ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 465

[WH-FRL 2288-8]

Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Canmaking Subcategory

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed regulation.

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

DATES: Comments on this proposal must be submitted by April 11, 1983. The Agency is proposing a compliance date for pretreatment standards for existing sources to be three years from the date of promulgation.

ADDRESSES: Send comments to: Mary L. Belefski, Effluent Guidelines Division (WH-552), Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460, Attention: EGD Docket Clerk, Proposed Coil Coating Subpart D—Canmaking Rules (WH-552). The supporting information and all comments received on this proposal will be available for inspection and copying at the EPA Public Information Reference Unit, Room 2404 (EPA Library Rear) PM-213. The EPA information regulation (40 CFR Part 2) provides that a reasonable fee may be charged for copying. Copies of technical documents may be obtained from the Distribution Officer at the above address. The economic analysis may be obtained from Ms. Josette Bailey, Economic Analysis Staff (WH-586), Environmental Protection Agency, 401 M St. S.W., Washington, D.C. 20460, or call (202) 382-5382.

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

SUPPLEMENTARY INFORMATION: The Supplementary Information section describes the legal authority and background, the technical and economic bases, and other aspects of the proposed regulations. That section also 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 preamble.

This proposed regulation is supported by three major documents available from EPA. Chemical analysis methods are discussed in "Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants." EPA's technical conclusions are detailed in the "Development Document for Effluent Limitations Guidelines, New Source Performance Standards and Pretreatment Standards for the Canmaking Subcategory of the Coil Coating Point Source Category" (development document). The Agency's economic analysis is found in "Economic Impact Analysis of Proposed Effluent Standards and Limitations for the Canmaking Subcategory of the Coil Coating Category "(Economic Impact Analysis) EPA 440/2-83/003.

Organization of This Notice

I. Legal Authority

The regulation described in this notice is 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 USC 1251 *et seq.*, as amended by the Clean Water Act of 1977, Pub. L. 95-217) (the "Act"). This regulation is also proposed in response to the Settlement Agreement in *Natural Resources Defense Council, Inc.* v. *Train*, 8 ERC 2120 (D.D.C. 1976), modified March 9, 1979, 12 ERC 1833 (D.D.C. 1979) and modified by orders dated August 25, 1982 and October 26, 1982.

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); and by July 1, 1983, these dischargers were required to achieve "effluent limitations requiring the application 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," 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. While the requirements for direct dischargers were to be incorporated into National Pollutant Discharge Elimination Systems (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 EPA Administrator. Section 304(b) of the Act required the Administrator to promulgate regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of BPT and BAT. Moreover, Sections 304(c) and 306 of the Act required promulgation of standards for new sources, and Sections 304(f), 307(b), and 307(c) required promulgation of pretreatment standards. In addition to these limitations and standards 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 specified in the Act. In 1976, EPA was sued by several environmental groups, and in settlement of this lawsuit EPA and the plaintiffs executed a "Settlement Agreement" which was approved by the Court. This Agreement required EPA to develop a program and adhere to a schedule for promulgating regulations for 21 major industries, including 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), modified by orders dated August 25, 1982 and October 26, 1982.

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.

In keeping with its emphasis on toxic pollutants, the Clean Water Act of 1977 also revises the control program for non-toxic pollutants. Instead of BAT for "conventional" pollutants identified under Section 304(a)(4) (including biochemical oxygen demand, suspended solids, oil and grease and pH), the new Section 301(b)(2)(E) requires achievement by July 1, 1984, of "effluent limitations requiring the application of the best conventional pollutant control technology" (BCT). The factors considered in assessing BCT for an industry include the costs of attaining a reduction in effluents and the effluent reduction benefits derived, compared with the costs and effluent reduction benefits from the discharge from POTW. (Section 304(b)(4)(B)). For non-toxic, nonconventional pollutants, Sections 301 (b)(2)(A) and (b)(2)(F) require achievement of BAT effluent limitations within 3 years after their establishment or July 1, 1984, whichever is later, but not later than July 1, 1987.

The purpose of this proposed regulation is to provide effluent limitations guidelines for BPT, BAT, and BCT, and to establish NSPS, pretreatment standards for existing sources (PSES), and pretreatment standards for new sources (PSNS), under Sections 301, 304, 306, 307, and 501 of the Clean Water Act.

B. Prior EPA Regulations

EPA has not previously promulgated limitations and standards for the canmaking subcategory of the coil coating category. The final coil coating regulation, applicable to other subcategories, was promulgated on December 1, 1982 (47 FR 54232).

C. Overview of the Industry

The can manufacturing industry is included within the U.S. Department of Commerce Census Standard Industrial Classification (SIC) 3411—Metal Cans and includes over 400 manufacturing plants.

Canmaking covers all of the manufacturing processes and steps involved in the manufacturing of various shaped metal containers which are subsequently used for storing foods, beverages and other products. Two major types of cans are manufactured: seamed cans and seamless cans.

Seamed cans (primarily three-piece cans) are manufactured by forming a flat piece or sheet of metal into a container with a longitudinal or side seam which is clinched, welded, or soldered, and attaching formed ends to one or both ends of the container body. About 300 plants in the United States manufacture seamed cans.

Seamless cans consist of a can body formed from a single piece of metal and usually a top, or two ends, that are formed from sheet metal and attached to the can body. There are several forming methods which may be used to shape the can bodies including simple drawing, drawing and redrawing, drawing and ironing (D&I), extruding, spinning, and others. About 125 plants in the United States manufacture seamless cans.

In the manufacture of seamless cans, oil is used frequently as a lubricant during the forming of the seamless body and must be removed before further processing can be performed. Typically, this is accomplished by washing the can body in a continuous canwasher using water based alkaline cleaners. This step is followed by metal surfacing steps to prepare the can for painting.

In the manufacture of seamed cans, can ends, can tops and seamless cans from coated (e.g., coil coated) stock, no oil is used and the cans do not need to be washed after forming. Because no process wastewater is generated from these canmaking process segments they are excluded from regulation. (See Sections VI and XIV of this preamble.)

Pollutants or pollutant parameters generated in canmaking wastewaters and regulated are: (1) Toxic metals—chromium, and zinc; (2) toxic organics listed as total toxic organics (TTO) (TTO is the sum of all toxic organic compounds detected—See Appendix E of this notice) (3) nonconventional pollutants—aluminum, fluoride, and phosphorous; and (4) conventional pollutants—oil and grease, TSS, and pH. Because of the toxic metals present, the sludges generated during wastewater treatment generally contain toxic metals.

EPA estimates that 88 of the approximately 425 can manufacturing plants in the United States discharge wastewater. Seven of these plants are direct dischargers and 81 are indirect dischargers. These sites are scattered

geographically throughout the United States

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, that technology level represented the average of the best existing performances of well known technologies for control of familiar (i.e., "classical") pollutants. However, for this category, BPT was not proposed or promulgated; accordingly, EPA is establishing BPT effluent limitations as part of this rulemaking.

In this round of rulemaking EPA is also establishing the best available technology economically achievable (BAT) effluent limitations. These are to result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants and are to be achieved by July 1, 1984. In general, this technology level represents the best economically achievable performance in any industrial category or subcategory. Moreover, as a result of the Clean Water Act of 1977, the emphasis of EPA's program has shifted from "classical" pollutants to the control of a lengthy list of toxic pollutants.

