophorone, naphthalene, N-nitrosodiphenylamine, phenol, benzo(a)pyrene, 3,4-benzofluoranthene, benzo(k)fluoranthene, chrysene, acenaphthylene, anthracene, benzo(ghi)perylene, fluorene, phenanthrene, dibenzo(a,h)anthracene, indeno(1,2,3-c,d)pyrene, pyrene, tetrachloroethylene, toluene, trichloroethylene, vinyl chloride, endosulfan sulfate, endrin, endrin aldehyde, PCB–1242, PCB–1254, PCB–1221, PCB–1232, PCB–1248, PCB–1260, and PCB–1016. Also limited by PSES and PSNS are chromium, cyanide, and zinc. Aluminum is not limited because aluminum in its hydroxide form is used by POTW as a flocculant to aid in the settling and removal of suspended solids. Therefore, aluminum in limited quantities, does not pass through or interfere with POTW; rather it is a necessary aid to its operation.

XIV. Pollutants and Subcategories Not Regulated

The Settlement Agreement contains provisions authorizing the exclusion from regulation, in certain instances, of toxic pollutants and industry subcategories.

A. Exclusion of Pollutants

Paragraph 8(a)(iii) of the Settlement Agreement allows the Administrator to exclude from regulation toxic pollutants not detectable by Section 304(h) analytical methods or other state-of-the-art methods. The toxic pollutants not detected and therefore, excluded from regulation are listed in Appendix B to this notice—first those excluded from all subcategories, then by subcategory those not excluded in all subcategories.

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

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

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

Paragraph 8(a)(iii) also allows the administrator to exclude from regulation toxic pollutants which will be effectively controlled by the technologies upon which are based other effluent limitations and guidelines, or pretreatment standards. Appendix F list those toxic pollutants which will be effectively controlled by the BAT limitations and pretreatment standards, even though they are not specifically regulated. Appendix G lists those toxic organic pollutants which are not regulated at BAT because they are effectively controlled by BPT limitations.

Indicator pollutants. The difficulty and cost of analyses for toxic pollutants found in the aluminum forming category wastewaters has prompted EPA to develop an alternative method of regulating certain toxic pollutants. Instead of proposing specific effluent limitations for each of the six toxic metals found in the category's raw wastewaters above treatability levels, the Agency is proposing effluent limitations for certain "indicator" pollutants. These include chromium, cyanide, and zinc. 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. Appendix G lists the pollutants which will be effectively controlled by the "indicator" pollutants for which specific limitations are proposed.

B. Exclusion of Subcategories

Additionally, Paragraph 8(a)(iv) of the Settlement Agreement authorizes the exclusion of subcategories in which the amount and toxicity of each pollutant in the discharge do not justify developing national regulations. The forging subcategory has no direct discharging plants and therefore, meets the requirement of paragraph 8(a)(iv) for direct dischargers. Accordingly, no BPT and BAT limitations are established for the forging subcategory.

XV. Costs and Economic Impacts

Executive Order 12291 requires EPA and other agencies to perform regulatory impact analyses of certain regulations. See 46 FR 13193 (February 19, 1981). The Executive Order requires a regulatory impact analysis for major regulations which are likely to have an annual effect on the economy of $100 million or more or which meet other special criteria (Section 1(b)). The proposed regulations for the aluminum forming industry do not require a formal regulatory impact analysis because this proposed rulemaking is expected to have an annual effect on the economy of less than $100 million and the other criteria for a regulatory impact analysis are not met. The economic impact analysis prepared for this proposed rulemaking meets the requirements for non-major rules.

EPA's economic impact assessment is set forth in *Economic Impact Analysis of Proposed Effluent Standards and Limitations for the Aluminum Forming Industry,* EPA. This report details the investment and annual costs for the industry as a whole and for typical plants covered by the proposed aluminum forming regulation. The report also estimates the probable impact of compliance costs in terms of plant closures, production changes, price changes, employment changes, local community impacts, and imports and exports of aluminum forming productions.

EPA has identified 277 plants that perform aluminum forming. Of these 277 plants, 153 do not discharge process wastewater, 58 are direct dischargers and 66 are indirect dischargers. Total investment for BAT and PSES is projected to be $87.7 million with annual costs of $42.3 million, including depreciation and interest. These costs are in 1982 dollars and are based on the determination that plants will build on existing treatment. No potential plant closures are projected as a result of this regulation. Price increases differ somewhat among the product groups ranging from 0.2 to 0.7 percent. Balance of trade effects are insignificant.

The costs of implementing the regulations were estimated on a plant-by-plant basis for a sample of 238 plants including 104 dischargers. The cost estimates were derived by a computerized costing program using 1977 plant data resulting in 1978 dollar estimates which have been updated to 1982. The costing program accounted for plant size and for treatment in place to develop an estimate of capital and annual costs, which were grouped by subcategory and summed. For purposes of measuring the economic impacts, the industry was subcategorized by the type of product. The economic impacts were estimated through a microeconomic model which projects the price and output behavior of each major industry segment. It is used, in conjunction with compliance cost estimates, to determine post-compliance price and production levels for each industry segment and for each regulatory option.

A financial profile was developed for each of the sample plants based on average ratios for the industry segment in which the plant competes. The primary variables of interest in analyzing individual plants were profitability, as measured by return on sales and return on investment; and the ability of individual plants to raise capital, as measured by the ratios of compliance investment costs to plant assets and revenues. Other factors considered in judging the likelihood of closure include the degree of integration, and market characteristics such as the degree of competition and the existence of specialty markets. Given the plant-specific compliance cost estimates, the industry-segment-specific financial ratios, and other factors, the impact on industrial plants was projected.

In addition, EPA has conducted an analysis of the incremental removal cost per pound equivalent for each of the proposed technology-based options. A pound equivalent is calculated by multiplying the number of pounds of pollutant discharged by a weighting factor for that pollutant. The weighting factor is equal to the water quality criterion for a standard pollutant (copper), divided by the water quality criterion for the pollutant being evaluated. The use of "pound equivalent" gives relatively more weight to removal of more toxic pollutants. Thus, for a given expenditure, the cost per pound-equivalent removed would be lower when a highly toxic pollutant is removed than if a less toxic pollutant is removed. This analysis is included in the record of this rulemaking, and is entitled *Cost-Effectiveness Analysis of Effluent Standards and Limitations for the Aluminum Forming Industry.* EPA invites comments on the methodology used in this analysis.

BPT: Fifty-eight plants are direct dischargers. Data on 49 of these 58 plants were used to estimate the impacts of the regulation. The cost estimates were based on treatment in place, and the regulatory flows.

Since the Option 1 regulatory flow is on the whole larger than the Option 2 flow, and the in-process controls tend to be relatively inexpensive, the cost of Option 2 was less than Option 1 for a number of plants and for the subcategories and category as a whole. Thus for the purpose of evaluating the economic impacts it was assumed that the plants would install the least expensive treatment either Option 1 or 2, to meet the requirements of Option 1. Therefore, the BPT costs are based on the lowest cost either Option 1 or Option 2. The BPT regulation is projected to cost $43.7 million in investment costs and $22.5 million in annual costs for these plants. The analysis of economic impact was based on a sample of 49 out of 58 plants and concluded that there is little potential for plant closure associated with the BPT treatment option. If all costs were passed on to consumers, price increases would range from 0.2 to 0.7 percent.

BAT: Aluminum forming plants that do not have BPT installed and discharge directly are expected to move to Option 2 technology without first installing BPT technology. The flow reduction included in proposed BAT allows for smaller treatment systems than those associated with the proposed BPT treatment technology. Therefore, compliance costs and resulting impacts discussed below are based on the total effects of going from existing treatment to installing BAT. Investment costs are estimated to be $55.4 million, with annual costs of $26.6 million, including depreciation and interest. This option also would not result in any closures. If all costs were passed on to consumers, price increases would range from 0.2 to 0.7 percent, not significantly greater than the BPT increases.

The Agency is considering the promulgation of BAT limitations on the basis of technology Option 3 which

includes filters. The investment costs of this option are expected to be $144.6 million and $45.7 million annually. This level of technology is not expected to cause any plant closures or job losses.

PSES: Sixty-six plants are identified as indirect dischargers and 55 of these were included in the sample. The pollution control technology for the proposed pretreatment standards is identical to the proposed BAT treatment technology. Investment costs for the 66 indirect dischargers are estimated to be $32.3 million and annual costs are estimated at $15.7 million. The Agency's initial estimate of potential plant closures indicated that there could be five closures associated with PSES among the 55 sampled plants. Of those potential closures two were closures of entire aluminum forming plants and three were closures of aluminum forming operations in plants primarily doing other things. In terms of unemployment, these potential closures could have affected approximately 120 employees.

However, as discussed above to avoid excessive economic impacts of this requirement EPA proposes to exempt indirect discharging plants in the extruding subcategory producing less than 3 million pounds of product and plants in the drawing with emulsions or soaps subcategory producing less than 1 million pounds of product per year from these categorical pretreatment standards. By so doing EPA estimates that there will be no closures from these PSES categorical requirements.

The Agency is considering the promulgation of PSES limitations on the basis of technology Option 3 which includes filters. The investment costs of this option are expected to be $32.6 million and $16.5 million annually. This level of technology is not expected to cause any additional plant closures or job losses over those predicted for Option 2.

NSPS—PSNS: Aluminum formed products have been available for many years. The versatility of the product has been responsible for its long-term growth. Recent trends in the U.S. economy, especially the increase in energy prices has increased the use of aluminum formed products. This is especially true in the transportation business. The current recession and the downturn in the automotive industry have reduced the demand for aluminum formed products. EPA believes that this is a temporary condition, and that demand for aluminum formed products will continue to increase in the years ahead. This projected increase in demand should result in the opening of new plants.

EPA is proposing NSPS and PSNS based on technology Option 3 which includes the same technologies as for BAT and PSES, plus filters. For existing sources, the cost for technology Option 3 would be in the range of 5 to 10 percent greater than that for the selected option (Option 2) for existing sources, and economies are available for installations in new plants since they will not have retrofit problems for flow reduction. EPA believes that NSPS and PSNS will be no more expensive than Option 3 would be for existing sources and will not constitute a barrier to entry or produce other adverse economic effects.

Regulatory Flexibility Analysis: Public Law 96-354 requires that EPA prepare an Initial Regulatory Flexibility Analysis for all proposed regulations that have a significant impact on a substantial number of small entities. This analysis must:

- Describe the reasons, objectives, and legal basis for the proposed rule;
- Describe, and where feasible, estimate the number of small entities, as (in most cases) defined by Small Business Administration (SBA), affected by the proposed rule;
- Describe the reporting, recordkeeping and other compliance requirements;
- Identify any Federal rules that may duplicate, overlap, or conflict with the proposed rule; and
- Describe any significant alternatives that would accomplish the stated objectives, and minimize any significant economic impacts of the proposed rules on small entities.

This analysis may be done in conjunction with or as a part of any other analysis conducted by the Agency. This proposed rulemaking and the economic impact analysis supporting the proposal satisfy the requirements of the Regulatory Flexibility Act.

Many of the provisions of the Initial Regulatory Flexibility Analysis have been addressed in detail in other sections of this preamble. Sections I, IIA, and III discuss the legal authority and objectives of the proposed rule, Section IIC discusses the overlap with other Federal rules. Sections XXI and XXII discuss the public participation procedures. Section XV discusses the reporting requirements. The economic impact analysis outlines the effects associated with this proposed rule and with the other regulatory options the Agency considered. For the purpose of the Regulatory Flexibility Analysis, the Agency considered any plant producing less than three million pounds of product (or less than one million pounds of aluminum wire) a small business. Of the 104 dischargers (direct and indirect) in the economic sample, which includes 84 percent of all dischargers in the industry, 18 are small plants according to this definition.

The initial analysis indicated that five of the 18 small dischargers were potential closures if subject to the regulation, all of them indirect dischargers in the extrusion and drawing subcategories. Accordingly, EPA proposes that indirect dischargers in the extrusion subcategory producing less than 3 million pounds per year and indirect dischargers in the drawing with emulsions or soaps producing less than 1 million pounds per year should be excluded from these requirements.

If these small plants are excluded, no plants are expected to close as a result of the regulation.

XVI. Non-Water Quality Aspects of Pollution Control

The elimination or reduction of one form of pollution may aggravate other environmental problems. Therefore, 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 has considered the effect of this regulation on air pollution, solid waste generation, water scarcity, and energy consumption. This proposal was circulated to and reviewed by EPA personnel responsible for non-water quality environmental programs. While it is difficult to balance pollution problems against each other and against energy utilization, EPA is proposing regulations which it believes best serve often competing national goals.

The following are the non-water quality environmental impacts (including energy requirements) associated with the proposed regulations:

A. Air Pollution

Imposition of BPT, BAT, NSPS, PSES, and PSNS will not create any substantial air pollution problems.

The technologies used as the basis for this proposed regulation precipitate pollutants found in wastewater which are then settled or filtered from the discharged wastewater. These technologies do not emit pollutants into the air.

B. Solid Waste

EPA estimates that aluminum forming facilities generated 43 million kg (95 million lb) of solid wastes (wet basis) in 1977 as a result of wastewater treatment in place. These wastes were comprised of treatment system sludges containing

toxic metals, including chromium, copper, lead, nickel and zinc and spent lubricants.

EPA estimates that the proposed BPT and PSES will contribute an additional 124 million kg (187 million lb) per year of solid wastes. Proposed BAT will increase these wastes by approximately 2 million (4 million lb) per year. These sludges will necessarily contain additional quantities (and concentrations) of toxic metal pollutants. NSPS and PSNS technologies should involve a less than one percent increase in the volume of sludge generated by the BAT and PSES technology.

The Agency examined the solid wastes that would be generated at aluminum forming plants by the suggested treatment technologies and believes they are not hazardous under § 3001 of the Resource Conservation and Recovery Act (RCRA). This judgment is made based on the recommended technology of lime precipitation. By the addition of a small excess of lime during treatment, similar sludges, specifically toxic metal bearing sludges, generated by other industries, such as the iron and steel industry, passed the EP toxicity test. See 40 CFR 261.24 (45 FR 33084 (May 19, 1980)). Thus, the Agency believes that the aluminum forming wastewater sludges will similarly not be found toxic if the recommended technology is applied. Since the aluminum forming solid wastes are not believed to be hazardous, no estimates were made of costs for disposing of hazardous wastes in accordance with RCRA requirements. The Agency requests comments on its judgment of the wastewater sludges generated by treatment of aluminum forming wastewaters. We specifically request cost information if there is reason to believe these sludges would be classified as hazardous.

Although it is the Agency's view that solid wastes generated as a result of these guidelines are not expected to be classified as hazardous under the regulations implementing Subtitle C of the RCRA, generators of these wastes must test the waste to determine if the wastes meet any of the characteristics of hazardous waste (see 40 CFR 263.11, 45 FR at 12732–12733 (Feb. 26, 1980)). The Agency may also list these sludges as hazardous pursuant to 40 CFR 261.11 (45 FR at 33121 (May 19, 1980), as amended at 45 FR 76624 (Nov. 19, 1980)).

If these wastes are identified as hazardous, they will come within the scope of RCRA's "cradle to grave" hazardous waste management program, requiring regulation from the point of generation to point of final disposition. EPA's generator standards would require generators of hazardous aluminum forming wastes to meet containerization, labeling, recordkeeping and reporting requirements; if aluminum formers dispose of hazardous wastes off-site, they would have to prepare a manifest which would track the movement of the wastes from the generator's premises to a permitted off-site treatment, storage, or disposal facility. See 40 CFR 262.20 (45 FR 33142 (May 19, 1980), as amended at 45 FR 86973 (December 31, 1980)). The transporter regulations require transporters of hazardous wastes to comply with the manifest system to assure that the wastes are delivered to a permitted facility. See 40 CFR 263.20 (45 FR 33151 (May 19, 1980), as amended at 45 FR 86973 (December 31, 1980)). Finally, RCRA regulations establish standards for hazardous waste treatment, storage and disposal facilities allowed to receive such wastes. See 40 CFR Part 464 (46 FR 2802 (January 12, 1981), 47 FR 32274 (July 26, 1982)).

Even if these wastes are not identified as hazardous, they still must be disposed of in compliance with the Subtitle D open dumping standards, implementing § 4004 of RCRA. See 44 FR 53438) September 13, 1979). The Agency has calculated as part of the costs for wastewater treatment the cost of hauling and disposing of these wastes. For more details see Section VIII of the Development Document.

C. Consumptive Water Loss

Treatment and control technologies that require extensive recycling and reuse of water may require cooling mechanisms. Evaportative cooling mechanisms can cause water loss and contribute to water scarcity problems—a primary concern in arid and semi-arid regions. While this proposed regulation assumes some water reuse the overall amount of reuse is low (below 50 percent) and the quantity of water involved is not significant. We conclude that the consumptive water loss is insignificant and that the pollution reduction benefits of recycle technologies outweight their impact on consumptive water loss.

D. Energy Requirements

EPA estimates that the achievement of proposed BPT effluent limitations will result in a net increase in electrical energy consumption of approximately 65 million kilowatt-hours per year. The BAT technology should not substantially increase the energy requirements of BPT because reducing the flow reduces the pumping requirements, the agitation requirement for mixing wastewater and other volume related energy requirements. Therefore, the proposed BAT limitations are assumed to require an equivalent energy consumption to that of the BPT limitations. To achieve the proposed BPT and BAT effluent limitations, a typical direct discharger will increase total energy consumption by less than one percent of the energy consumed for production purposes.

The Agency estimates that proposed PSES will result in a net increase in electrical energy consumption of approximately 50 million kilowatt-hours per year. To achieve proposed PSES, a typical existing indirect discharger will increase energy consumption by less than one percent of the total energy consumed for production purposes.

The Agency estimates that the NSPS and PSNS technology will cause a ten percent increase in energy use over the BAT and PSES technology.

XVII. Best Management Practices (BMP)

Section 304(e) of the Clean Water Act authorizes the Administrator to prescribe "best management practices" ("BMP"), described under **Authority and Background.**

EPA is not now considering promulgating BMP specific to aluminum forming.

XVIII. Upset and Bypass Provisions

An issue of recurring 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. Industry argues that an upset provision in EPA's effluent limitations guidelines is necessary because such upsets will inevitably occur due to limitations in even properly operated control equipment. Because technology-based limitations are to require only what technology can achieve, they claim 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 exemption is necessary or whether 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 Co.* v. *Costle*, 590 F.2d 1011 (D.C. Cir. 1978) and *Corn Refiners Association, Inc.* 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 in emergency stituations. Bypass provisions 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 has promulgated NPDES regulations that include such permit provisions (40 CFR 122.60; 45 FR 33290; May 19, 1980). The upset provision establishes an upset as an affirmative defense to prosecution for violation of technology-based effluent limitations. The bypass provision authorizes bypassing to prevent loss of life, personal injury or severe property damage. Because permittees in aluminum forming will be entitled to upset and bypass provisions in NPDES permits, these proposed regulations do not address these issues. An upset provision is also available to indirect dischargers through § 403.16 of the general pretreatment regulations (40 CFR 403.16, 46 FR 9404 (January 28, 1981); 46 FR 50502 (October 13, 1981)); 47 FR 4518 (February 1, 1982)).

XIX. Variances and Modifications

Upon the promulgation of the final regulation, the numerical effluent limitations for the appropriate subcategory must be applied in all federal and state NPDES permits thereafter issued to aluminum forming direct discharges, In addition, on promulgation, the pretreatment standards are directly applicable to indirect dischargers.

For the BPT effluent 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. However, the economic ability of the individual operator to meet the compliance cost for BPT standards is not a consideration for granting a variance. See *National Crushed Stone Association* v. *EPA,* 449 U.S. *64* (1980). This variance clause was originally set forth in EPA's 1973–1976 industry regulations. It is now included in the general NPDES regulations and will not be included in the aluminum forming or other specific industry regulations. See the NPDES regulations at 40 CFR Part 122 Subparts A & D, 45 FR 33290 et seq. (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 nonconventional 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 43 FR 40859 (September 13, 1978). Under Section 301(1) of the Act, these statutory modifications are not applicable to "toxic" pollutants.

Pretreatment standards for existing sources are subject to the "fundamentally different factors" variance. See 40 CFR 403.13; 46 FR 9404 (January 28, 1981); 46 FR 50502 (October 13, 1981); 47 FR 4518 (February 1, 1982). In addition, pretreatment standards for existing and new sources are subject to a provision allowing relaxation of a pretreatment standard upon demonstration by a POTW of consistent removal of the regulated pollutants. 40 CFR 403.7; 43 FR 27736 (June 26, 1978); 40 CFR 403.13; 46 FR 9404 (January 28, 1981).

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.*

XX. Relationship to NPDES Permits

The BPT, BAT, and NSPS limitations in this regulation will be applied to individual aluminum forming 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 on NPDES permits, except to the extent that variances and modifications are expressly authorized. This section describes several other aspects of the interaction of these regulations 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 before promulgation of this regulation must do so on a case-by-case basis. This regulation provides a technical and legal base for new permits.

Another noteworthy topic is the effect of this regulation on the powers of NPDES permit issuing authorities. The promulgation of this regulation does not restrict the power of any permit-issuing authority to act in a manner that is consistent 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), the permit-issuing authority must apply such limitations.

One 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 (*Sierra Club v. Train,* 557 F.2d 485 (5th Cir. 1977)). EPA has exercised and intends to exercise that discretion in a manner which recognizes and promotes good faith compliance efforts.

XXI. Summary of Public Participation

In September 1980, EPA circulated a draft technical development document to a number of interested parties, including the Aluminum Association and member firms, the Natural Resources Defense Council (NRDC), and affected state and municipal authorities. This document did not include recommendations for effluent limitations and standards, but rather presented the technical basis for this proposed regulation. A meeting was held in Washington, D.C. on October 24, 1980, for public discussion of comments on this document. Another meeting was held October 28, 1980, to discuss comments from the Aluminum Association and its member firms. A brief summary of these comments follows:

1. *Comment:* The Agency has not considered the development of new technologies. Discharge allowances should be provided for new developments, specifically with regard to casting.

Response: The Agency would need more detailed information to properly evaluate and respond to this comment. The Agency does not restrict the development of new technologies; however, it is assumed that any new technology developed will conform to

the effluent guidelines by meeting the limitation already in place for a similar technology.

2. *Comment:* It was pointed out that a number of operations or waste streams were not included in the document. Those specifically mentioned are skim-dross processing, scrap recovery, ingot scalping, extrusion press leakage from water-filled hydraulic systems, stormwater runoff, noncontact cooling water, boiler blowdown, maintenance shop wastewaters, miscellaneous cleanup wastewaters.

Response: Skim-dross processing and scrap recovery are wastewater generating processes associated with secondary aluminum recovery. In those rare cases where these operations occur near to aluminum forming, they would be regulated under the nonferrous metals category. Storm water runoff, boiler blowdown and noncontact cooling waters are not regulated by this regulation. They occur only intermittently among aluminum forming plants and because of their occasional nature and the lack of a direct relationship to the production operations must be regulated on a case-by-case basis at the permit writing stage. Scalping, extrusion press leakage, maintenance shop wastewaters, and miscelleneous cleanup wastewaters are included in the small volume waterwater classified as miscellaneous nondescript wastewater sources for which a discharge allocation has been provided.

3. *Comment.* One comment was made that the aluminum forming regulation would be easier to understand if the category were subcategorized on the basis of unit operations. Also, there are apparently no discharge allowances for a number of operations included in the subcategory cores.

Response: The Agency developed the subcategories in the manner presented in Section IV of the Development Document so that the majority of aluminum forming plants would be covered by one subcategory and therefore subject to only one limitation. At the same time the Agency is ensuring that waste streams are treated appropriately depending on their characteristics. The Agency believes that adequate consideration is given to all aluminum forming waste streams (discharge allowances for the core operations have been reevaluated) while the number of subcategories is kept to a minimum. There are some aluminum forming operations that do not discharge wastewater, for example the aging heat treatment operations. For convenience, these operations have been included in the cores of the subcategories.

4. *Comment:* Numerous commenters asked the Agency to consider surface area as a production normalizing parameter (PNP) for operations such as cleaning or etching.

Response: The Agency considered the use of surface area for the PNP for some aluminum forming operations and agrees that it may be more appropriate in some cases. However, surface area data are limited, and in some cases, for example forged products, determination of surface area would be difficult. The correlation of pollutants from etching aluminum to the surface area etched is highest for the etch line baths. Also, as industry itself pointed out, the difference in the type of etch bath used and the concentration of the bath will have a significant effect on the pollutant loadings. As discussed in Section X of the development document, the Agency proposes to require zero discharge of cleaning or etch line baths through contract hauling or regeneration, thus eliminating the discharge of the pollutants from this source.

5. *Comment:* Several commenters questioned the presence of cyanide and mercury in the drawing heat treatment quench wastewater. Neither are known to be used as a process chemical in any aluminum forming process, therefore its presence must be due to either analytical errors, or contamination of the water from elsewhere in the sampled facility.

Response: Two additional aluminum forming plants have been sampled since the draft technical document was distributed. Both plants have a drawing solution heat treatment operation followed by a water quench. Samples were taken from this waste stream and others at the plants. The analysis of the samples showed the presence of cyanide in a forging solution heat treatment waste stream. Representatives from both plants with significant cyanide levels indicated that corrosion inhibitors are added to the contact cooling water. Investigation into the formulation of one of the inhibitor compounds showed that copper thiocyanate dye is added to the formulation. Because cyanide was found at significant level at two plants in two distinct solution heat treatment contact cooling waste streams and because the use of a corrosion inhibitor is not believed to be limited to drawing or forging solution heat treatment contact cooling waters, the Agency is proposing a limit on cyanide in the aluminum forming guidelines.

Mercury was detected at only the one plant in only one sampled stream. Since mercury is not known to be used anywhere in the aluminum forming process, it is not regulated by the proposed aluminum forming effluent guidelines.

6. *Comment:* Several objections were made regarding the establishment of the median normalized flow as the basis for setting limitations. The statistical analysis presented for each waste stream in the draft development document gave unrealistically low values. Furthermore, the data should be reviewed for internal consistency, and plants with site-specific differences perhaps should not be included in the statistical analyses.

Response: Upon reexamination of the data, the Agency has chosen to use a mean value of normalized flows for each waste stream at BPT. As a result, most of the flows will be higher than the median values given in the draft development document. Plants which are believed to have site-specific differences in many cases have been excluded in the determination of the discharge flows for BPT.

7. *Comment:* The Agency should exlude from the determination of its normalized flows, plants that are achieving zero discharge or have extremely high recycle rates. These plants are probably using technology that cannot be universally applied. The degree of recycle depends on several factors, such as quality of make-up water, the water quality required in the process, weather conditions, and type of cooling system used.

Response: The Agency has attempted to evaluate variations in the operations at plants with atypical normalized flows. These variations were considered when establishing a BPT normalized flow. However, the establishment of BAT is based on the best performance in the category or transfer from other categories. Best performance may involve using a different operating procedure than the majority of the plants use. Before basing any limitations on this performance, the Agency considered whether this operating procedure is transferrable to the rest of the category.

8. *Comment:* One commenter objected to the selection of a 96 percent recycle of the cooling water used in direct chill casting with a 4 percent blowdown. The volume of water that would be recirculated might require additional treatment before it could by recycled. The commenter suggested a bleed stream of 10 percent would be more reasonable.

Response: Examination of the data shows that the average recycled volume of direct chill cooling water is 95.4 percent and most of these plants do no more than cool the water before recycle.

However, the Agency has changed its approach to recycle. Rather than requiring recycle of a percentage of the water, a specific normalized flow is established, based on the mean value of the plants recycling their cooling water including both the aluminum forming and primary aluminum plants.

9. *Comment:* The comment was made that the costs given in the draft development document were understated because inadequate quantities of wastewater are considered. Furthermore, if pollutant discharge allowances are not given for some waste streams, they would have to be disposed of as solid waste and disposal costs should be included.

Response: The Agency has included discharge allowances for several of the perviously designated zero discharge streams, at least at BPT, thus reducing the volume of waste to be landfilled. New cost estimates have been developed to acccount for higher flows. The Agency recognizes the possibility that some small volume waste streams may have been overlooked during the course of our study. These have been included in this proposal and classified as miscellaneous nondescript wastewater sources.