In its 1977 legislation, Congress recognized that it was dealing with areas of scientific uncertainty when it declared the 65 "priority" pollutants and classes of pollutants "toxic" under Section 307(a) of the Act. Many of the "priority" pollutants were relatively unknown outside of the scientific community, and those engaged in wastewater sampling and control have had little experience in dealing with these pollutants. Additionally, these pollutants often appear (and have toxic effects) at concentrations that tax current analytical techniques. Even though Congress was aware of the state-of-the-art difficulties and expense of "toxics" control and detection, it directed EPA to act quickly and decisively to detect, measure and regulate these substances.

In developing this regulation, EPA studied canmaking 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 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, an energy requirements.

The Agency then estimated the costs of each control and treatment technology using a computer program based on standard engineering cost analysis. EPA derived unit process costs by applying canmaking data and characteristics (production and flow for a "normal" line) to each treatment process (i.e., metals precipitation, sedimentation, mixed-media filtration, etc.). The costs also consider what treatment equipment exists at each plant. These unit process costs were added for each plant to yield total cost at each treatment level. The Agency then evaluated the economic impacts of these costs.

On the basis of these factors, EPA identified and classified various control and treatment technologies as BPT, BAT, BCT 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, BCT, and NSPS are expressed as mass limitations—a mass of pollutant per unit of production (number of cans). 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 subcategory; 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 parameter in the subcategory.

Pretreatment standards—PSES and PSNS—are also expressed as mass limitations rather than concentration limits to ensure that the effluent reduction in the total quantity of pollutant discharges resulting from the model treatment technology, which includes flow reduction, is realized.

IV. Data Gathering Efforts

The technical data gathering program is described briefly in Section III and in substantial detail in Section V of the development document. Data collection for this subcategory focused on wet processes associated with canmaking. Data were originally collected under the aluminum forming point source category in 1978 when data collection portfolios (dcp) were sent to all known aluminum formers under the authority of Section 308 of the Clean Water Act. Information was returned from about 20 companies who primarily manufactured aluminum cans and generated wastewater. Subsequently, in 1982, several of these companies were requested to update their dcp for aluminum canmaking and provide data on steel canmaking. Also, some additional companies (primarily steel can manufacturers and also those not in the 1977 aluminum data base) were requested to complete a dcp on canmaking. Data on the dry manufacturing processes were obtained from several dcp, literature studies, discussions with industry and plant engineering visits.

The technical data based includes information from 21 companies representing about 100 manufacturing sites. In addition to previous studies and the data collection effort for this study, supplemental data were obtained from NPDES permit files and engineering studies on treatment technologies used in this and other cagetories with similar wastewater characteristics. The data gathering effort solicited all known sources of data and all available pertinent data were used in developing this regulation.

V. Sampling and Analytical Program

As Congress recognized in enacting the Clean Water Act of 1977, the state-of-the-art ability to monitor and detect toxic pollutants is limited. Most of the toxic pollutants were relatively unknown until a few years ago, and only on rare occasions had these pollutants been regulated. Also, industry had not monitored or developed methods to monitor most of these pollutants.

Faced with these problems, EPA developed a sampling and analytical protocol. This protocol is set forth in "Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants" revised in April 1977. Methods promulgated under Section 304(h) (40 CFR Part 136) were available and were used to analyze most toxic metals, pesticides, cyanides,

and phenols. Analysis methods for toxic organic pollutants are explained in the preamble to proposed regulation for the Leather Tanning Point Source Category, 40 CFR 425, 44 FR 38749, July 2, 1979.

A total of 7 plants were visited for engineering analysis of which five were sampled. An analysis for the full list of toxic pollutants and other pollutants was carried out at three plants. Selected pollutants were analyzed in samples taken from two additional plants. Full details of the engineering analysis, sampling and analysis program, and the water and wastewater data derived from sampling are presented in Section V of the development document.

Analysis for the toxic pollutants is both expensive and time consuming, costing between $650 and $1,000 per sample for a complete analysis. The cost in dollars and time limited the amount of sampling and chemical analysis performed. Although EPA fully believes that the available data support the limitations proposed, the Agency would have preferred a larger data base and continues to seek additional data as part of this rulemaking. In addition, EPA will periodically review these limitations as required by the Act and make any revisions supported by new data.

VI. Industry Subcategorization

In developing this regulation, it was necessary to determine whether different effluent limitations and standards are appropriate for different segments of the canmaking industry. The major factors considered in identifying subcategories included: wastewater 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 the factors considered and the rationale for the development of the canmaking subcategory.

All canmaking manufacturing processes were evaluated for the purpose of subcategorization. As discussed in Sections III and V of the development document, several canmaking process segments generate process wastewater and several do not. The manufacture of seamed cans, can ends, can tops and seamless cans from coil coated stock are inherently dry processes and are therefore excluded from this regulation.

The manufacture of most seamless can bodies generates wastewater from removing excess lubricants and cleaning the metal surface. The manufacture of some seamless can bodies does not generate wastewater because the can bodies are not washed. The distinction of whether or not the can bodies are washed provides the initial basis for establishing subcategorization for developing an effluent regulation for canmaking. Seamless can bodies which are not washed are therefore excluded from this regulation.

The seamless canmaking processes were further examined to determine whether additional segmentation was necessary. Seamless can bodies which are washed are formed by various processes; however 98 percent of the plants washing bodies form cans by the draw and iron (D&I) process used for manufacturing beverage cans. The determination was made that because all bodies were washed to remove lubricants and wastewater pollutants were similar, one D&I segment could be used to characterize all wastewaters in one canmaking subcategory. The Agency believes that the proposed limitations and standards can be met by manufacture of all types of washed seamless can bodies.

D&I can bodies are formed from aluminum or steel. Forming from aluminum is practiced by 77 percent of the D&I plants and wastewater flows and raw wastewater characteristics for the canmaking subcategory were determined from all D&I aluminum data. Several plants can interchange the basis material used for forming D&I bodies and the industry trend is to convert or add aluminum lines in previously steel only plants. Although wastewater flows and pollutant loadings are somewhat less for steel than for aluminum bodies, EPA has not further segmented this subcategory by basis material to avoid unnecessary regulatory complexity. EPA invites comment on this approach as stated in Section XXII of this preamble.

Canmaking subcategory wastewater flows are related to the amount of can bodies produced. For this reason, the production normalizing parameter used for establishing canmaking limitations and standards is the number of cans produced; the production normalized flow is liters per thousand cans.

VII. Available Wastewater Control and Treatment Technology

A. Status of In-Place Technology

Current wastewater treatment systems in the subcategory range from no treatment to a sophisticated physical chemical treatment combined with water conservation practices.

No treatment equipment was reported in-place at 8 canmaking plants. Oil removal equipment for skimming, chemical emulsion breaking or dissolved air flotation is in-place at 50 canmaking plants, 7 plants have chromium reduction systems, 26 canmaking plants have pH adjustment systems without settling, 30 plants indicate they have equipment for chemical precipitation and settling, 8 plants have filtration equipment in-place, 1 plant has ultrafiltration, and 1 plant has reverse osmosis equipment in-place.

The performance of the treatment systems in-place at all canmaking plants is difficult to assess because EPA has received a limited amount of canmaking effluent data. A request is made in Section XXII of this preamble for additional data. Additionally, some plants have equipment in-place which they are not operating because existing requirements can be achieved without operation of treatment equipment. Consequently, treatment performance is transferred from other categories and subcategories which treat similar wastewaters.

For the subcategory, in general, there is no significant difference between the pollutants generated by direct or indirect dischargers or in the degree of treatment employed; several indirect dischargers have the same treatment equipment in-place as the direct dischargers. The degree of treatment equipment operation is primarily dependent upon the existing requirements. Section V of the development document further evaluates the treatment systems in-place and the effluent data received.

B. Control Technologies Considered

The control and treatment technologies available for this subcategory include both in-process and end-of-pipe treatments. These technologies are described in Section VII of the development document. In-process treatment includes water flow reduction in the canwasher by using water reuse or countercurrent cascade rinsing (to reduce the amount of water used to remove unwanted materials from cans). End-of-pipe treatment includes: hexavalent chromium reduction and cyanide precipitation when necessary; emulsion breaking and dissolved air flotation to remove oils; chemical precipitation of metals using hydroxides; removal of precipitated metals and other materials using settling or sedimentation; additional removal of solids using polishing filtration; and membrane filtration to remove additional oil.

Only 4 plants indicated that cyanide is known to be present in their wastewaters. For this small number of plants cyanide removal is only included in the model technology on an as needed basis and no limitation for cyanide is proposed. Similarly, no cost has been included for cyanide treatment. Thirty-eight plants reported chromium as known to be present in their wastewaters. This is the basis for proposing to regulate chromium. Seven plants reported having chromium reduction technology in place. Since the Agency does not know about the valence state of the chromium at the remaining thirty-one plants no cost has been included for installing chromium reduction technology; however it may be necessary to reduce hexavalent chromium if present in order to meet the limitations and standards.

The effectiveness of these treatment technologies has been evaluated and established by examining their performance on other coil coating subcategories and other category wastewaters containing primarily toxic metals which are similar to canmaking wastewaters. A brief description of how the Agency evaluated the performance of key technologies follows. A more complete description appears in Section VII of the development document and other documents in the rulemaking record.

1. *Hydroxide Precipitation and Sedimentation (Lime and Settle).* In considering the performance achievable using hydroxide (generally lime) precipitation and sedimentation of metals, EPA evaluated data on nine pollutants from coil coating and aluminum forming plants and plants in other categories with similar wastewater. The data base the Agency selected for lime and settle technology is called the combined metals data base. This data base is a composite of data for the nine pollutants from wastewaters treated by lime and settle technology obtained from EPA sampling and analysis of coil coating, copper and aluminum forming, battery manufacturing, and porcelain enameling. These wastewaters are similar to canmaking wastewaters because they contain dissolved metals that can be removed to the same degree by precipitation and settling.

The Agency regards the combined metals data base as the best available measure for establishing the concentrations attainable with lime and settle technology. This determination is based on the similarity of the raw wastewaters (see Section VII of the development document), and the larger number of plants used (21 plants versus data from 2 canmaking plants available). The larger quantity of data in the combined metals data base, as well as a greater variety of influent concentrations enhances the Agency's ability to estimate long-term levels and variability through statistical analysis. For the same reasons, this data base is the best measure of this treatment system's variability.

For 13 additional pollutants, the Agency used long term data from lime and settle treatment of similar wastewaters from other categories to derive a long term average. One day and monthly average values were developed from the long term average by applying the mean variance of the combined metals data base analysis. The derivation of the treatment effectiveness values for these thirteen additional pollutants is fully explained in Section VII of the developement document.

The treatment effectiveness values for aluminum, fluoride, phosphorous and oil and grease are used as part of the basis for this regulation. The aluminum value is derived from aluminum forming and coil coating data, while fluoride and phosphorous values are from electrical and electronics components manufacturing data. Oil and grease values are achieved by coil coating, aluminum forming and copper forming operations plus other categories throughout industry.

The use of the combined metals data base is appropriate for canmaking plants for the following reasons:

(a) *Process Chemistry.* The Agency believes that properly operated lime and settle treatment systems will result in effluent concentrations that are directly related to pollutant solubilities.

Untreated wastewater data from aluminum and steel canmaking facilities sampled by EPA were compared to data from the combined metals data base. Based on this comparison, the Agency concluded that chromium, zinc and TSS in canmaking wastewaters required treatment. All canmaking facilities sampled had raw TSS levels in the range of the raw values of the five category lime and settle data base. Although not all canmakers had chromium or zinc levels in the range that required treatment, some facilities did have concentrations of these pollutants in their raw waste comparable to levels found in the combined metals data base. The Agency concluded that lime and settle treatment of canmaking wastewater will achieve reductions of these pollutants similar to those demonstrated in the combined metals data base. The Agency does not believe any interfering properties exist in canmaking wastewater that would interfere with treatment performance.

(b) *Canmaking Data Base.* Process similarities exist between canmaking and other categories in the combined metals data base which treat chromium, zinc and TSS. An engineering evaluation of the canmaking process shows a substantial similarity between canmaking and aluminum forming process steps, and canmaking and coil coating processing steps. The processes used for forming are similar to aluminum forming. The processes used for cleaning and preparing the metal surface, the chemicals used, and waste products generated are similar for canmaking and coil coating.

EPA sampled two aluminum canmaking plants with lime and settle treatment for three days each. Effluent data from these plants were compared with the one day maximum value for the combined metals data base.

For toxic metals, chromium and zinc, all effluent values were equal to or lower than the combined metals data base one day maximum values. For TSS, one plant had values lower than the one day maximum and the other exceeded it; however both of these plants were indirect dischargers and were not required to control TSS. The Agency also compared the combined metals data base performance values with available NPDES permits. Where TSS is monitored, the permit limitations are for concentrations less than those in the combined metals data base. Additional long term data on these plants were not available to support lower TSS concentrations for canmaking effluent. The Agency believes that the proposed toxic metal and TSS values are reasonable and can be achieved by canmaking plants.

2. *Oil Removal (Skimming, Dissolved Air Flotation, and Chemical Emulsion Breaking).* In both canmaking and aluminum forming, lubricants are used to form the metal into a specified shape. In both coil coating and canmaking, oil and grease are removed from the metal surface, the metal surface is usually chemically coated to improve adherence of the finish coat, and an organic coating is applied. Oil and grease levels in canmaking wastewaters are substantially higher than other coil coating subcategories because of the forming operations for can bodies. Once oil and grease levels are reduced to comparable levels of other categories treating toxic metals and oil and grease through the application of oil removal technologies such as chemical emulsion breaking and dissolved air flotation,

lime and settle technology can remove oil and grease from canmaking wastewaters to the same extent that the technology can remove these pollutants from the wastewaters of the other categories.

The effectiveness of oil removal technology has been widely demonstrated in many industrial categories, and is detailed in Section VII of the development document. While the concentration levels are usually attainable by the application of quiescent settling and skimming, emulsion breaking and dissolved air flotation are included in the canmaking model treatment train to ensure that the oil removal technology is adequate and to remove the oil found in the subcategory.

Oil removal technology and lime and settle technology are considered as the basis for the proposed regulation. In canmaking a greater number and variety of forming lubricants and cleaning formulations may be used than in coil coating. Many of these formulations are interchangeable, and changes result in differences in the toxic pollutants that may appear in canmaking wastewaters. The Agency believes that by controlling the most prevalent toxic metals, some conventional and nonconventional pollutants, and total toxic organics (TTO) with oil removal and lime and settle technology, pollutants present as a result of these variations will also be controlled.

3. *Filtration.* EPA established the pollutant concentrations achievable with lime precipitation, sedimentation and polishing filtration (lime, settle, and filter) with data from three plants with the technology in-place: one nonferrous metals manufacturing plant and two porcelain enameling plants whose wastewater is similar to wastewater generated by canmaking plants. In generating long-term average standards, EPA applied variability factors from the combined metals data base because the combined data base provided a better statistical basis for computing variability than the data from the three plants sampled. In fact, the use of the lime and settle combined data base variability factors is probably a conservative assumption because filtration is a less variable technology than lime and settle, since it is less operator dependent.