10. *Comment:* The treatment technologies proposed for BPT to treat for chromium, cyanide and other toxic metals are not appropriate for the treatment of the usual BPT parameters which are suspended solids, oil and grease and pH. Also common treatment for all streams through emulsion breaking is not appropriate because emulsions were found in only two subcategories. Chemical precipitation is not appropriate because it is not necessary for removing conventional pollutants, which are the usual parameters for BPT regulation.

Response: Pollutants traditionally regulated during the 1974–75 BPT rulemakings included conventional pollutant and those toxic and other pollutants that were found characteristic of a category. Since then the emphasis has been focused on toxic pollutants. However, there has never been a constraint on regulating toxics at BPT. Several toxic metals including total chromium total cyanide are considered for regulation at BPT because these pollutants were found at significant levels in aluminum forming wastewaters. Appropriate treatment to remove or reduce the loadings of these pollutants are chromium reduction, cyanide oxidation or precipitation and chemical precipitation. This does not mean that these technologies are required. Plants may use other technologies to meet the effluent limitations and pretreatment standards. The commenter has misinterpreted the BPT treatment scheme; emulsion breaking is not a part of the common treatment but rather a preliminary treatment step for emulsified streams only. The skimming, lime and settle technology is used as common treatment for the aluminum forming waste streams. Chemical precipitation is applied to most waste streams from aluminum forming operations because of the concentrations of metals found in these waste streams.

11. *Comment:* The costs supplied for contractor hauling of wastes are out of date. A cost of 75 cents to one dollar is more realistic than the thirty cents used in the development document especially.

Response: The Agency examined the likelihood of wastewater sludges generated under the aluminum forming treatment technology being classified as hazardous and determined that it is unlikely that aluminum forming wastewater treatment sludges will be classified as hazardous under the RCRA regulations. Therefore, the lower hauling cost is appropriate for hauling of the aluminum forming solid wastes generated by wastewater treatment technologies rather than the more expensive hauling costs that would be associated with hauling a hazardous waste.

12. *Comment:* The quality of the effluent from BPT technology ought to be good enough to preclude the further treatments recommended by the BAT options. The pollutant concentrations ought to be small following BPT treatment resulting in minimal pollutant reductions with BAT technology.

Response: The Agency agrees that BPT treatment would be very effective at removing pollutants, ranging from 70 percent removal from raw waste in some subcategories to 90 percent in other subcategories. However, BAT in most cases would achieve more than 50 percent removal of the pollutants remaining in the BPT effluent. Therefore, the Agency believes that BAT technology is justified.

XXII. Solicitation of Comments

EPA invites and encourages public participation in this rulemaking. The Agency asks that any deficiencies in the record of this proposal be specifically addressed and that suggested revisions or corrections be supported by data.

EPA is particularly interested in receiving additional comments and information on the following issues:

1. BAT and PSES are proposed on the basis of end-of-pipe treatment of skimming, lime and settle, plus chromium reduction, cyanide removal, chemical emulsion breaking when applicable and in-process controls to reduce flows. The Agency may decide to promulgate BAT and PSES on the basis of the proposed level of treatment plus filtration. What effect would the addition of a polishing filter have on pollutant reduction benefits and costs?

2. Many of the aluminum forming plants with good treatment in-place combine their aluminum forming and aluminum coil coating waste streams through common treatment. The Agency has accommodated this approach by establishing limitations for the same pollutant parameters based on the same end-of-pipe treatment, conveniently allowing co-treatment of aluminum forming and coil coating wastewater. The Agency desires comment on this approach, specifically would segregation and separate treatment of some waste streams be better and why?

3. The Agency is proposing a total toxic organic limitation for pretreatment because samples taken from concentrated oily wastes showed significant amounts of toxic organics. The total toxic organics limitation includes 37 pollutants. Monitoring for toxic organics is extremely costly, therefore, the Agency is proposing an alternate monitoring requirement of oil and grease. Oil and grease monitoring is not only less costly, but many plants have the capability of performing their own analysis. Effective oil removal can remove 97 percent of the toxic organics as shown by samples taken from aluminum forming plants. The Agency requests comments on the appropriateness of our proposal of oil and grease as an alternate monitoring parameter for total toxic organics.

4. In many industries, indirect dischargers are located in urban areas, whereas direct dischargers tend to be located in more rural areas. This can sometimes place indirect dischargers at a disadvantage in terms of space availability for installing wastewater treatment. In the aluminum forming category, both direct and indirect discharging plants are located mainly in urban areas. Therefore, EPA has concluded that space availability presents no greater problem for existing indirect dischargers than for existing direct dischargers. However, we request comment on this conclusion.

5. To determine the economic impact of this regulation, the Agency has calculated the cost of installing BPT, BAT, PSES, for the aluminum forming category manufacturing facilities for which data was available. The details of the estimated costs and other impacts are presented in Section VIII of the

technical development document and in the Economic Impact Analysis. Based on these analyses, the Agency projects no plant closures with no employment losses as a result of this regulation. The Agency invites comments on these analyses and projections. We particularly seek comments on whether aluminum formers especially small or less profitable plants, can incur the estimated compliance costs. The commenters should focus not only on the likelihood of plant closures and employment losses, but should also include data on the effects of the regulation on: modernization or expansion of production, production costs, the ability to finance non-environmental investments, product prices, profitability, international competitiveness, and the availability of less costly technology.

XXIII. Availability of Technical Assistance

The major documents upon which these regulations are based are: (1) The *Development Document for Effluent Limitations Guidelines, New Source Performance Standards, and Pretreatment Standards for the Aluminum Forming* Point Source Category (EPA 440/1–82/073–b; (2) *Economic Impact Analysis of Proposed Effluent Limits, Guidelines and Standards for the Aluminum Forming Industry* (EPA 440/2–82–017).

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291. All of their comments are in the Record.

The reporting or recordkeeping provisions in this rule will be submitted for approval to the Office of Management and Budget (OMB) under section 3504(h) of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq.* Any final rule will explain how its reporting or recordkeeping provisions respond to any OMB or public comments.

List of Subjects in 40 CFR Part 467

Aluminum forming, Water pollution control, Waste treatment and disposal.

Dated: Nov. 5, 1982.

Anne M. Gorsuch,

Administrator.

XXIV. Appendices

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

Act—The Clean Water Act

Agency—The U.S. Environmental Protection Agency

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

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

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)

DCP—Data collection portfolio

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

Indirect discharger—A facility which 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

POT—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 indirect discharges; under Section 307 (b) and (c) of the Act

RCRA—Resource Conservation and Recovery Act (PL 94–580) of 1976, as amended

Appendix B—Toxic Pollutants Not Detected

(a) *Subpart A—Rolling with Neat Oils Subcategory.*

003 arcrylonitrile
005 benzidene
008 1,2,4-trichlorobenzene
009 hexachlorobenzene
012 hexachloroethane
013 1,1-dichloroethane
016 chloroethane
017 deleted
018 bis (chloroethyl) ether
019 2-chloroethyl vinyl ether
020 2-chloronaphthalene
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3'-dichlorobenzidene
032 1,2-dichloropropane
033 1,3-dichloropropylene
036 2,6-dinitrotoluene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 bis (2-chloroisopropyl) ether
043 bis (2-chloroethoxy) methane
045 methyl chloride
046 methyl bromide
049 deleted
050 deleted
052 hexachlorobutadiene
053 hexachlorocyclopentadiene
056 nitrobenzene
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
113 toxaphene
116 asbestos
129 2,3,7,8-tetrachlorodibenzo-p-dioxin

(b) *Subpart B—Rolling with Emulsions Subcategory.*

003 arcrylonitrile
005 benzidene
008 1,2,4-trichlorobenzene
009 hexachlorobenzene
012 hexachloroethane
013 1,1-dichloroethane
016 chloroethane
017 deleted
018 bis (chloroethyl) ether
019 2-chloroethyl vinyl ether
020 2-chloronaphthalene
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3'-dichlorobenzidene
032 1,2-dichloropropane
033 1,3-dichloropropylene
036 2,6-dinitrotoluene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 bis (2-chloroisopropyl) ether
043 bis (2-chloroethoxy) methane
045 methyl chloride
046 methyl bromide
049 deleted
050 deleted
052 hexachlorobutadiene
053 hexachlorocyclopentadiene
056 nitrobenzene
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
113 toxaphene
116 asbestos
129 2,3,7,8-tetrachlorodibenzo-p-dioxin

(c) *Subpart C—Extrusion Subcategory.*

003 arcrylonitrile
005 benzidene
008 1,2,4-trichlorobenzene
009 hexachlorobenzene
012 hexachloroethane
013 1,1-dichloroethane
016 chloroethane
017 deleted
018 bis (chloroethyl) ether
019 2-chloroethyl vinyl ether
020 2-chloronaphthalene
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3'-dichlorobenzidene
032 1,2-dichloropropane
033 1,3-dichloropropylene
036 2,6-dinitrotoluene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 bis (2-chloroisopropyl) ether
043 bis (2-chloroethoxy) methane
045 methyl chloride
046 methyl bromide
049 deleted
050 deleted
052 hexachlorobutadiene
053 hexachlorocyclopentadiene
056 nitrobenzene
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
088 vinyl chloride
113 toxaphene
116 asbestos
129 2,3,7,8-tetrachlorodibenzo-p-dioxin

(d) *Subpart D—Forging Subcategory.*

003 arcrylonitrile
005 benzidene
006 carbon tetrachloride
008 1,2,4-trichlorobenzene
009 hexachlorobenzene

012 hexachloroethane
013 1,1-dichloroethane
016 chloroethane
017 deleted
018 bis (chloroethyl) ether
019 2-chloroethyl vinyl ether
020 2-chloronaphthalene
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3'-dichlorobenzidene
032 1,2-dichloropropane
033 1,3-dichloropropylene
036 2,6-dinitrotoluene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 bis (2-chloroisopropyl) ether
043 bis (2-chloroethoxy) methane
045 methyl chloride
046 methyl bromide
049 deleted
050 deleted
052 hexachlorobutadiene
053 hexachlorocyclopentadiene
056 nitrobenzene
060 4,6-dinitro-o-cresol
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
113 toxaphene
116 asbestos
129 2,3,7,8-tetrachlorodibenzo-p-dioxin

(e) *Subpart E—Drawing with Neat Oils Subcategory.*

003 arcrylonitrile
005 benzidene
008 1,2,4-trichlorobenzene
009 hexachlorobenzene
012 hexachloroethane
013 1,1-dichloroethane
016 chloroethane
017 deleted
018 bis(chloroethyl)ether
019 2-chloroethyl vinyl ether
020 2-chloronaphthalene
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3'-dichlorobenzidene
032 1,2-dichloropropane
033 1,3-dichloropropylene
036 2,6-dinitrotoluene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 bis(2-chloroisopropyl) ether
043 bis(2-chloroethoxy) methane
045 methyl chloride
046 methyl bromide
049 deleted
050 deleted
052 hexachlorobutadiene
053 hexachlorocyclopentadiene
056 nitrobenzene
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
113 toxaphene
116 asbestos
129 2,3,7,8-tetrachlorodibenzo-p-dioxin

(f) *Subpart F—Drawing with Emulsions or Soaps Subcategory.*

003 acrylonitrile
005 benzidene
008 1,2,4-trichlorobenzene
009 hexachlorobenzene
012 hexachloroethane
013 1,1-dichloroethane
016 chloroethane
017 deleted
018 bis(chloroethyl)ether
019 2-chloroethyl vinyl ether
020 2-chloronaphthalene
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3'-dichlorobenzidene
032 1,2-dichloropropane
033 1,3-dichloropropylene
036 2,6-dinitrotoluene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 bis(2-chloroisopropyl) ether
043 bis(2-chloroethoxy) methane
045 methyl chloride
046 methyl bromide
049 deleted
050 deleted
052 hexachlorobutadiene
053 hexachlorocyclopentadiene
056 nitrobenzene
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
113 toxaphene
116 asbestos
129 2,3,7,8-tetrachlorodizenzo-p-dioxin

Appendix C—Toxic Pollutants Detected Below the Analytical Quantification Limit

(a) *Subpart A—Rolling with Neat Oils Subcategory.*

006 carbon tetrachloride
010 1,2-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
029 1,1-dichloroethylene
031 2,4-dichlorophenol
037 1,2-diphenylhydrazine
051 chlorodibromomethane
057 2-nitrophenol
073 benzo(a)pyrene
089 aldrin
090 dieldrin
092 4,4'-DDT
094 4,4'-DDD
104 gamma-BHC
105 delta-BHC

(b) *Subpart B—Rolling with Emulsions Subcategory.*

006 carbon tetrachloride
010 1,2-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
029 1,1-dichloroethylene
031 2,4-dichlorophenol
037 1,2-diphenylhydrazine
051 chlorodibromomethane
057 2-nitrophenol
073 benzo(a)pyrene
089 aldrin
090 dieldrin
092 4,4'-DDT
094 4,4'-DDD
104 gamma-BHC
105 delta-BHC

(c) *Subpart C—Extrusion Subcategory.*

006 carbon tetrachloride
010 1,2-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
029 1,1-dichloroethylene
031 2,4-dichlorophenol
037 1,2-diphenylhydrazine
051 chlorodibromomethane
057 2-nitrophenol
073 benzo(a)pyrene
089 aldrin
090 dieldrin
092 4,4'-DDT
094 4,4'-DDD
104 gamma-BHC
105 delta-BHC

(d) *Subpart D—Forging Subcategory.*

010 1,2-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
029 1,1-dichloroethylene
031 2,4-dichlorophenol
037 1,2-diphenylhydrazine
051 chlorodibromomethane
057 2-nitrophenol
073 benzo(a)pyrene
089 aldrin
090 dieldrin
092 4,4'-DDT
094 4,4'-dD
104 gamma-BHC
105 delta-BHC

(e) *Subpart E—Drawing with Neat Oils Subcategory.*

006 carbon tetrachloride
010 1,2-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
029 1,1-dichloroethylene
031 2,4-dichlorophenol
037 1,2-diphenylhydrazine
051 chlorodibromomethane
057 2-nitrophenol
073 benzo(a)pyrene
089 aldrin
090 dieldrin
092 4,4'-DDT
094 4,4'-DDD
104 gamma-BHC
105 delta-BHC

(f) *Subpart F—Drawing with Emulsions or Soaps Subcategory.*

006 carbon tetrachloride
010 1,2-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
029 1,1-dichloroethylene
031 2,4-dichlorophenol
037 1,2-diphenylhydrazine
051 chlorodibromomethane
057 2-nitrophenol
073 benzo(a)pyrene
089 aldrin
090 dieldrin
092 4,4'-DDT
094 4,4'-DDD
104 gamma-BHC
105 delta-BHC

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

(a) *Subpart A—Rolling with Neat Oils Subcategory.*

011 1,1,1-trichloroethane
030 1,2-*trans*-dichloroethylene
047 bromoform
048 dichlorobromomethane
058 4-nitrophenol
059 2,4-dinitrophenol
060 4,6-dinitro-o-cresol
064 pentachlorophenol

067 butyl benzyl phthalate
071 dimethyl phthalate
091 chlorodane
093 4,4'-DDE
095 alpha-endosulfan
096 beta-endosulfan
100 heptachlor
101 heptachlor epoxide
102 alpha-BHC
103 beta-BHC
114 antimony
117 beryllium
126 silver

(b) *Subpart B—Rolling with Emulsions Subcategory.*

011 1,1,1-trichloroethane
030 1,2-*trans*-dichloroethylene
047 bromoform
048 dichlorobromomethane
058 4-nitrophenol
059 2,4-dinitrophenol
060 4,6-dinitro-o-cresol
064 pentachlorophenol
067 butyl benzyl phthalate
071 dimethyl phthalate
091 chlorodane
093 4,4'-DDE
095 alpha-endosulfan
096 beta-endosulfan
100 heptachlor
101 heptachlor epoxide
102 alpha-BHC
103 beta-BHC
114 antimony
117 beryllium
126 silver

(c) *Subpart C—Extrusion Subcategory.*

011 1,1,1-trichloroethane
030 1,2-*trans*-dichloroethylene
047 bromoform
048 dichlorobromomethane
058 4-nitrophenol
059 2,4-dinitrophenol
060 4,6-dinitro-o-cresol
064 pentachlorophenol
067 butyl benzyl phthalate
071 dimethyl phthalate
091 chlorodane
093 4,4'-DDE
095 alpha-endosulfan
096 beta-endosulfan
100 heptachlor
101 heptachlor epoxide
102 alpha-BHC
103 beta-BHC
117 beryllium
126 silver

(d) *Subpart D—Forging Subcategory.*

011 1,1,1-trichloroethane
030 1,2-*trans*-dichloroethylene
047 bromoform
048 dichlorobromomethane
058 4-nitrophenol
059 2,4-dinitrophenol
064 pentachlorophenol
067 butyl benzyl phthalate
071 dimethyl phthalate
091 chlorodane
093 4,4'-DDE
095 alpha-endosulfan
096 beta-endosulfan
100 heptachlor
101 heptachlor epoxide
102 alpha-BHC
103 beta-BHC
114 antimony
117 beryllium
126 silver

(e) *Subpart E—Drawing with Neat Oils Subcategory.*

011 1,1,1-trichloroethane
030 1,2-*trans*-dichloroethylene
047 bromoform
048 dichlorobromomethane
058 4-nitrophenol
059 2,4-dinitrophenol
060 4,6-dinitro-o-cresol
064 pentachlorophenol
067 butyl benzyl phthalate
071 dimethyl phthalate
091 chlorodane
093 4,4'-DDE
095 alpha-endosulfan
096 beta-endosulfan
100 heptachlor
101 heptachlor epoxide
102 alpha-BHC
103 beta-BHC
114 antimony
117 beryllium
126 silver

(f) *Subpart F—Drawing with Emulsions or Soaps Subcategory.*

011 1,1,1-trichloroethane
030 1,2-*trans*-dichloroethylene
047 bromoform
048 dichlorobromomethane
058 4-nitrophenol
059 2,4-dinitrophenol
060 4,6-dinitro-o-cresol
064 pentachlorophenol
067 butyl benzyl phthalate
071 dimethyl phthalate
091 chlorodane
093 4,4'-DDE
095 alpha-endosulfan
096 beta-endosulfan
100 heptachlor
101 heptachlor epoxide
102 alpha-BHC
103 beta-BHC
114 antimony
117 beryllium
126 silver

APPENDIX E—Toxic Pollutants Detected in Amounts Too Small to be Effectively Reduced by Technologies Considered in Preparing this Guideline

(a) *Subpart A—Rolling with Neat Oils Subcategory.*

002 acrolein
004 benzene
007 chlorobenzene
021 2,4,6-trichlorophenol
023 chloroform
034 2,4-dimethylphenol
044 methylene chloride
066 bis (2-ethylhexyl) phthalate
068 di-n-butyl phthalate
069 di-n-octyl phthalate
070 diethyl phthalate
115 arsenic
123 mercury
127 thallium

(b) *Subpart B—Rolling with Emulsions Subcategory.*

002 acrolein
004 benzene
007 chlorobenzene
021 2,4,6-trichlorophenol
023 chloroform
034 2,4-dimethylphenol
044 methylene chloride
066 bis (2-ethylhexyl) phthalate
068 di-n-butyl phthalate
069 di-n-octyl phthalate
070 diethyl phthalate
115 arsenic
123 mercury
127 thalluim

(c) *Subpart C—Extrusion Subcategory.*

002 acrolein
004 benzene
007 chlorobenzene
021 2,4,6-trichlorophenol
023 chloroform
034 2,4-dimethylphenol
044 methylene chloride
066 bis (2-ethylhexyl) phthalate
068 di-n-butyl phthalate
069 di-n-octyl phthalate
070 diethyl phthalate
115 arsenic
123 mercury
127 thallium

(d) *Subpart D—Forging Subcategory.*

002 acrolein
004 benzene
007 chlorobenzene
021 2,4,6-trichlorophenol
023 chloroform
034 2,4-dimethylphenol
044 methylene chloride
066 bis (2-ethylhexyl) phthalate
068 di-n-butyl phthalate
069 di-n-octyl phthalate
070 diethyl phthalate
115 arsenic
123 mercury
127 thallium

(e) *Subpart E—Drawing with Neat Oils Subcategory.*

002 acrolein
004 benzene
007 chlorobenzene
021 2,4,6-trichlorophenol
023 chloroform
034 2,4-dimethylphenol
044 methylene chloride
066 bis (2-ethylhexyl) phthalate
068 di-n-butyl phthalate
069 di-n-octyl phthalate
070 diethyl phthalate
115 arsenic
123 mercury
127 thallium

(f) Subpart F—Drawing with Emulsions or Soaps Subcateogry.

002 acrolein
004 benzene
007 chlorobenzene
021 2,4,6-trichlorophenol
023 chloroform
034 2,4-dimethylphenol
044 methylene chloride
066 bis (2-ethylhexyl) phthalate
068 din-n-butyl phthalate
069 din-n-octyl phthalate
070 diethyl phthalate
115 arsenic
123 mercury
127 thalluim

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

(a) *Subpart A—Rolling with Neat Oils Subcategory.*

118 cadmium
120 copper
122 lead
124 nickel
125 selenium

(b) *Subpart B—Rolling with Emulsions Subcategory.*

118 cadmium
120 copper
122 lead
124 nickel
125 selenium

(c) *Subpart C—Extrusion Subcategory.*

118 cadmium
120 copper
122 lead
124 nickel
125 selenium

(d) *Subpart D—Forging Subcategory.*

118 cadmium
120 copper
122 lead
124 nickel
125 selenium

(e) *Subpart E—Drawing with Neat Oils SubcategoryQ02*

118 cadmium
120 copper
122 lead
124 nickel
125 selenium

(f) *Subpart F—Drawing with Emulsions or Soaps Subcategory.*

118 cadmium
120 copper
122 lead
124 nickel
125 selenium
080 fluorene
081 phenanthrene
082 dibenzo(a,h)anthracene
083 indeno(1,2,3–c,d)pyrene
084 pyrene
085 tetrachloroethylene
086 toluene
087 trichloroethylene
088 vinyl chloride
097 endorsulfan sulfate
098 endrin
099 endrin aldehyde
106 PCB–1242
107 PCB–1254
108 PCB–1221
109 PCB–1232
110 PCB–1248
111 PCB–1260
112 PCB–1016
118 cadmium
120 copper
122 lead
124 nickel
125 selenium

Appendix G—Toxic Organic Pollutants Which Are Not Regulated At BAT Because They Are Effectively Controlled By BPT Limitations

(a) *Subpart A—Rolling with Neat Oils Subcategory.*

001 acenaphthene
022 p-chloro-m-cresol
024 2-chlorophenol
035 2,4-dinitrotoluene
037 1,2-diphenylhydrazine
038 ethylbenzene
039 fluoranthene
054 Isophorone
055 naphthalene
062 N-nitrosodiphenylamine
065 phenol
072 benzo-(a) pyrene
074 3,4-benzofluoranthene
075 benzo(k) fluoranthene
076 chrysene
077 acenaphthylene
078 anthracene
079 benzo(ghi)perylene
080 fluorene
081 phenanthrene
082 dibenzo(a,h)anthracene
083 indeno(1,2,3–c,d)pyrene
084 pyrene
085 tetrachloroethylene
086 toluene
087 trichloroethylene
088 vinyl chloride
097 endosulfan sulfate
098 endrin
099 endrin aldehyde
106 PCB–1242
107 PCB–1254
108 PCB–1221
109 PCB–1232
110 PCB–1248
111 PCB–1260
112 PCB–1016

(b) *Subpart B—Rolling with Emulsions.*

001 acenaphthene
022 p-chloro-m-cresol
024 2-chlorophenol
035 2,4–dinitrotoluene
037 1,2–diphenylhydrazine
038 ethylbenzene
039 fluoranthene
054 isophorone
055 naphthalene
062 N-nitrosodiphenylamine
065 phenol
072 benzo(a)pyrene
074 3,4–benzofluoranthene
075 benzo(k)fluoranthene
076 chrysene
077 acenaphthylene
078 anthracene
079 benzo(ghi)perylene
080 fluorene
081 phenanthrene
082 dibenzo(a,h)anthracene
083 indeno(1,2,3–c,d)pyrene
084 pyrene
085 tetrachloroethylene
086 toluene
087 trichloroethylene
088 vinyl chloride
097 endosulfan sulfate
098 endrin
099 endrin aldehyde
106 PCB–1242
107 PCB–1254
108 PCB–1221
109 PCB–1232
110 PCB–1248
111 PCB–1260
112 PCB–1016

(c) *Subpart C—Extrusion Subcategory.*

001 acenaphthene
022 p-chloro-m-cresol
024 2–chlorophenol
035 2,4–dinitrotoluene
037 1,2-diphenylhydrazine
038 ethylbenzene
039 fluoranthene
054 isophorone
055 naphthalene
062 N-nitrosodiphenylamine
065 phensol
072 benzo(a)pyrene
074 3,4-benzofluoranthene
075 benzo(k)fluoranthene
076 chrysene
077 acenaphthylene
078 anthracene
079 benzo(ghi)perylene
080 fluorene
081 phenanthrene
082 dibenzo(a,h)anthracene
083 indeno(1,2,3-c,d)pyrene
084 pyrene
085 tetrachloroethylene
086 toluene
087 trichloroethylene
088 vinyl chloride
097 endosulfan sulfate
098 endrin
099 endrin aldehyde
106 PCB–1242
107 PCB–1254
108 PCB–1221
109 PCB–1232
110 PCB–1248
111 PCB–1260
112 PCB–1016

(d) *Subpart D—Forging Subcategory.*

001 acenaphthene
022 p-chloro-m-cresol
024 2-chlorophenol
035 2,4-dinitrotoluene
037 1,2-diphenylhydrazine
038 ethylbenzene
039 fluoranthene
054 isophorone
055 naphthalene
062 N-nitrosodiphenylamine
065 phenol
072 benzo(a)pyrene
074 3,4-benzofluoranthene
075 benzo(k)fluoranthene
076 chrysene
077 acenaphthylene
078 anthracene
079 benzo(ghi)perylene
080 fluorene
081 phenanthrene
082 dibenzo(a,h)anthracene
083 indeno(1,2,3–c,d)pyrene
084 pyrene
085 tetrachloroethylene
086 toluene
087 trichloroethylene
088 vinly chloride
097 endosulfan sulfate
098 endrin
099 endrin aldehyde
106 PCB–1242
107 PCB–1254
108 PCB–1221
109 PCB–1232
110 PCB–1248
111 PCB–1260
112 PCB–1016

(e) *Subpart E—Drawing with Neat Oils Subcategory.*

001 acenaphthene
022 p-chloro-m-cresol
024 2-chlorophenol
035 2,4-dinitrotoluene
037 1,2-diphenylhydrazine
038 ethylbenzene
039 fluoranthene
054 isophorone
055 naphthalene
062 N-nitrosodiphenylamine
065 phenol
072 benzo(a)pyrene
074 3,4-benzofluoranthene
075 benzo(k)fluoranthene
076 chrysene
077 acenaphthylene
078 anthracene
079 benzo(ghi)perylene
080 fluorene
081 phenanthrene
082 dibenzo(a,h)anthracene
083 indeno(1,2,3-c,d)pyrene
084 pyrene
085 tetrachloroethylene
086 toluene
087 trichloroethylene
088 vinyl chloride
097 endosulfan sulfate
098 endrin
099 endrin aldehyde
106 PCB–1242
107 PCB–1254
108 PCB–1221
109 PCB–1232
110 PCB–1248
111 PCB–1260
112 PCB–1016

(f) *Subpart F—Drawing with Emulsions or Soaps Subcategory.*

001 acenaphthene
022 p-chloro-m-cresol
024 2-chlorophenol
035 2,4-dinitrotoluene
037 1,2-diphenylhydrazine
038 ethylbenzene
039 fluoranthene
054 isophorone
055 naphthalene
062 N-nitrosodiphenylamine
065 phenol
072 benzo(a)pyrene
074 3,4-benzofluoranthene
075 benzo(k)fluoranthene
076 chrysene
077 acenaphthylene
078 anthracene
079 benzo(ghi)perylene
080 fluorene
081 phenanthrene
082 dibenzo(a,h)anthracene
083 indeno(1,2,3-c,d)pyrene
084 pyrene
085 tetrachloroethylene
086 toluene
087 trichloroethylene
088 vinyl chloride
097 endosulfan sulfate
098 endrin
099 endrin aldehyde
106 PCB–1242
107 PCB–1254
108 PCB–1221
109 PCB–1232
110 PCB–1248
111 PCB–1260
112 PCB–1016

For the reasons set out in the preamble, EPA proposes to add a new Part 467 to read as follows:

PART 467—ALUMINUM FORMING POINT SOURCE CATEGORY

General Provisions

Subpart A—Rolling With Neat Oils Subcategory

Subpart B—Rolling With Emulsions Subcategory

Subpart C—Extrusion Subcategory

Subpart D—Forging Subcategory

Subpart E—Drawing With Neat Oils Subcategory

Subpart F—Drawing With Emulsions or Soaps Subcategory

Sec.