For pollutants for which there were no data, long-term concentrations were developed assuming that filtration would remove 33 percent more pollutants than lime precipitation. This assumption was based upon a comparison of removals of several pollutants by lime, settle, and filter technology with the removals of pollutants from lime and settle technology.

EPA selected this approach because of the extensive long-term data available from these three plants. The Agency believes that the use of polishing filtration data from these plants is justified because the wastewaters are similar. Since the Agency determined that lime and settle technology will produce identical results for canmaking as well as the other categories in the combined metals data base, it is reasonable to assume that polishing filters treating these waste streams will produce a comparable final effluent.

The Agency solicits comments on the use of the combined metals data base for canmaking, and requests submission of additional data from canmaking plants using properly operated oil removal, lime and settle, and lime, settle and filter treatment systems. (See Section XXII of this preamble).

In addition to end-of-pipe treatment technologies, the limitations and standards in this proposed regulation are based on process controls to achieve reductions in wastewater discharge flow. Flow-reduction techniques vary depending on the level of control. The techniques and the bases for the Agency's estimates of what they can achieve are explained in the relevant sections below.

The treatment performance data discussed above are used to obtain maximum daily and monthly average pollutant concentrations. These concentrations (mg/1) along with the canmaking production normalized flows (1/1000 cans) are used to obtain the maximum daily and monthly average values (mg/1000 cans) 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 wastestreams that use the "combined wastestream formula" set forth at 40 CFR 403.6(e) and by permit writers in writing direct discharge permits.

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 process employed, non-water-quality environmental impacts (including energy requirements), and other factors the Administrator consideres 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, conducted at EPA's discretion, which does not require the Agency to quantify benefits in monetary terms. (See, for example, *American Iron and Steel Institute* v. *EPA,* 526 F.2d 1027, 3rd Cir. 1975.) In balancing costs with 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. Therefore, EPA has not considered these factors. (See *Weyerhaeuser Company* v. *Costle,* 590 F.2d 1011, 1026, D.C. Cir. 1978).

In developing the proposed BPT limitations, an evaluation was made of canmaking data for both the 7 direct and 81 indirect discharges. The Agency first considered the amount of water used per canmaking line at each plant which was sampled or which supplied usable dcp data. The Agency noted that more than half (32 of 51) of the D&I aluminum can plants reuse water within the canwasher. (Reuse within the canwasher is defined to mean using the same water in more than one operation before discharging it to wastewater treatment.) This practice reduces the amount of water used to wash cans and

is commonly practiced within the subcategory so that it constitutes BPT. The normalized wastewater flow (liters per 1000 cans) proposed at BPT for canmaking is based on the average of these 32 plants.

The model end-of-pipe treatment technology EPA is using as the basis for proposing for BPT is oil removal by dissolved air flotation and emulsion breaking, chromium reduction and cyanide precipitation when necessary, and lime and settle technology to remove other pollutants. Treatment equipment for BPT technology is reported to be installed at plants in this subcategory. Of the 76 plants that supplied usable dcp data, 50 have oil removal treatment including 17 that have emulsion breaking and 16 that have installed dissolved air flotation. Chromium reduction equipment is reported to be in-place at 7 plants. Thirty plants have lime and settle treatment equipment in-place, and 12 of these plants have all of the model BPT treatment equipment in-place. Clearly the frequent occurrence of these technologies indicates that they form an appropriate model technology on which to base BPT.

The more significant pollutants found in the wastewaters of the canmaking subcategory and regulated under BPT include chromium, zinc, aluminum, fluoride, phosphorous, oil and grease, TSS and pH. Sections VII and IX of the development document explain the derivation of treatment effectiveness data and the calculation of BPT limitations.

Compliance with BPT limitations will result in direct dischargers removing (from raw waste) 4,415 kg/yr of toxic pollutants and 7.31 million kg/yr of other pollutants at a capital cost (1982 dollars) of $1.0 million and a total annual cost of $0.45 million including interest and depreciation. EPA is using raw waste rather than estimated current discharge values because of the difficulty of making a meaningful estimate of current discharge levels when equipment in-place is not being consistently operated.

EPA expects no plant closures, unemployment, or changes in industry production capacity as a result of compliance with the BPT effluent limitations. The Agency has determined the effluent reduction benefits associated with compliance with BPT limitations justify these 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, nonwater-quality environmental impacts (including energy requirements) and the costs of applying such technology (Section 304(b)(2)(B)). 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 existing performance is 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 carefully considered the cost of the BAT treatment. The Agency has considered the volume and nature of the estimated present discharges, the volume and nature of discharges expected after the application of BAT, the general environmental effects of the pollutants, and the costs and economic impacts of the required pollution control levels on the industry.

Despite this consideration of costs, the primary determinant of BAT is effluent reduction capability. As a result of the Clean Water Act of 1977, the achievement of BAT has become the principal national means of controlling toxic water pollution.

The agency has considered three sets of technology options for the subcategory that might be applied at the BAT level. The options are described in detail in Section X of the development document and are outlined below.

The pollutants regulated in the canmaking subcategory under BAT include chromium, zinc, aluminum, fluoride, and phosphorous. The Agency considered establishing a Total Toxic Organics (TTO) limitation at BAT for the toxic organic pollutants listed in Appendix E. However, data from plants with similar wastewaters and treatment (aluminum forming plants) show a 97 percent reduction in the concentrations of toxic organics with the effective treatment and removal of oil and grease (see Section VII and X of the development document). Thus, the Agency has determined that the oil and grease limitation at BCT will provide adequate control of the toxic organics, and therefore, is not establishing a TTO limit at BAT.

The cost estimates for the various treatment options are detailed in Section VIII of the development document. Control technologies and treatment effectiveness are detailed in Section VII, and effluent reduction benefits are detailed and tabulated in Section X of the development document. The Economic Impact Analysis contains an analysis of potential economic impacts for all regulatory options considered.

As noted below, technology options more stringent than those adopted as a basis for this proposal are available. Proposed BAT limitations are based on BAT Option 1. In order to make a final decision, EPA solicits the submission of all information available on the costs of these technologies and the effluent reductions they will achieve. EPA will decide which technologies to select and which limitation to promulgate after consideration of all information available, including the information received in comments submitted on this proposal, its current information, and the results of any additional studies it sponsors. The final regulation may well be based upon a technology other than that which forms the basis for the current proposal. The BAT limitations based on BAT Option 2 are shown in Section II of the development document.

Option 1. BAT option 1 is based on BPT level treatment (chrome reduction and cyanide removal when required, emulsion breaking, dissolved air flotation, hydroxide precipitation and sedimentation) with the addition of in-process flow reduction to reduce the discharge of toxic pollutants to the environment. The principal in-process water reduction technology is the use of a countercurrent cascade rinse in the canwasher. This technology is expected to reduce the total discharge flow by 67.5 percent. (See Section VII of the development document.)

Option 2. This option includes chrome reduction and cyanide removal when required, emulsion breaking, dissolved air flotation, hydroxide precipitation, sedimentation and polishing filtration. BAT option 2 builds on the end-of-pipe treatment technology for BAT option 1 by adding a polishing filter to improve the removal of toxic metals and nonconventional pollutants. The wastewater discharge of this option flow is the same as option 1.