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

General Provisions

§ 467.01 Applicability.

This part applies to any aluminum forming plant which discharges or may discharge pollutants to waters of the United States or which introduces or may introduce pollutants into a publicly owned treatment works. Aluminum forming includes commonly recognized forming operations such as rolling, drawing, extruding, and forging and related operations such as heat treatment, casting, and surface treatments. The surface treatments of anodizing and conversion coating when conducted as integral parts of the aluminum forming process are considered as etch lines and are not considered for regulation under the Metal Finishing provisions of 40 CFR Part 413. Casting aluminum when performed as an integral part of aluminum forming and located on-site at an aluminum forming plant is considered an aluminum forming operation and is covered under these guidelines. When aluminum forming is performed on the same site as primary aluminum reduction the casting shall be regulated by the nonferrous metals guidelines if there is no cooling of the aluminum prior to casting. If the aluminum is cooled prior to casting then the casting shall be regulated by the aluminum forming guidelines.

§ 467.02 General definitions.

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

(a) "Aluminum forming" is a set of manufacturing operations in which aluminum and aluminum alloys are made into semifinished products by hot or cold working.

(b) "Ancillary operation" is a manufacturing operation that has a large flow, discharges significant amounts of pollutants and may not be present at every plant in a subcategory, but when present it is an integral part of the aluminum forming process.

(c) "Contact cooling water" is any wastewater which contacts the aluminum workpiece or the raw materials used in forming aluminum.

(d) "Continuous casting" is the production of sheet, rod, or other long shapes by solidifying the metal while it is being poured through an open-ended mold using little or no contact cooling water. Continuous casting of rod and sheet generate spent lubricants and rod casting also generates contact cooling water.

(e) "Degassing" is the removal of dissolved hydrogen from the molten aluminum prior to casting. Chemicals are added and gases are bubbled through the molten aluminum. Sometimes a wet scrubber is used to remove excess chlorine gas.

(f) "Direct chill casting" is the pouring of molten aluminum into a water-cooled mold. Contact cooling water is sprayed onto the aluminum as it is dropped into the mold, and the aluminum ingot falls into a water bath at the end of the casting process.

(g) "Drawing" is the process of pulling metal through a die or succession of dies to reduce the metal's diameter or alter its shape. There are two aluminum forming subcategories based on the drawing process. In the drawing with neat oils subcategory, the drawing process uses a pure or neat oil as a lubricant. In the drawing with emulsions or soaps subcategory, drawing process uses an emulsion or soap solution as a lubricant.

(h) "Emulsions" are stable dispersions of two immiscible liquids. In the aluminum forming category this is usually an oil and water mixture.

(i) "Cleaning or etching" is a chemical solution bath and a rinse or series of rinses designed to produce a desired surface finish on the workpiece. This term includes air pollution control scrubbers which are sometimes used to control fumes from chemical solution baths. Conversion coating and anodizing when performed as an integral part of the aluminum forming operations are considered cleaning or etching operations. When conversion coating or anodizing are covered here they are not subject to regulation under the provisions of 40 CFR Part 413, Metal Finishing.

(j) "Extrusion" is the application of pressure to a billet of aluminum, forcing the aluminum to flow through a die orifice. The extrusion subcategory is based on the extrusion process.

(k) "Forging" is the exertion of pressure on dies or rolls surrounding heated aluminum stock, forcing the stock to change shape and in the case where dies are used to take the shape of the die. The forging subcategory is based on the forging process.

(l) "Heat treatment" is the application of heat of specified temperature and duration to change the physical properties of the metal.

(m) "In-process control technology" is the conservation of chemicals and water throughout the production operations to reduce the amount of wastewater to be discharged.

(n) "Neat oil" is a pure oil with no or few impurities added. In aluminum forming its use is mostly as a lubricant.

(o) "Rolling" is the reduction in thickness or diameter of a workpiece by passing it between lubricated steel rollers. There are two subcategories based on the rolling process. In the rolling with neat oils subcategory, pure or neat oils are used as lubricants for the rolling process. In the rolling with emulsions subcategory, emulsions are used as lubricants for the rolling process.

(p) The term "Total Toxic Organics (TTO)" shall mean the sum of the masses or concentrations of each of the following toxic organic compounds which is found in the discharge at a concentration greater than 0.010 mg/1:

p-chloro-m-cresol	benzo(a)pyrene
2-chlorophenol	3,4-benzofluoranthene
2,4-dinitrotoluene	benzo(k)fluoranthene
1,2-diphenylhydrazine	chrysene
ethylbenzene	acenaphthylene
fluoranthene	anthracene
isophorone	benzo(ghi)perylene
naphthalene	fluorene
N-nitrosodiphenylamine	phenanthrene
phenol	dibenzo(a,h)anthracene
	indeno(1,2,3-c,d)pyrene
	pyrene
	tetrachloroethylene
	toluene
	trichloroethylene
	vinyl chloride
	endosulfan sulfate
	endrin
	endrin aldehyde
	PCB–1242, 1254, 1221
	PCB–1232, 1248, 1260, 1016

(q) "Stationary casting" is the pouring of molten aluminum into molds and allowing the metal to air cool.

(r) "Wet scrubbers" are air pollution control devices used to remove particulates and fumes from air by entraining the pollutants in a water spray.

(s) "BPT" means the best practicable control technology currently available under Section 304(b)(1) of the Act.

(t) "BAT" means the best available technology economically achievable under Section 304(b)(2)(B) of the Act.

(u) "BCT" means the best conventional pollutant control technology, under Section 304(b)(4) of the Act.

(v) "NSPS" means new source performance standards under Section 306 of the Act.

(w) "PSES" means pretreatment standards for existing sources, under Section 307(b) of the Act.

(x) "PSNS" means pretreatment standards for new sources, under Section 307(c) of the Act.

(y) The production normalizing mass (/kkg) for each core or ancillary operation is the mass (off-kkg or off-lb) processed through that operation.

(z) The term "off-kilogram" (off-pound) shall mean the kilograms (pounds) of product from the manufacturing process. When a material must be passed more than one time through a process, (e.g. double drawn wire) the kilograms of product from each pass shall be considered to be off-kilograms.

§ 467.03 Monitoring and reporting requirements.

The following special monitoring and reporting requirements apply to all facilities controlled by this regulation.

(a) Periodic analyses for cyanide as may be required under Part 122 or 403 of this chapter is not required when both of the following conditions are met.

(1) The first wastewater sample of each calendar year has been analyzed and found to contain less than 0.07 mg/1 cyanide.

(2) The owner or operator of the aluminum forming plant certifies in writing to the POTW authority or permit issuing authority that cyanide is not and will not be used in the aluminum process.

(b) As an alternative monitoring procedure for pretreatment, the POTW user may measure and limit oil and grease to the levels shown in pretreatment standards in lieu of measuring and regulating total toxic organics (TTO).

(c) The "monthly average" regulatory values shall be the basis for the monthly average discharge limits in direct discharge permits and for pretreatment standards. Compliance with the monthly discharge limit is required regardless of the number of samples analyzed and averaged.

§ 467.04 Compliance date for PSES.

The compliance date for PSES under this regulation is proposed to be three years after the date of promulgation.

Subpart A—Rolling With Neat Oils Subcategory

§ 467.10 Applicability; description of the rolling with neat oils subcategory.

This subpart applies to discharges of polutants to waters of the United States, and introductions of pollutants into publicly owned treatment works from the core and the ancillary operations of the rolling with neat oils subcategory.

§ 467.11 Specialized definitions.

For the purpose of this subpart:

(a) The "core" of the rolling with neat oils subcategory shall include rolling using neat oils, roll grinding, sawing, annealing, stationary casting, homogenizing artificial aging, degreasing, and stamping.

(b) The term "ancillary operation" shall mean any operation not previously included in the core, performed on-site, following or preceding the rolling operation. The ancillary operations shall include continuous rod casting continuous sheet casting, solution heat treatment, cleaning or etching.

§ 467.12 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 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations for the core operation and for the ancillary operations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available:

SUBPART A

[Cleaning or etching scrubber liquor]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	7,230	2,930
Cyanide	5,000	2,070
Zinc	22,900	9,650
Aluminum	78,400	32,030
Oil and Grease	344,400	206,700
Suspended Solids	706,000	344,400
pH	(1)	(1)

[1]Within the range of 7.5 to 10 at all times.

SUBPART A

[Cleaning or etching rinse]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	7,080	2,870
Cyanide	4,690	2,030
Zinc	22,430	9,440
Aluminum	76,700	31,360
Oil and Grease	337,200	202,300
Suspended Solids	691,300	337,200
pH	(1)	(1)

[1]Within the range of 7.5 to 10 at all times.

SUBPART A

[Cleaning or etching bath]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	85.9	34.8
Cyanide	59.3	24.6
Zinc	271.9	114.5
Aluminum	930.0	380.2
Oil and Grease	4,088.0	2,453.0
Suspended Solids	8,381.0	4,088.0
pH	(1)	(1)

[1]Within the range of 7.5 to 10 at all times.

SUBPART A

[Solution heat treatment contact cooling water]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	3,240	1,310
Cyanide	2,240	925
Zinc	10,250	4,320
Aluminum	35,060	14,330
Oil and Grease	154,100	92,500
Suspended Solids	315,900	154,100
pH	(1)	(1)

[1]Within the range of 7.5 to 10 at all times.

SUBPART A

[Continuous sheet casting spent lubricant]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	0.78	0.32
Cyanide	0.54	0.22
Zinc	2.45	1.03
Aluminum	8.39	3.43
Oil and Grease	36.9	22.1
Suspended Solids	75.6	36.9
pH	(1)	(1)

[1]Within the range of 7.5 to 10 at all times.

SUBPART A

[Core with an annealing furnace scrubber]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	18.1	7.30
Cyanide	12.5	5.15
Zinc	57.1	24.1
Aluminum	195.4	79.9
Oil and Grease	858.6	515.2
Suspended Solids	1,760.2	858.6
pH	(1)	(1)

[1]Within the range of 7.5 to 10 at all times.

SUBPART A

[Core without an annealing furnace scrubber]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	6.97	2.82
Cyanide	4.81	1.99
Zinc	22.1	9.29
Aluminum	75.5	30.9
Oil and Grease	331.6	199.0
Suspended Solids	679.8	331.6
pH	(1)	(1)

[1]Within the range of 7.5 to 10 at all times.

§ 467.13 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) There shall be no discharge of wastewater pollutants from the ancillary operation of the cleaning or etch line chemical solution bath.

(b) The mass of pollutants in the core and ancillary operations' process wastewater, except the wastewaters listed in paragraph (a) of this section shall not exceed the following values:

SUBPART A

[Cleaning or etching scrubber liquor]

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	812	329
Cyanide	561	232
Zinc	2,571	1,083
Aluminum	8,795	3,596

SUBPART A

[Cleaning or etching rinse]

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	708	287
Cyanide	489	203
Zinc	2,243	944
Aluminum	7,672	3,136

SUBPART A

[Solution heat treatment contact cooling water]

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	856	347
Cyanide	591	245
Zinc	2,710	1,141
Aluminum	9,269	3,789

SUBPART A

[Continuous sheet casting spent lubricant]

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	0.78	0.32
Cyanide	5.54	5.22
Zinc	2.45	1.03
Aluminum	8.39	3.43

SUBPART A

[Core with an annealing furnace scrubber]

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	18.1	7.30
Cyanide	12.5	5.15
Zinc	57.1	24.1
Aluminum	195.4	79.9

SUBPART A

[Core without an annealing furnace scrubber]

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	6.97	2.82
Cyanide	4.81	1.99
Zinc	22.1	9.29
Aluminum	75.5	30.9

§ 467.14 New source performance standards.

Any new source subject to this subpart must achieve the following performance standards:

(a) There shall be no discharge of wastewater pollutants from the ancillary operation of the cleaning or etch line chemical solution bath.

(b) The mass of pollutants in the core and ancillary operations' process wastewater, except the wastewaters listed in paragraph (a) of this section shall not exceed the following values:

SUBPART A

[Cleaning or Etching Scrubber Liquor]

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	715	290
Cyanide	387	155
Zinc	1,972	812
Aluminum	5,857	2,397
Oil and Grease	19,330	19,330
Suspended Solids	29,000	21,270
pH	(1)	(1)

[1]Within the range of 7.5 to 10 at all times.

SUBPART A

[Cleaning or Etching Rinse]

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	624	253
Cyanide	337	135
Zinc	1,720	708
Aluminum	5,109	2,091
Oil and Grease	16,860	16,860
Suspended Solids	25,290	18,550
pH	(1)	(1)

[1]Within the range of 7.5 to 10 at all times.

SUBPART A

[Solution Heat Treatment Contact Cooling Water]

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs.) of aluminum processed	
Chromium	754	306
Cyanide	408	163
Zinc	2,078	856
Aluminum	6,172	2,526
Oil and Grease	20,370	20,370
Suspended Solids	30,560	22,410
pH	(1)	(1)

[1]Within the range of 7.5 to 10 at all times.

SUBPART A

[Continuous Casting Spent Lubricant]

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	0.68	0.28
Cyanide	0.37	0.15
Zinc	1.88	0.77
Aluminum	5.58	2.29
Oil and Grease	18.5	18.5

SUBPART A—Continued

[Continuous Casting Spent Lubricant]

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
Suspended Solids	27.7	20.3
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

SUBPART A

[Core With an Annealing Furnace Scrubber]

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	15.9	6.44
Cyanide	8.59	3.43
Zinc	43.8	18.1
Aluminum	130.1	53.3
Oil and Grease	429.3	429.3
Suspended Solids	644.0	472.3
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

SUBPART A

[Core Without an Annealing Furnace Scrubber]

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	6.13	2.49
Cyanide	3.32	1.33
Zinc	16.9	6.96
Aluminum	50.3	20.6
Oil and Grease	165.8	165.8
Suspended Solids	248.7	182.4
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

§ 467.15 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. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the following values:

SUBPART A

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	812	329
Cyanide	561	232
Zinc	2,571	1,083
TTO	1,334	

SUBPART A—Continued

Cleaning or Etching Scrubber

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
Oil and Grease (alternate monitory parameter)	38,660	23,200

SUBPART A

Cleaning or Etching Rinse

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	708	287
Cyanide	489	203
Zinc	2,243	944
TTO	1,164	
Oil and Grease (alternate monitoring parameter)	33,720	20,230

SUBPART A

Solution Heat Treatment Contact Cooling Water

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	856	347
Cyanide	591	245
Zinc	2,710	1,141
TTO	1,410	
Oil and Grease (alternate monitoring parameter)	40,740	24,440

SUBPART A

Core without an Annealing Furnace Scrubber

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	6.97	2.82
Cyanide	4.81	1.99
Zinc	22.1	9.29
TTO	11.5	
Oil and Grease (alternate monitoring parameter)	331.6	199.0

SUBPART A

Core with an Annealing Furnace Scrubber

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	18.1	7.30
Cyanide	12.5	5.15

SUBPART A—Continued

Core with an Annealing Furnace Scrubber

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
Zinc	57.1	24.1
TTO	29.6	
Oil and Grease (alternate monitoring parameter)	856.6	515.2

SUBPART A

Continuous Sheet Casting Lubricant

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	0.78	0.32
Cyanide	0.54	0.22
Zinc	2.45	1.04
TTO	1.27	
Oil and Grease (alternate monitoring parameter)	36.9	22.1

§ 467.16 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. The mass of wastewater pollutants in aluminum forming process wastewate introduced into a POTW shall not exceed the following values:

SUBPART A

[Cleaning or etching scrubber]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	715	290
Cyanide	387	155
Zinc	1,972	812
TTO	1,334	
Oil and Grease (alternate monitoring parameter)	19,330	19,330

SUBPART A

[Cleaning or etching rinse]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	624	253
Cyanide	337	135

SUBPART A—Continued

[Cleaning or etching rinse]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
Zinc	1,720	708
TTO	1,164	
Oil and Grease (alternate monitoring parameter)	16,860	16,860

SUBPART A

[Solution heat treatment contact cooling water]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	754	306
Cyanide	408	163
Zinc	2,410	856
TTO	1,410	
Oil and Grease (alternate monitoring parameter)	20,370	20,370

SUBPART A

[Continuous sheet casting lubricant]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	0.68	0.28
Cyanide	.37	.15
Zinc	1.88	.77
TTO	1.27	
Oil and Grease (alternate monitorng parameter)	18.5	18.5

SUBPART A

[Core with an annealing furnace scrubber]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	15.9	6.44
Cyanide	8.59	3.43
Zinc	43.8	18.1
TTO	29.6	
Oil and Grease (alternate monitoring parameter)	429.3	429.3

SUBPART A

[Core without an annealing furnace scrubber]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	6.13	2.49
Cyanide	3.32	1.33
Zinc	16.9	6.96

SUBPART A—Continued

[Core without an annealing furnace scrubber]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
TTO	11.5	
Oil and Grease (alternate monitoring parameter)	165.8	165.8

§ 467.17 Effluent limitations representating the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart B—Rolling With Emulsions Subcategory

§ 467.20 Applicability; description of the rolling with emulsions subcategory.

This subpart applies to dischargers of pollutants to waters of the United States and introductions of pollutants into publicly owned treatment works from the core and the ancillary operations of the rolling with emulsions subcategory.

§ 467.21 Specialized definitions.

For the purpose of this subpart:

(a) The "core" of the rolling with emulsions subcategory shall include rolling using emulsions, roll grinding, stationary casting, homogenizing, artificial aging, annealing, and sawing.

(b) The term "ancillary operation" shall mean any operation not previously included in the core, performed on-site, following or preceding the rolling operation. The ancillary operations shall include direct chill casting, solution heat treatment, cleaning or etching, and degassing.

§ 467.22 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 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

SUBPART B

[Cleaning or etching scrubber liquor]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	7,230	2,930

SUBPART B—Continued

[Cleaning or etching scrubber liquor]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
Cyanide	5,000	2,070
Zinc	22,900	9,650
Aluminum	78,400	32,030
Oil and Grease	344,400	206,700
Suspended Solids	706,000	344,400
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART B

[Cleaning or etching rinse]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	7,080	2,870
Cyanide	4,890	2,030
Zinc	22,430	9,440
Aluminum	76,700	31,360
Oil and Grease	337,200	202,300
Suspended Solids	691,300	337,200
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART B

[Cleaning or etching bath]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	85.9	34.8
Cyanide	59.3	24.6
Zinc	271.9	114.5
Aluminum	930.0	380.2
Oil and Grease	4,088.0	2,453.0
Suspended Solids	8,381.0	4,088.0
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART B

[Solution heat treatment contact cooling water]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	3,240	1,310
Cyanide	2,240	925
Zinc	10,250	4,320
Aluminum	35,100	14,400
Oil and Grease	154,100	92,500
Suspended Solids	315,900	154,100
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART B

[Direct chill casting contact cooling water]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	840	340
Cyanide	580	240
Zinc	2,660	1,120
Aluminum	9,100	3,720
Oil and Grease	39,980	23,990
Suspended Solids	81,960	39,980
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

SUBPART B

[Core]

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	38.3	15.5
Cyanide	26.4	11.0
Zinc	121.2	51.0
Aluminum	414.5	169.5
Oil and Grease	1,822.0	1,093.0
Suspended Solids	3,735.0	1,822.0
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

§ 467.23 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 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(a) There shall be no discharge of process wastewater pollutants from the ancillary operations of the cleaning or etch line chemical solution bath.

(b) The discharge of process wastewater pollutants from the core and ancillary operations except those listed in paragraph (a) of this section, shall not exceed the values set forth below:

SUBPART B

[Cleaning or etching scrubber liquor]

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	812	329
Cyanide	561	232
Zinc	2,571	1,083

SUBPART B—Continued

[Cleaning or etching scrubber liquor]

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
Aluminum	8,795	3,596

SUBPART B

[Cleaning or etching rinse]

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	708	287
Cyanide	489	203
Zinc	2,243	944
Aluminum	7,672	3,136

SUBPART B

[Solution heat treatment contact cooling water]

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	856	347
Cyanide	591	245
Zinc	2,710	1,141
Aluminum	9,269	3,789

SUBPART B

[Direct chill casting contact cooling water]

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	840	340
Cyanide	580	240
Zinc	2,660	1,120
Aluminum	9,100	3,720

SUBPART B

[Core]

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	38.3	15.5
Cyanide	26.4	11.0
Zinc	121.2	51.0
Aluminum	414.5	169.5

§ 467.24 New source performance standards.

Any new source subject to this subpart must achieve the following performance standards:

(a) There shall be no discharge of process wastewater pollutants from the ancillary operations of the cleaning or etch line chemical solution bath.

(b) The discharge of process wastewater pollutants from the core and ancillary operations except those listed in paragraph (a) of this section, shall not exceed the values set forth below:

SUBPART B

[Cleaning or etching scrubber liquor]

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	715	290
Cyanide	387	155
Zinc	1,972	812
Aluminum	5,857	2,397
Oil and Grease	19,330	19,330
Suspended Solids	29,000	21,270
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

SUBPART B

[Cleaning or etching rinse]

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	624	253
Cyanide	337	135
Zinc	1,720	708
Aluminum	5,110	2,090
Oil and Grease	16,860	16,860
Suspended Solids	25,290	18,550
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

SUBPART B

[Solution heat treatment contact cooling water]

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	754	306
Cyanide	408	163
Zinc	2,078	856
Aluminum	6,172	2,526
Oil and Grease	20,370	20,370
Suspended Solids	30,560	22,410
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

SUBPART B

[Direct chill casting contact cooling water]

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	740	300
Cyanide	400	160
Zinc	2,039	840
Aluminum	6,057	2,479
Oil and Grease	19,990	19,990
Suspended Solids	29,985	21,989
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART B

[Core]

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	33.7	13.7
Cyanide	8.2	7.3
Zinc	92.9	38.3
Aluminum	276.0	113.0
Oil and Grease	911.0	911.0
Suspended Solids	1,367.0	1,002.0
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

§ 467.25 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 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the following values:

SUBPART B

[Cleaning or etching scrubber]

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	812	329
Cyanide	561	232
Zinc	2,571	1,083
TTO	1,334	
Oil and Grease (alternate monitoring parameter	38,660	23,200

SUBPART B

[Cleaning or etching rinse]

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	708	287
Cyanide	489	203
Zinc	2,243	944
TTO	1,164	
Oil and Grease (alternate monitoring parameter	33,720	20,230

SUBPART B

[Solution heat treatment contact cooling water]

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	856	347
Cyanide	591	245
Zinc	2,710	1,141
TTO	1,410	
Oil and Grease (alternate monitoring parameter	40,740	24,440

SUBPART B

[Direct chill casting contact cooling water]

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	840	340
Cyanide	580	240
Zinc	2,660	1,120
TTO	1,380	
Oil and Grease (alternate monitoring parameter	39,980	24,000

SUBPART B

[Core]

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	38.3	15.5
Cyanide	26.4	11.0
Zinc	121.2	51.0
TTO	62.9	
Oil and Grease (alternate monitoring parameter	1,822.0	1,093.0

§ 467.26 Pretreatment standards for new sources.

Except as provided in § 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of process wastewater pollutants from the core and ancillary operations introduced into a POTW shall not exceed the values set forth below:

SUBPART B

[Cleaning or etching scrubber]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	715	290
Cyanide	387	155
Zinc	1,972	812
TTO	1,334	
Oil and Grease (alternate monitoring parameter	19,330	19,330

SUBPART B

[Cleaning or etching rinse]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pound per billion lbs) of aluminum processed	
Chromium	624	253
Cyanide	337	135
Zinc	1,720	708
TTO	1,164	
Oil and Grease (alternate monitoring parameter	16,860	16,860

SUBPART B

[Solution heat treatment contact cooling water]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	754	306
Cyanide	408	163
Zinc	2,078	856
TTO	1,410	
Oil and Grease (alternate monitoring parameter)	20,370	20,370

SUBPART B

[Direct chill casting contact cooling water]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	740	300
Cyanide	400	160
Zinc	2,039	840
TTO	6,057	

SUBPART B—Continued

[Direct chill casting contact cooling water]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
Oil and Grease (alternate monitoring parameter)	19,990	19,990

SUBPART B

[Core]

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion lbs) of aluminum processed	
Chromium	33.7	13.7
Cyanide	18.2	7.3
Zinc	92.9	38.3
TTO	62.9	
Oil and Grease (alternate monitoring parameter)	911	911

§ 467.27 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart C—Extrusion Subcategory

§ 467.30 Applicability; description of the extrusion subcategory.

This subpart applies to discharges of pollutants to waters of the United States and introductions of pollutants into publicly owned treatment works from the core and the ancillary operations of the extrusion subcategory.

§ 467.31 Specialized definitions

For the purpose of this subpart:

(a) The "core" of the extrusion subcategory shall include extrusion die cleaning, dummy block cooling, stationary casting, artificial aging, annealing, degreasing, and sawing.

(b) The term "extrusion die cleaning" shall mean the process by which the steel dies used in extrusion of aluminum are cleaned. The term includes a dip into a concentrated caustic bath to dissolve the aluminum followed by a water rinse. It also includes the use of a wet scrubber with the die cleaining operation.

(c) The term "ancillary operation" shall mean any operation not previously included in the core, performed on-site, following or preceding the extrusion operation. The ancillary operations shall include direct chill casting, press or solution heat treatment, cleaning or etching, and degassing.

§ 467.32 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 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available:

SUBPART C.—DEGASSING SCRUBBER LIQUOR

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	12.3	4.96
Cyanide	8.5	3.51
Zic	38.8	16.4
Aluminum	132.8	54.3
Oil and grease	583.8	350.3
Suspended solids	1,197.0	583.8
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART C.—CLEANING OR ETCHING SCRUBBER LIQUOR

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	7,230	2,930
Cyanide	5,000	2,070
Zinc	22,900	9,650
Aluminum	78,400	32,030
Oil and grease	344,400	206,700
Suspended solids	706,000	344,400
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART C.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	7,080	2,870
Cyanide	4,890	2,030
Zinc	22,430	9,440
Aluminum	76,700	31,360
Oil and grease	337,200	202,300
Suspended solids	691,300	337,200
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART C.—CLEANING OR ETCHING BATH

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	85.9	34.8
Cyanide	59.3	24.6
Zinc	271.9	114.5
Aluminum	930.0	380.2
Oil and grease	4,088.0	2,453.0
Suspended solids	8,381.0	4,088.0
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART C.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	3,240	1,310
Cyanide	2,240	925
Zinc	10,250	4,320
Aluminum	35,100	14,400
Oil and grease	154,100	92,500
Suspended solids	315,900	154,100
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART C.—PRESS HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	3,240	1,310
Cyanide	2,240	925
Zinc	10,250	4,320
Aluminum	35,100	14,400
Oil and grease	154,100	92,500
Suspended solids	315,900	154,100
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART C.—DIRECT CHILL CASTING CONTACT COOLING WATER

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	840	340
Cyanide	580	240
Zinc	2,660	1,120
Aluminum	9,100	3,720
Oil and grease	39,980	23,990
Suspended solids	81,960	39,980
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART C.—CORE

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	136.0	55.1
Cyanide	93.9	38.9
Zinc	431.0	182.0
Aluminum	1,473.0	602.0
Oil and grease	6,474.0	3,885.0
Suspended solids	13,270.0	6,474.0
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

§ 467.33 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 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(a) There shall be no discharge of wastewater pollutants from the ancillary operations of the cleaning or etch line chemical solution bath and degassing.