Option 3. This option includes chrome reduction and cyanide removal when required, emulsion breaking, dissolved air flotation, hydroxide precipitation, sedimentation, polishing filtration, and ultrafiltration. BAT option 3 builds on the reduced wastewater flows and end-of-pipe treatment of option 2, and adds ultrafiltration. This option reduces the amount of toxic organics discharged

which is comparable to the oil and grease removals, as discussed above.

The pollutant removals and costs of the BAT options are summarized below. Removals are for regulated pollutants above raw waste levels and compliance costs are above treatment equipment in-place.

Option	Pollutant removal kilograms per year (pounds per year)		Costs (dollars in thousands)	
	Toxics	Other (millions)	Capital	Annual
BPT	4,415(9,712)	7.31(16.09)	$1,000	$450
BAT-1	4,633(10,192)	7.33(16.13)	680	420
BAT-2	4,651(10,232)	7.34(16.14)	910	450
BAT-3	4,651(10,232)	7.34(16.15)	3,310	2,300

BAT Selection EPA is proposing BAT effluent limitations based on technology option 1 because it substantially reduces the discharge of toxic pollutants and the technology is being practiced in the subcategory Six plants presently meet the flow basis and 12 plants have the BAT treatment equipment in-place. Additionally, the Agency believes that industry will install BAT technology equipment rather than installing BPT and upgrading it to BAT. Implementation of these BAT limitations will remove an estimated 4,633 kg/yr of toxic pollutants and 7.33 million kg/yr of other pollutants (from raw waste) at a capital cost of $0.68 million and a total annual costs of $0.42 million. The incremental effluent reduction benefits of BAT above BPT are the removal annually of 218 kg of toxic pollutants and 20,000 kg of other pullutants. The costs for BAT are lower than for BPT because of the smaller end-of-pipe treatment system needed as a result of flow reduction. Seven direct dischargers may incur costs under the BAT limitations. EPA expects no plant closures, unemployment, or changes in industry production capacity as a result of the proposed BAT effluent limitations.

The BPT option was not selected because it considers only widely practiced end-of-pipe technologies, little in-process change, and is more costly than the selected BAT option. BAT Option 2 is not being proposed because the added removals above option 1 are very small. No plant closures or job losses are projected for this option. Option 3 is not being proposed because of the very substantial costs and extremely low additional pollutant removals (less than one pound per year of toxic pollutants). Nine plants are projected to close at this option. The Agency invites comments on the technology options not selected as the basis for BAT.

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 (BDT). New plants can incorporate the best and most efficient canwashing processes and wastewater treatment technologies, and, therefore, Congress directed EPA to consider the best demonstrated process changes, in-plant controls, and end-of-pipe treatment technologies to reduce pollution to the maximum extent feasible.

EPA considered a number of options for selection of NSPS technology. Options included those discussed under BAT (options 1–3) plus two additional options discussed below. These options were not considered under BAT because most of the existing plants lack sufficient space to add additional stages to the canwasher. Each option is discussed in Sections X and XI of the development document and costs are discussed in Section VIII. As discussed in the Economic Impact Analysis, none of the options would present barriers to entry by new plants.

The pollutants regulated under NSPS include chromium, zinc, aluminum, fluoride, phosphorus, oil and grease, TSS, and pH.

Option 4. NSPS option 4 is based on the flow reduction achieved by the installation of a 9-stage canwasher or its equivalent. This technology includes at least three additional stages for using countercurrent rinses and recirculation of rinses to minimize wastewater generation. The option reduces total discharge flow by over 90 percent when compared to raw waste discharge, and by 75 percent when compared to option 1. End-of-pipe treatment includes chrome reduction and cyanide removal when required, emulsion breaking, dissolved air flotation, hydroxide precipitation and sedimentation, which is the same as option 1. Assuming a new plant installs six production lines, the investment costs would be $0.97 million and annual costs would be $0.55 million. Pollutant removals would be 28,272 kg/yr for toxics and 44.04 million kg/yr for other regulated pollutants above raw waste.

Option 5. NSPS option 5 included flow control to reduce total discharge flow by over 90 percent (same as option 4). End-of-pipe treatment includes chrome reduction and cyanide removal when required, emulsion breaking, dissolved air flotation, hydroxide precipitation, sedimentation, and polishing filtration which is the same as option 2. Assuming a new plant installs six production lines, the investment costs would be $1.02 million and annual costs would be $0.57 million. Pollutant removals would be 28,296 kg/yr for toxics and 44.05 million kg/yr for other regulated pollutants above raw waste.

The Agency also considered an option requiring no discharge of process wastewater pollutants. One plant is achieving this level of pollutant reduction using water use reduction, ultrafiltration, reverse osmosis, and water reuse. This system of pollutant reduction is costly; investment costs greater than $1.7 million and annual costs greater than $0.97 million for a six line production plant. This option is not considered as the basis for NSPS because of the high costs associated with this technology. Specific comment is requested on the cost, and possible inhibition to the construction of new sources that this option might involve.

NSPS Selection. EPA is proposing NSPS based on technology option 4. The flow basis for this option is the achieved performance of 4 plants in the industry. This option was selected because it substantially reduces the discharge of toxic pollutants and has been adequately demonstrated in the industry. Additionally, the new source flow reduction is an appropriate technology for NSPS because the flows are demonstrated in this subcategory and because new plants have the opportunity to design and implement the most efficient processes without retrofit costs and space availability limitations. Moreover, the Agency believes there are significant efficiency benefits associated with this option including reduced water use charges and sewer charges, and decreased treatment system size (and attendant cost savings. Technology options 1, 2 and 3 were rejected because the Agency has determined that these options would not comply with statutory standards for NSPS. Option 5 was rejected because the added removals above option 4 are very small and do not seem to justify the installation of filters. The Agency requests comments on these options (See Section XXII of this preamble).

XI. Pretreatment Standards for Existing Sources (PSES)

Section 307(b) of the Act requires EPA to promulgate pretreatment standards for existing sources (PSES), which must be achieved within three years of promulgation. PSES are designed to prevent the discharge of pollutants which pass through, interfere with, or are otherwise incompatible with the operation of publicly owned treatment works (POTW). The legislative history of the 1977 Act indictes that pretreatment standards are to be technology-based and analogous to the best available technology for removal of toxic pollutants. The general pretreatment regulations can be found at 40 CFR Part 403. (46 FR 9404, January 28, 1981; and 47 FR 42688, September 28, 1982).

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 the direct dischargers applying BAT. 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 approach to the definition of pass through satisfies two competing objectives set by Congress: That standards for indirect dischargers be equivalent to standards for direct dischargers, while, at the same time, that the treatment capability and performance of the POTW be recognized and taken into account in regulating the discharge of pollutants from indirect dischargers. Rather than compare the mass or concentration of pollutants discharged by the POTW with the mass or concentration discharged by a direct discharger, the Agency compares the percentage of the pollutants removed by the direct discharger. The Agency takes this approach because a comparison of mass or concentration of pollutants in a POTW effluent with pollutants in a direct discharger's effluent would not take into account the mass of pollutants discharged to the POTW from nonindustrial sources nor the dilution of the pollutants in the POTW effluent to lower concentrations from the addition of large amounts of nonindustrial wastewater.

The pollutants regulated in the canmaking subcategory under PSES include chromium, zinc, aluminum, fluoride, phosphorous and Total Toxic Organics (TTO).