(b) The discharge of wastewater pollutants from the core and ancillary operation except those listed in paragraph (a) of this section, shall not exceed the values set forth below:

SUBPART C.—CLEANING OR ETCHING SCRUBBER LIQUOR

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	812	329
Cyanide	561	232
Zinc	2,571	1,083
Aluminum	8,795	3,596

SUBPART C.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	708	287
Cyanide	489	203
Zinc	2,243	944
Aluminum	7,672	3,136

SUBPART C.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	856	347
Cyanide	591	245
Zinc	2,710	1,141
Aluminum	9,269	3,789

SUBPART C.—PRESS HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	856	347
Cyanide	591	245
Zinc	2,710	1,141
Aluminum	9,269	3,789

SUBPART C.—DIRECT CHILL CASTING CONTACT COOLING WATER

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	840	340
Cyanide	580	240
Zinc	2,660	1,120
Aluminum	9,100	3,720

SUBPART C.—CORE

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	125	50.7
Cyanide	87	35.8
Zinc	397	167.0
Aluminum	1,357	555.0

§ 467.34 New source performance standards.

Any new source subject to this subpart must achieve the following performance standards.

(a) There shall be no discharge of wastewater pollutants from ancillary operations of the cleaning or etch line chemical solution bath and degassing.

(b) The discharge of wastewater pollutants from the core and ancillary operation except those listed in paragraph (a) of this section, shall not exceed the values set forth below:

SUBPART C.—CLEANING OR ETCHING SCRUBBER LIQUOR

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	715	290
Cyanide	387	155
Zinc	1,972	812
Aluminum	5,857	2,397
Oil and grease	19,330	19,330
Suspended solids	29,000	21,270
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART C.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	624	253
Cyanide	337	135
Zinc	1,720	708
Aluminum	5,109	2,091
Oil and grease	16,860	16,860
Suspended solids	25,290	18,550
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART C.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	754	306
Cyanide	408	163
Zinc	2,078	856
Aluminum	6,172	2,526
Oil and grease	20,370	20,370
Suspended solids	30,560	22,410
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART C.—PRESS HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	754	306
Cyanide	408	163
Zinc	2,078	856
Aluminum	6,172	2,526
Oil and grease	20,370	20,370
Suspended solids	30,555	22,410
pH	(1)	(1)

SUBPART C.—PRESS HEAT TREATMENT CONTACT COOLING WATER—Continued

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average

[1] Within the range of 7.5 to 10 at all times.

SUBPART C.—DIRECT CHILL CASTING CONTACT COOLING WATER

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	740	300
Cyanide	400	160
Zinc	2,039	840
Aluminum	6,057	2,479
Oil and grease	19,990	19,990
Suspended solids	29,985	21,989
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART C.—CORE

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	111	45
Cyanide	60	24
Zinc	304	125
Aluminum	904	370
Oil and grease	2,981	2,981
Suspended solids	4,472	3,279
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

§ 467.35 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the following values:

SUBPART C.—CLEANING OR ETCHING SCRUBBER

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	812	329
Cyanide	561	232
Zinc	2,571	1,083
TTO	1,334	

SUBPART C.—CLEANING OR ETCHING SCRUBBER—Continued

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
Oil and grease (alternate monitoring parameter)	38,660	23,200

SUBPART C.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	708	287
Cyanide	489	203
Zinc	2,243	945
TTO	1,164	
Oil and grease (alternate monitoring parameter)	33,720	20,230

SUBPART C.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	856	347
Cyanide	591	245
Zinc	2,710	1,141
TTO	1,410	
Oil and grease (alternate monitoring parameter)	40,740	24,440

SUBPART C.—PRESS HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	856	347
Cyanide	591	245
Zinc	2,710	1,141
TTO	1,410	
Oil and grease (alternate monitoring parameter)	40,740	24,440

SUBPART C.—DIRECT CHILL CASTING CONTACT COOLING WATER

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	840	340
Cyanide	580	240
Zinc	2,660	1,120
TTO	1,380	

SUBPART C.—DIRECT CHILL CASTING CONTACT COOLING WATER—Continued

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
Oil and grease (alternate monitoring parameter)	39,980	24,440

SUBPART C.—CORE

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	125	51
Cyanide	87	36
Zinc	397	167
TTO	206	
Oil and grease (alternate monitoring parameter)	5,960	3,580

§ 467.36 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in the aluminum forming process wastewater shall not exceed the values set forth below:

SUBPART C.—CLEANING OR ETCHING SCRUBBER

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	715	290
Cyanide	387	155
Zinc	1,972	812
TTO	1,334	
Oil and grease (alternate monitoring parameter)	19,330	19,330

SUBPART C.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	624	253
Cyanide	337	135
Zinc	1,720	708
TTO	1,164	
Oil and grease (alternate monitoring parameter)	16,860	16,860

SUBPART C.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	754	306
Cyanide	408	163
Zinc	2,078	856
TTO	1,410	.....
Oil and grease (alternate monitoring parameter)	20,370	20,370

SUBPART C.—PRESS HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	754	306
Cyanide	408	163
Zinc	2,078	856
TTO	1,410	.....
Oil and grease (alternate monitoring parameter)	20,370	20,370

SUBPART C.—DIRECT CHILL CASTING CONTACT COOLING WATER

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	740	300
Cyanide	400	160
Zinc	2,039	840
TTO	1,380	.....
Oil and grease (alternate monitoring parameter)	19,990	19,990

SUBPART C.—CORE

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	111	45
Cyanide	60	24
Zinc	314	125
TTO	206	.....
Oil and grease (alternate monitoring parameter)	2,981	2,981

§ 467.37 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart D—Forging Subcategory

§ 467.40 Applicability; description of the forging subcategory.

This subpart applies to discharges of pollutants to waters of the United States and introductions of pollutants into publicity owned treatment works from the core of the forging subcategory and the ancillary operations.

§ 467.41 Specialized definitions.

For the purpose of this subpart:

(a) The "core" of the forging subcategory shall include forging, artificial aging, annealing, degreasing, and sawing.

(b) The term "ancillary operation" shall mean any operation not previously included in the core, performed on-site, following or preceding the forging operation. The ancillary operations shall include forging air pollution scrubbers, solution heat treatment, and cleaning or etching.

§ 467.42 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. [Reserved]

§ 467.43 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable. [Reserved]

§ 467.44 New source performance standards (NSPS).

Any new source subject to this subpart must achieve the following performance standards.

(a) There shall be no discharge of wastewater pollutants from the ancillary operation of the cleaning or etch line chemical solution bath.

(b) The discharge of wastewater pollutants from the core and ancillary operation except for those listed in paragraph (a) of this section, shall not exceed the values set forth below:

SUBPART D.—CLEANING OR ETCHING SCRUBBER LIQUOR

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	715	290
Cyanide	387	155
Zinc	1,972	812
Aluminum	5,857	2,397
Oil and grease	19,330	19,330
Suspended solids	29,000	21,270
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART D.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	624	253
Cyanide	337	135
Zinc	1,720	708
Aluminum	5,109	2,091
Oil and grease	16,860	16,860
Suspended solids	25,290	18,560
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART D.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per/billion pounds) of aluminum processed	
Chromium	754	306
Cyanide	408	163
Zinc	2,078	856
Aluminum	6,172	2,526
Oil and Grease	20,370	20,370
Suspended Solids	30,560	22,410
pH	[1]	[1]

[1] Within the range of 7.5 to 10 at all times.

SUBPART D.—FORGING SCRUBBER LIQUOR

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per/billion pounds) of aluminum processed	
Chromium	34.9	14.2
Cyanide	18.9	7.6
Zinc	96.2	39.6
Aluminum	285.8	117.0
Oil and Grease	943.1	943.1
Suspended Solids	1,415.0	1,038.0
pH	[1]	[1]

[1] Within the range of 7.5 to 10 at all times.

SUBPART D.—CORE

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	2.89	1.17
Cyanide	1.56	0.62
Zinc	7.96	3.28
Aluminum	23.7	9.7
Oil and Grease	78.1	78.1
Suspended Solids	117.0	85.9
pH	[1]	[1]

[1] Within the range of 7.5 to 10 at all times.

§ 467.45 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduced pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the values set forth below:

SUBPART D.—CLEANING OR ETCHING SCRUBBER

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	812	329
Cyanide	561	232
Zinc	2,571	1,083
TTO	1,334	.....
Oil and grease (alternate monitoring parameter)	38,660	23,200

SUBPART D.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	708	287
Cyanide	489	203
Zinc	2,243	944
TTO	1,164	.....
Oil and grease (alternate monitoring parameter)	33,720	20,230

SUBPART D.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	856	347
Cyanide	591	245
Zinc	2,710	1,140
TTO	1,410	.....
Oil and grease (alternate monitoring parameter)	40,740	24,440

SUBPART D.—FORGING SCRUBBER LIQUOR

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	39.6	16.1
Cyanide	27.4	11.3
Zinc	125.5	52.8
TTO	65.1	.....
Oil and grease (alternate monitoring parameter)	1,886.0	1,132.0

SUBPART D.—CORE

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	3.28	1.33
Cyanide	2.27	0.94
Zinc	10.4	4.37
TTO	5.39	.....
Oil and grease (alternate monitoring parameter)	156.0	93.7

§ 467.46 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 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the values set forth below:

SUBPART D.—CLEANING OR ETCHING SCRUBBER

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	715	290
Cyanide	387	155
Zinc	1,972	812
TTO	1,334	.....
Oil and grease (alternate monitoring parameter)	19,330	19,330

SUBPART D.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	624	253
Cyanide	337	135
Zinc	1,720	708
TTO	1,164	.....
Oil and grease (alternate monitoring parameter)	16,860	16,860

SUBPART D.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	754	306
Cyanide	408	163
Zinc	2,078	856
TTO	1,410	.....
Oil and grease (alternate monitoring parameter)	20,370	20,370

SUBPART D.—CORE

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	2.89	1.17
Cyanide	1.56	0.62
Zinc	7.96	3.28
TTO	5.39	.....
Oil and grease (alternate monitoring parameter)	78.1	78.1

SUBPART D.—FORGING SCRUBBER LIQUOR

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	34.9	14.2
Cyanide	18.9	7.6
Zinc	96.2	39.6
TTO	65.1	
Oil and grease (alternate monitoring parameter)	943.1	943.1

§ 467.47 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart E—Drawing with Neat Oils Subcategory

§ 467.50 Applicability; description of the drawing with neat oils subcategory.

This subpart applies to discharges of pollutants to waters of the United States and introductions of pollutants into publicly owned treatment works from the core of the drawing with neat oils subcategory and the ancillary operations.

§ 467.51 Specialized definitions.

For the purpose of this subpart:

(a) The "core" of the drawing with neat oils subcategory shall include drawing using neat oils, stationary casting, artificial aging, annealing, degreasing, sawing, and swaging.

(b) The term "ancillary operation" shall mean any operation not previously included in the core, performed on-site, following or preceding the drawing operation. The ancillary operation shall include continuous rod casting, solution heat treatment, and cleaning or etching.

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

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable technology currently available:

SUBPART E.—CLEANING OR ETCHING SCRUBBER LIQUOR

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds of aluminum processes	
Chromium	7,230	2,930
Cyanide	5,000	2,070
Zinc	22,900	9,650
Aluminum	78,400	32,030
Oil and grease	344,400	206,700
Suspended solids	706,000	344,400
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART E.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	7,080	2,870
Cyanide	4,890	2,030
Zinc	22,430	9,440
Aluminum	76,700	31,360
Oil and grease	337,200	202,300
Suspended solids	691,300	337,200
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART E.—CLEANING OR ETCHING BATH

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds perbillion pounds) of aluminum processed	
Chromium	85.9	34.8
Cyanide	59.3	24.6
Zinc	271.9	114.5
Aluminum	930.0	380.2
Oil and grease	4,088.0	2,453.0
Suspended solids	8,381.0	4,088.0
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART E.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	3,240	1,310
Chanide	2,240	925
Zinc	10,250	4,320
Aluminum	35,100	14,400
Oil and grease	154,100	92,500
Suspended Solids	315,900	154,100
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART E.—CONTINUOUS ROD CASTING CONTACT COOLING WATER

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	438	177
Cyanide	302	125
Zinc	1,386	584
Aluminum	4,741	1,938
Oil and grease	20,840	12,500
Suspended solids	42,720	20,840
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART E.—CONTINUOUS ROD CASTING SPENT LUBRICANT

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	0.774	0.314
Cyanide	0.535	0.221
Zinc	2.45	1.03
Aluminum	8.39	3.43
Oil and grease	36.9	22.1
Suspended solids	75.6	36.9
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART E.—CORE

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	3.28	1.33
Cyanide	2.27	0.94
Zinc	10.4	4.37
Aluminum	35.5	14.5
Oil and grease	156.2	93.7
Suspended solids	320.1	156.2
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

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

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(a) There shall be no discharge of wastewater pollutants from the ancillary operation of the cleaning or etch line chemical solution bath.

(b) The discharge of wastewater pollutants from the core and ancillary operations except for those listed in paragraph (a) of this section, shall not exceed the values set forth below:

SUBPART E.—CLEANING OR ETCHING SCRUBBER LIQUOR

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	812	329
Cyanide	561	232
Zinc	2,571	1,083
Aluminum	8,795	3,596

SUBPART E.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	708	287
Cyanide	489	203
Zinc	2,243	944
Aluminum	7,672	3,136

SUBPART E.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	856	347
Cyanide	591	245
Zinc	2,710	1,141
Aluminum	9,269	3,789

SUBPART E.—CONTINUOUS ROD CASTING CONTACT COOLING WATER

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	43.8	17.7
Cyanide	30.2	12.5
Zinc	138.6	58.4
Aluminum	474.1	193.8

SUBPART E.—CONTINUOUS ROD CASTING SPENT LUBRICANT

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	0.78	0.32
Cyanide	0.54	0.22
Zinc	2.45	1.03
Aluminum	8.39	3.43

SUBPART E.—CORE

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	3.28	1.33
Cyanide	2.27	0.94
Zinc	10.4	4.37
Aluminum	35.5	14.5

§ 467.54 New source performance standards.