As discussed previously different metal cleaning and surface coating formulations can be used in the canmaking process. Aluminum is regulated as an indicator pollutant to assure removal of chromium and zinc and other toxic metals, if chemical formulation were changed to eliminate chromium or zinc by substituting some other toxic metal. Under 403.7(a)1 of the general pretreatment regulation, each categorical pretreatment standard that uses an indicator pollutant specifies whether or not a removal credit may be granted for the pollutant. In this regulation the POTW may give credit for aluminum only to the extent that it is determined that chromium, zinc, and other toxic metals are removed by the POTW. The Agency recognizes that POTW add aluminum to assist in the removal of solids; however this is not a basis for granting a removal credit.

As discussed previously, there are toxic organics associated with lubricants used in the canmaking subcategory. These toxic pollutants are not specifically regulated at BAT, because for direct dischargers, the BCT oil and grease limits should provide adequate removal. As discussed in the development document, the BCT limitation for oil and grease will remove 97 percent of the toxic organics. This is greater than the removal of toxic organics from a well operated POTW achieving secondary treatment which removes about 65 percent. Accordingly, the Agency believes that there is pass through of toxic organic pollutants associated with these oil waste streams. Given the mix of toxic organic pollutants (See Appendix E) found in these wastestreams, and the fact that they may pass through POTW, the Agency proposes to establish a pretreatment standard for TTO to control these pollutants. The proposed TTO standard is based on the application of oil and grease removal technology which achieves the same removal of TTO as the BCT model treatment technology.

In the canmaking subcategory, the Agency has also concluded that the pollutants that would be regulated (chromium, zinc, aluminum, fluoride, and phosphorus) under these proposed standards pass through the POTW. Pollutants removed by POTW from chromium and zinc are 65 percent, for aluminum range from 80 to 90 percent and for phosphorous range from 10 to 20 percent. There is no removal of fluoride by the POTW. The percentage that can be removed by a canmaking direct discharger applying BAT is expected to be over 98 percent. Accordingly, these pollutants pass through POTW. In addition, toxic metals are not degraded in the POTW; they may limit a POTW's chosen sludge disposal method.

The pretreatment standards are expressed as mass standards only. This is because a concentration based regulation would not assure the substantial additional pollutant removals achievable by flow reduction.

EPA proposes to establish a Total Toxic Organics (TTO) limitation based on the data presented in Section VII of the technical 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 BCT 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 should also be removed. See discussion in Section VII of the development document. The Agency requests comment on the TTO limit and the alternate monitoring parameter of oil and grease. Because oil and grease is used as an indicator for TTO, POTW may not give a removal credit for the oil and grease. EPA also requests comments on whether to simply promulgate an oil and grease limitation to effectively control organics.

EPA is proposing that the deadline for compliance with PSES in this regulation be three years after promulgation. EPA believes this time for compliance is reasonable because most of the plants do not now have all of the required equipment in-place and this amount of time generally will be needed for proper engineering, installation and start-up of the treatment facilities. The Agency invites comments with supporting documentation and rationale on the need for this or any shorter compliance time.

PSES Option Selection

The Agency considered PSES options equivalent to BPT (PSES–0) and the BAT options 1, 2 and 3. PSES equivalent to BAT option 1 was selected for proposed standards because it is demonstrated, removes more pollutants than PSES–0 which would pass through POTW, and is economically achievable (annual costs are less than for PSES–0). Options

2 and 3 were not chosen for the reasons discussed under the BAT section above.

The pollutant removals and costs of the PSES options are summarized below. Removals for regulated pollutants are above raw waste and compliance costs are above treatment equipment in place.

Option	Pollutant removals kilograms per year (pounds per year)		Costs (dollars in thousands)	
	Toxics	Other (millions)	Capital	Annual
PSES-0	44,880(98,736)	74.6(164.1)	$34,000	$18,400
PSES-1	47,255(103,900)	74.81(164.6)	27,600	16,700
PSES-2	47,440(104,400)	74.84(164.8)	31,800	17,400
PSES-3	47,440(104,400)	74.84(164.8)	43,500	32,900

Implementation of PSES will remove an estimated 47,255 kg/yr of toxic metals pollutants and 75 million kg/yr of other pollutants (from raw waste) at a capital cost of $27.6 million and a total annual cost of $16.7 million. Section VIII of the development document explains the basis for these costs. PSES affects 81 indirect discharging canmaking plants. EPA predicts no plant closures resulting from this regulation. No changes in industry production capacity are expected as a result of these pretreatment standards. The Economic Impact Analysis explains the economic impacts in detail.

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 presenting the same pass-through interference, and sludge disposal problems that existing dischargers have. New indirect dischargers, like new direct dischargers, have the opportunity to incorporate the best available demonstrated technologies including process changes, in-plant controls, and end-of-pipe treatment technologies, and to use plant site selection to ensure adequate treatment system installation.

The pollutants regulated in the canmaking subcategory under PSNS include chromium, zinc, aluminum, fluoride, phosphorous and TTO. The reason for selecting these pollutants are set forth under PSES above.

The PSNS treatment options considered are identical to the NSPS options. As explained above under PSES, the pollutants considered for regulation under PSNS pass through POTW. For PSNS the Agency is proposing standards based on the same treatment technology options as NSPS. The selected options will not create barriers to entry, as is discussed in the Economic Impact Analysis.

The Agency also considered requiring no discharge of process wastewater pollutants. This option was rejected for the reasons set forth for NSPS.

The mass standards set forth as PSNS are presented here as the only method of designating pretreatment standards. Regulation on the basis of concentration will not assure the substantial pollutant removals that flow reduction will achieve. Flow reduction is a significant part of the model technology for PSNS.

XIII. Best Conventional Technology (BCT) Effluent Limitations

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 (BOD_5),total suspended solids (TSS), and pH—and any additional pollutants defined by the Administrator as "conventional." On July 30, 1979, EPA added oil and grease to the conventional pollutant list (44 FR 44501).

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. (See *American Paper Institute* v. *EPA*, 660 F. 2d 954 4th Cir. 1981.) The first test compares the cost for private industry to reduce the discharge of its conventional pollutants with the costs to POTW for similar levels of reduction in the 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 original 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.) EPA proposed its new methodology on Ocotober 29, 1982 (47 FR 49176).

For the canmaking subcategory, EPA has determined that the BPT end-of-pipe technology sequence with added flow reduction (BCT technology) is capable of removing significant amounts of conventional pollutants. The Agency compared the cost of removing conventional pollutants using the BCT technology with the costs of achieving comparable treatment in a POTW. Using the newly revised proposed BCT methodology, the result of this comparison indicates the cost for this removal is (−) $1.39 per pound, which is substantially less than the proposed POTW benchmark of $0.27 per pound. Because BCT technology is less costly than BPT technology the second phase of the cost test will also show a negative value. The application of BCT technology above BPT is accepted, and BCT limitations are established based on this technology for oil and grease, TSS, and pH.

The lesser cost of BCT technology is due to the reduced wastewater flow and resultant reduction in treatment equipment size. The Agency specifically requests comment on this aspect of the BCT methodology and, in particular, on the negative cost results shown for BCT technology.

XIV. Pollutants and Subcategories Not Regulated

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

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

Paragraph 8(a)(iii) of the Revised Settlement Agreement 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 this subcategory that were detected in the effluent in amounts that are at or below the nominal limit of analytical quantification which are too small to be effectively reduced by technologies and

that are therefore excluded from regulation.

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

Paragraph 8(a)(iii) also allows the Administrator to exclude from regulation specific pollutants which will be effectively controlled by the technologies upon which are based other effluent limitations and guidelines, standards of performance or pretreatment standards. The toxic pollutants considered for regulation, but excluded from BPT, BAT limitations and NSPS because adequate protection is now provided by this regulation through the control of other pollutants, are listed for this subcategory in Appendix E of this preamble.