Any new source subject to this subpart must achieve the following performance standards.

(a) There shall be no discharge of wastewater pollutants from the ancilliary operation of the cleaning or etch line chemical solution bath.

(b) The discharge of wastewater pollutants from the core and ancillary operations except for those listed in paragraph (a), of this section, shall not exceed the values set forth below:

SUBPART E.—CLEANING OR ETCHING SCRUBBER LIQUOR

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	715	290
Cyanide	387	155
Zinc	1,972	812
Aluminum	5,857	2,397
Oil and grease	19,330	19,330
Suspended solids	29,000	21,270
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART E.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	624	253
Cyanide	337	135
Zinc	1,720	708
Aluminum	5,109	2,091
Oil and grease	16,860	16,860
Suspended solids	25,290	18,550
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART E.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	754	306
Cyanide	410	163
Zinc	2,078	856
Aluminum	6,172	2,526
Oil and grease	20,370	20,370
Suspended solids	30,560	22,410
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART E.—CONTINUOUS ROD CASTING CONTACT COOLING WATER

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	38.6	15.7
Cyanide	20.9	8.4
Zinc	106.3	43.8
Aluminum	315.8	129.2
Oil and Grease	1,042.0	1,042.0
Suspended Solids	1,563.0	1,146.0
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART E.—CONTINUOUS ROD CASTING SPENT LUBRICANT

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	0.68	0.28
Cyanide	0.37	0.15
Zinc	1.88	0.77
Aluminum	5.58	2.29
Oil and Grease	18.5	18.5
Suspended Solids	27.7	20.3
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART E.—CORE

Pollutant or pollutant property	NSPS effluent limitation	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	2.89	1.17
Cyanide	1.56	0.62
Zinc	7.96	3.28
Aluminum	23.7	9.68
Oil and Grease	78.1	78.1
Suspended Solids	117.1	85.9
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

§ 467.55 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. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the values set forth below:

SUBPART E.—CLEANING OR ETCHING SCRUBBER

Pollutant or pollutant property	PSES effluent limitation	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	812	329
Cyanide	561	232
Zinc	2,571	1,083
TTO	1,334	.....
Oil and Grease (alternate monitoring parameter)	38,660	23,200

SUBPART E.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	708	287
Cyanide	489	203
Zinc	2,243	944
TTO	1,164	.....
Oil and grease (alternate monitoring parameter)	33,720	20,230

SUBPART E.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	856	347
Cyanide	591	245
Zinc	2,710	1,141
TTO	1,410	.....
Oil and grease (alternate monitoring parameter)	40,740	24,440

SUBPART E.—CONTINUOUS ROD CASTING CONTACT COOLING WATER

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	43.8	17.7
Cyanide	30.2	12.5
Zinc	138.6	58.4
TTO	71.9	.....
Oil and grease (alternate monitoring parameter)	2,084	1,250

SUBPART E.—CONTINUOUS ROD CASTING LUBRICANT

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	0.78	0.32
Cyanide	0.54	0.22
Zinc	2.45	1.04
TTO	1.27	.....
Oil and grease (alternate monitoring parameter)	36.9	22.1

SUBPART E.—CORE

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	3.28	1.33
Cyanide	2.27	0.94
Zinc	10.4	4.37
TTO	5.39	.....
Oil and grease (alternate monitoring parameter)	156.0	93.7

§ 467.56 Pretreatment standards for new sources.

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the values set forth below:

SUBPART E.—CLEANING OR ETCHING SCRUBBER

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	715	290
Cyanide	387	155
Zinc	1,972	812
TTO	1,334	.....
Oil and grease (alternate monitoring parameter)	19,330	19,330

SUBPART E.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	624	253
Cyanide	337	135
Zinc	1,720	708
TTO	1,164	.....
Oil and grease (alternate monitoring parameter)	16,860	16,860

SUBPART E.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	754	306
Cyanide	410	163
Zinc	2,078	856
TTO	1,410	.....
Oil and grease (alternate monitoring parameter)	20,370	20,370

SUBPART E.—CONTINUOUS ROD CASTING CONTACT COOLING WATER

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	38.6	15.7
Cyanide	20.9	8.4
Zinc	106.3	43.8
TTO	71.9	.....
Oil and grease (alternate monitoring parameter)	1,042.0	1,042.0

SUBPART E.—CONTINUOUS ROD CASTING LUBRICANT

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	0.68	0.28
Cyanide	0.37	0.15
Zinc	1.88	0.77
TTO	1.27	
Oil and grease (alternate monitoring parameter)	18.5	18.5

SUBPART E.—CORE

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	2.89	1.17
Cyanide	1.56	0.62
Zinc	7.96	3.28
TTO	5.39	
Oil and grease (alternate monitoring parameter)	78.1	78.1

§ 467.57 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

Subpart F—Drawing With Emulsions or Soaps Subcategory

§ 467.60 Applicability; description of the drawing with emulsions or soaps subcategory.

This subpart applies to discharges of pollutants to waters of the United States and introduction of pollutants into publicly owned treatment works from the core and the ancillary operations of the drawing with emulsions or soaps subcategory.

§ 467.61 Specialized definitions.

For the purpose of this subpart:

(a) The "core" of the drawing with emulsions or soaps subcategory shall include drawing using emulsions or soaps, stationary casting, artificial aging, annealing, degreasing, sawing, and swaging.

(b) The term "ancillary operation" shall mean any operation not previously included in the core, performed on-site, following or preceding the drawing operation. The ancillary operations shall include continuous rod casting, solution heat treatment and cleaning or etching.

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

Except as provided in 40 CFR 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available:

SUBPART F.—CLEANING OR ETCHING SCRUBBER LIQUOR

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	7,230	2,930
Cyanide	5,000	2,070
Zinc	22,900	9,650
Aluminum	78,400	32,030
Oil and grease	344,400	206,700
Suspended solids	706,000	344,400
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

SUBPART F.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg(pounds per billion pounds) of aluminum processed	
Chromium	7,080	2,870
Cyanide	4,890	2,030
Zinc	22,430	9,440
Aluminum	76,700	31,360
Oil and grease	337,200	202,300
Suspended solids	691,300	337,200
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

SUBPART F.—CLEANING OR ETCHING BATH

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	85.9	34.8
Cyanide	59.3	24.6
Zinc	271.9	114.5
Aluminum	930.0	380.2
Oil and grease	4,088.0	2,453.0
Suspended solids	8,381.0	4,088.0
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

SUBPART F.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	3,240	1,310
Cyanide	2,240	925
Zinc	10,250	4,320
Aluminum	35,100	14,400
Oil and grease	154,100	92,500
Suspended solids	315,900	154,100
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

SUBPART F.—CONTINUOUS ROD CASTING CONTACT COOLING WATER

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	438	117
Cyanide	302	125
Zinc	1,386	584
Aluminum	4,741	1,938
Oil and grease	20,840	12,500
Suspended solids	42,720	20,840
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

SUBPART F.—CONTINUOUS ROD CASTING SPENT LUBRICANT

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	0.78	0.32
Cyanide	0.54	0.22
Zinc	2.45	1.03
Aluminum	8.38	3.43
Oil and grease	36.9	22.1
Suspended solids	75.6	36.9
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

SUBPART F.—CORE

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	178	72.2
Cyanide	123	50.9
Zinc	565	238.0
Aluminum	1,930	789.0
Oil and grease	8,490	5,090.0
Suspended solids	17,400	8,490.0
pH	(1)	(1)

(1) Within the range of 7.5 to 10 at all times.

§ 467.63

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 125.30–125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable:

(a) There shall be no discharge of wastewater pollutants from the ancillary operation of the cleaning or etch line chemical solution bath.

(b) The discharge of wastewater pollutants from the core and ancillary operations except for those listed in paragraph (a) of this section shall not exceed the volumes set forth below:

SUBPART F.—CLEANING OR ETCHING SCRUBBER LIQUOR

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds of aluminum processed	
Chromium	812	329
Cyanide	561	232
Zinc	2,571	1,083
Aluminum	8,795	3,596

SUBPART F.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	708	287
Cyanide	489	203
Zinc	2,243	944
Aluminum	7,672	3,136

SUBPART F.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	856	347
Cyanide	591	245
Zinc	2,710	1,141
Aluminum	9,269	3,789

SUBPART F.—CONTINUOUS ROD CASTING CONTACT COOLING WATER

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	43.8	17.7
Cyanide	30.2	12.5
Zinc	138.6	58.4
Aluminum	474.1	193.8

SUBPART F.—CONTINUOUS ROD CASTING SPENT LUBRICANT

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	0.78	0.32
Cyanide	0.54	0.22
Zinc	2.45	1.03
Aluminum	8.39	3.43

SUBPART F.—CORE

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	178	72.2
Cyanide	123	50.9
Zinc	565	238.0
Aluminum	1,931	789.0

§ 467.64 New source performance standards.

Any new source subject to this subpart must achieve the following performance standards.

(a) There shall be no discharge of wastewater pollutants from the ancillary operation of the cleaning or etch line chemical solution bath.

(b) The discharge of wastewater pollutants from the core and ancillary operations except for those listed in paragraph (a) of this section shall not exceed the values set forth below:

SUBPART F.—CORE

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	157	64
Cyanide	85	34
Zinc	433	178

SUBPART F.—CORE—Continued

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
Aluminum	1,286	526
Oil and grease	4,243	4,243
Suspended solids	6,365	4,668

SUBPART F.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	754	306
Cyanide	408	163
Zinc	2,078	856
Aluminum	6,172	2,526
Oil and grease	20,370	20,370
Suspended solids	30,560	22,410

SUBPART F.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	624	253
Cyanide	337	135
Zinc	1,720	708
Aluminum	5,109	2,091
Oil and grease	16,860	16,860
Suspended solids	25,290	18,550

SUBPART F.—CLEANING OR ETCHING SCRUBBER LIQUOR

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	715	290
Cyanide	387	155
Zinc	1,972	812
Aluminum	5,857	2,394
Oil and grease	19,330	19,330
Suspended solids	29,000	21,270

SUBPART F.—CONTINUOUS ROD CASTING CONTACT COOLING WATER

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	38.6	15.7
Cyanide	20.9	8.4
Zinc	106.3	43.8
Aluminum	315.8	129.2
Oil and grease	1,042.0	1,042.0

SUBPART F.—CONTINUOUS ROD CASTING CONTACT COOLING WATER—Continued

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
Suspended solids	1,563.0	1,146.0
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

SUBPART F.—CONTINUOUS ROD CASTING SPENT LUBRICANT

Pollutant or pollutant property	NSPSPSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	0.68	0.28
Cyanide	0.37	0.15
Zinc	1.88	0.77
Aluminum	5.58	2.29
Oil and grease	18.5	18.5
Suspended solids	27.7	20.3
pH	(1)	(1)

[1] Within the range of 7.5 to 10 at all times.

§ 467.65 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources. The mass of wastewater pollutants in aluminum forming process wastewater introduced into a POTW shall not exceed the values set forth below:

SUBPART F.—CLEANING OR ETCHING SCRUBBER

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	812	329
Cyanide	561	232
Zinc	2,571	1,083
TTO	1,334	
Oil and grease (alternate monitoring parameter)	38,660	23,200

SUBPART F.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	708	287
Cyanide	489	203
Zinc	2,243	944
TTO	1,164	
Oil and grease (alternate monitoring parameter)	33,720	20,230

SUBPART F.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	856	347
Cyanide	591	245
Zinc	2,710	1,141
TTO	1,410	
Oil and grease (alternate monitoring parameter)	40,740	24,440

SUBPART F.—CONTINOUS ROD CASTING CONTACT COOLING WATER

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	43.8	17.7
Cyanide	30.2	12.5
Zinc	138.6	58.4
TTO	71.9	
Oil and grease (alternate monitoring parameter)	2,084.0	1,250.0

SUBPART F.—CONTINUOUS ROD CASTING LUBRICANT

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	0.78	0.32
Cyanide	0.54	0.22
Zinc	2.45	1.04
TTO	1.27	
Oil and grease (alternate monitoring parameter)	36.9	22.1

SUBPART F.—CORE

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	178	72.2
Cyanide	123	50.9
Zinc	565	238.0
TTO	293	
Oil and grease (alternate monitoring parameter)	8,486	5,092

§ 467.66 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for new sources. The mass of wastewater pollutants in aluminum forming process wastewaters introduced into a POTW shall not exceed the values set forth below:

SUBPART F.—CLEANING OR ETCHING SCRUBBER

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	715	290
Cyanide	387	155
Zinc	1,972	812
TTO	1,334	
Oil and grease (alternate monitoring parameter)	19,330	19,330

SUBPART F.—CLEANING OR ETCHING RINSE

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	624	253
Cyanide	337	135
Zinc	1,720	708
TTO	1,164	
Oil and grease (alternate monitoring parameter)	16,860	16,860

SUBPART F.—SOLUTION HEAT TREATMENT CONTACT COOLING WATER

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	754	306
Cyanide	408	163
Zinc	2,078	856
TTO	1,410	
Oil and grease (alternate monitoring parameter)	20,370	20,370

SUBPART F.—CONTINUOUS ROD CASTING CONTACT COOLING WATER

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	38.6	15.7
Cyanide	20.9	8.4
Zinc	106.3	43.8
TTO	71.9	
Oil and grease (alternate monitoring parameter)	1,042.0	1,042.0

SUBPART F.—CONTINUOUS ROD CASTING LUBRICANT

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	0.68	0.28
Cyanide	0.37	0.15
Zinc	1.88	0.77
TTO	1.27	
Oil and grease (alternate monitoring parameter)	18.5	18.5

SUBPART F.—CORE

Pollutant or pollutant property	PSNS effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	Mg/kkg (pounds per billion pounds) of aluminum processed	
Chromium	157	64
Cyanide	85	34
Zinc	433	178
TTO	293	
Oil and grease (alternate monitoring parameter)	4,243	4,243

§ 467.67 Effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology. [Reserved]

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