Paragraph 8(a)(iv) and 8(b)(ii) of the Revised Settlement Agreement allow the Administrator to exclude from regulation subcategories for which the amount and the toxicity of pollutants in the discharge does not justify developing national regulations. Some segments of the canmaking subcategory meet this provision and are excluded from this regulation because there is no discharge of process wastewater. These segments are listed in Appendix F to this preamble.

XV. Cost and Economic Impact

Executive Order 12291 requires EPA and other agencies to perform regulatory impact analyses of major regulations. Major rules impose an annual cost to the economy of $100 million or more or meet other economic impact criteria. The proposed regulation for the canmaking subcategory of the coil coating category is not a major rule. The costs to be incurred by this industry will be significantly less than $100 million. Therefore, formal regulatory impact analysis is not required. This proposed rulemaking satisfies the requirement of the Executive Order for a non-major rule. The Agency's regulatory strategy considered both the cost and the economic impacts of the proposed rulemaking.

The Economic Impact Analysis report presents the economic effects for the industry as a whole and for typical plants covered by the proposed regulation. Compliance costs are based on engineering estimates of capital requirements for the effluent control systems described earlier in this preamble. The report assesses the impact of price changes, production changes, plant closures, job losses and balance of trade effects.

EPA has identified 89 facilities that manufacture and wash seamless aluminum and steel cans and are covered by this regulation. Seven are direct dischargers, 81 are indirect dischargers, and 1 does not discharge process wastewater. Total investment for BAT and PSES is estimated to be $28.3 million, with annual costs of $17.1 million, including depreciation and interest. These costs are expressed in 1982 dollars and account for existing treatment in place among canmaking facilities. These cost estimates are based on the determination that canmaking facilities will move from their existing treatment to either BAT or PSES for the BAT treatment technology can installed by canmaking facilities at a cost proportionally lower than the BPT treatment technology.

In order to measure the potential economic effects of the proposed regulation, the Agency conducted a plant-by-plant analysis which focused on profitability and capital availability requirements. Both characteristics are examined through standard financial analysis techniques. Plant closure determinations are based primarily on measures of financial performance such as return on assets and compliance investment cost as a percent of annual revenues.

No plant closures or job losses were projected as a result of compliance costs for this regulation. Annual compliance costs for BAT and PSES are relatively small, with annual compliance costs accounting for less than 1 percent of plant revenues. In addition, because the canmaking industry appears to be highly competitive, it is assumed that producers would attempt to absorb their compliance costs and would not raise their prices. This assumption represents a worst case situation and to the extent prices are raised, may overstate the impact of the regulation.

Return on investment (ROI) was chosen to assess the impact of compliance cost on plant profitability. Plants with an after-compliance ROI of less than 7 percent were considered potential closure candidates. The underlying assumption is that plants cannot continue to operate as viable concerns if they are unable to generate a return on investment that is at least equal to the opportunity cost of other low risk investment alternatives. All canmaking facilities analyzed were found to have an after-compliance ROI greater than 7 percent. The Ratio of "compliance capital investment to revenues" (CCI/R) was used to provide a good indication of the relative magnitude of the compliance capital investment requirements. The ratio CCI/R was calculated for all canmaking facilities as compared to a "capital availability threshold value" (CCI/R) of 3 percent. If a plant's CCI/R ratio is less than the threshold value, the capital investment for treatment equipment may be financed out of a single year's internally generated funds without additional debt. None of the canmaking facilities had CCI/R ratios greater than the 3 percent threshold value.

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 pount equivalent removed would be lower when a highly toxic pollutant is removed than if a less toxic is removed. This analysis, entitled "Cost-Effectiveness Analysis," is included in the record of this rulemaking. EPA invites comments on the methodology used in this analysis.

Presented below are compliance costs for the following regulations: BPT, BAT, PSES, PSNS and NSPS. There are no BCT compliance costs because the effluent limitations are based on BAT technology which is less costly than BPT.

BPT: BPT regulations are proposed for direct discharges for the canmaking industry. This regulation will affect 7 facilities. Investment costs for BPT are $1.0 million; total annual costs are $0.45 million (in 1982 dollars). No plant closures or job losses are anticipated as a result of BPT.

BAT: BAT regulations will also affect the 7 direct discharges within the canmaking industry. To comply directly with BAT, these canmaking facilities will incur investment costs of $0.68 million and annual costs of $0.42. There are no plant closures or job losses projected as a result of BAT.

PSES: Pretreatment standards are proposed for indirect dischargers within the canmaking industry. 81 plants will incur investment costs of $27.6 million and annual costs of $16.7 million. There are no plant closures or job losses projected as a result of PSES.

NSPS/PSNS: The results of the economic analysis for new sources indicate that a new canmaking line will have an annual output volume of 300 million cans per production line. The incremental annual compliance costs of the recommended technology for new sources of the BAT/PSES option for a normal canmaking line is estimated to be approximately $20,000 which is less than 0.1 percent of plant revenues (assuming $90 per 1000 cans manufactured). In addition, the compliance capital investment for new sources is less than the required capital investment for the recommended BAT/PSES technology. These comparisons indicate that new sources would not be at a competitive disadvantage as a result of having to comply with NSPS/PSNS.

Regulatory Flexibility Analysis: Pub. L. 96–354 requires EPA to prepare an Initial Regulatory Flexbility Analysis for all proposed regulations that have a significant impact on substantial number of small entities. The analysis may be conducted in conjunction with or as part of other Agency analyses. A small business analysis for this industry is included in the Economic Impact Analysis. The number of plant lines was the primary variable recommended to distinguish firm size. The small size category includes approximately 20 facilities (46 percent of the industry total). The Agency invites comments on this size definition. Annual BAT and PSES compliance costs for small plants are approximately 38 percent of the estimated BAT/PSES costs for existing sources. Thus, capital costs are estimated to be $10,693,000 with annual costs of $4,074,000 for a canmaking facility with less than 3 production lines. For this proposed rulemaking, there are no significant impacts on small firms; therefore, a formal Regulatory Flexibility Analysis is not required.

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, and energy consumption. This proposal was circulated to and reviewed by EPA personnel responsible for non-water quality environmental programs. While it is always difficult to balance pollution problems against each other and against energy utilization, EPA is proposing regulations that it believes best serve often competing national goals.

The following are the non-water quality environmental impacts associated with the proposed regulations and are discussed in Section VIII of the Development Document:

A. Air Pollution

Compliance with the proposed BPT, BAT, BCT, NSPS, PSES, and PSNS will not create any substantial air pollution problems. Precipitation and clarification, the major portion of the technology basis, should not result in any air pollution problems.

B. Solid Waste

EPA estimates that canmaking plants generate a total of 7,100 kkg of solid waste per year from manufacturing process operations, including sludge from current wastewater treatment.

Wastewater treatment sludges contain toxic metals including chromium, and zinc.

EPA estimates that the proposed BPT limitations will contribute an additional 382 kkg per year of solid wastes. Proposed BAT and PSES will contribute approximately 3,950 kkg per year. Proposed NSPS and PSES will contribute approximately 1500 kkg per year. These sludges will necessarily contain additional quantities of toxic metal pollutants.

None of these wastewater treatment sludges from this subcategory are likely to be hazardous under the regulations implementing subtitle C of the Resource Conservation and Recovery Act (RCRA) when the model treatment technology is used to meet BAT or PSES. Generators of these wastes must meet requirements set forth at 40 CFR Part 260 *et seq.* (See 45 FR 33142–33143 (May 19, 1980).

C. Energy Requirements

The canmaking industry in 1981 used about 3.9 billion kilowatt hours of energy. This regulation does not significantly affect the energy requirements of the industry. EPA estimates that the achievements of proposed BPT effluent limitations will result in a net increase in electrical energy consumption of approximately 1.5 million kilowatt-hours per year. Proposed BAT limitations are projected to add insignificant additional kilowatt-hours to electrical energy consumption.

The Agency estimates that proposed PSES will result in a net increase in electrical energy consumption of approximately 15.1 million kilowatt-hours per year.

The energy requirements for NSPS and PSNS are estimated to be similar to energy requirements for BAT. More accurate estimates are difficult to make because projections for new plant construction are variable.

XVII. Best Management Practices

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 the canmaking subcategory.

XVIII. Upset and Bypass Provisions

An issue of recurrent concern has been whether industry guidelines should include provisions authorizing noncompliance with effluent limitations during periods of "upset" or "bypass." An upset, sometimes called an "excursion," is unintentional noncompliance occurring for reasons beyond the reasonable control of the permittee. It has been argued that an upset provision in EPA's effluent 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, it is claimed that liability for such situations is improper. When confronted with this issue, courts have been divided on the question of whether an explicit upset or excursion 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* v. *Costle*, supra and *Corn Refiners Association, et al.* v. *Costle*, No. 78–1069 (8th Cir., April 2, 1979). See also *American Petroleum Institute* v. *EPA*, 540 F.2d 1023 (10th Cir. 1976); *CPC International, Inc.*, v. *Train*, 540 F.2d 1320 (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 situations. 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 recently promulgated NPDES regulations that include upset and bypass permit provisions. (See 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. Permittees in canmaking will be entitled to the general upset and bypass provisions in NPDES permits. Thus these proposed regulations do not address these issues.

XIX. Variances and Modifications

Upon the promulgation of final regulations, the numerical effluent limitations must be applied in all Federal and State NPDES permits thereafter issued to canmaking direct dischargers. In addition, on promulgation, the pretreatment limitations 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; EPA* v. *National Crushed Stone Association, et al.* 449 U.S. 64 (1980). This variance recognizes that there may be factors concerning a particular discharger that are fundamentally different from the factors considered in this rulemaking. This variance clause was originally set forth in EPA's 1973–1976 industry regulations. It now will be included in the general NPDES regulations and will not be included in the canmaking or other specific industry regulations. See the NPDES regulation, 40 CFR 125, Subpart D, 44 FR 32854, 32893 (June 7, 1979), 45 FR 33512 (May 19, 1980), 46 FR 9460 (January 28, 1981), and 47 FR 52309 (November 19, 1982) for the text and explanation of the "fundamentally different factors" variance.

Dischargers subject to the BAT limitations are also eligible for EPA's "fundamentally different factors" variance. In addition, BAT limitations for nonconventional pollutants may be modified under Sections 301 (c) and (g) of the Act which are now in 40 CFR 122.53(i)(2). Section 301(1) precludes the Administrator from modifying BAT requirements for any pollutants which are on the toxic pollutant list under Section 307(a)(1) of the Act. The economic modification section (301(c)) gives the Administrator authority to modify BAT requirements for nonconventional pollutants for dischargers who file a permit application after July 1, 1977, upon a showing that such modified requirements will: (1) Represent the maximum use of technology within the economic capability of the owner or operator and (2) result in reasonable further progress toward the elimination of the discharge of pollutants. The environmental modification section (301(g)) allows the Administrator, with the concurrence of the State, to modify Bat limitations for nonconventional pollutants from any point source upon a showing by the owner or operator of such point source satisfactory to the Administrator that:

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

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

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

Section 301(j)(1)(B) of the Act requires that application for modifications under section 301 (c) of (g) must be filed within 270 days after the promulgation of an applicable effluent guideline. Initial applications must be filed with the Regional Administrator and, in those States that participate in the NPDES Program, a copy must be sent to the Director of the State program. Initial applications to comply with 301(j) must include the name of the permittee, the permit and outfall number, the applicable effluent guideline, and whether the permittee is applying for a 301(c) or 301(g) modification or both. Applicants interested in applying for both must do so in their initial application. For further details, see 43 FR 40859, September 13, 1978.

The nonconventional pollutants limited under BAT in this regulation are aluminum, fluoride, and phosphorus. No regulations establishing criteria for 301(c) and 301(g) determinations have been proposed or promulgated. All dischargers who file an initial application within 270 days will be sent a copy of the substantive requirements for 301(c) and 301(g) determinations once they are promulgated. Modification determinations will be considered at the time the NPDES permit is being reissued.

Pretreatment standards for existing sources are subject to the "fundamentally different factors" variance and credits for pollutants removed by POTWs. (See 40 CFR 403.7, 493.13.) Pretreatment standards for new sources are subject only to the credits provision in 40 CFR 403.7. New source performance standards are not subject to EPA's "fundamentally different factors" variance or any statutory or regulatory modifications. (See *duPont* v. *Train, supra.*)

XX. Relationship To NPDES Permits

The BPT, BAT, BCT and NSPS limitations in this regulation will be applied to individual canmaking 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 NPDES permits.

One matter that has been subject to different judicial views is the scope of NPDES permit proceedings in the absence of effluent limitations, guidelines, and standards. Under current EPA regulations, states and EPA regions that issue NPDES permits before regulations are promulgated do so on a case-by-case basis on consideration of the statutory factors. (See *U.S. Steel Corp.* v. *Train*, 556 F.2d 822, 844, 854 7th Cir. 1977.) In these situations, EPA documents and draft documents (including these proposed regulations and supporting documents) are relevant evidence, but not binding, in NPDES permit proceedings. (See 44 FR 32854, June 7, 1979.)

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 any manner 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), such limitations must be applied by the permit-issuing authority.

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, 527* F 2nd. *485,* 5th Cir. 1977). EPA has exercised and intends to exercise that discretion in a manner that recognizes and promotes good faith compliance efforts.

XXI. Summary of Public Participation

The Agency has had contact with individual can manufacturing companies and with the Can Manufacturers Institute during the collection of information and data basic to this proposal. Information they supplied was used in the preparation of this proposal.

XXII. Solicitation of Comments

The Agency invites and encourages comments on any aspect of this proposed regulation but is particularly interested in receiving comments on the issues listed below. In order for the Agency to evaluate views expressed by commenters, the comments should contain specific data and information to support those views.

1. As is explained in Section VI of this preamble and Section IV of the development document for canmaking, the production of steel seamless cans and that of aluminum seamless cans are regulated as one subcategory with a single set of limitations and standards. The Agency seeks comments on whether the judgment to include the production of all seamless cans which are washed in a single subcategory is appropriate. Existing data on steel canmaking has shown that flows and pollutant loadings for steel canmaking are somewhat lower than those for aluminum canmaking. Interested persons are invited to submit information relevant to subcatgorization for this proposal. Additional information about the processes, use of lubricants and other materials, water use, and characterization of steel canmaking raw wastewaters and treated effluents is also requested.

2. The Agency has concluded, preliminarily, that basing BAT limitations and PSES and new source standards upon a technology train that includes polishing filtration would achieve little additional removal of pollutants. The Agency seeks data from canmakers, equipment suppliers, and other interested persons about the cost and pollutant removal benefits of polishing filtration and its ability to remove toxic and nonconventional pollutants from canmaking wastewaters. Wherever possible, persons submitting treatment effectiveness information should present long-term sampling data—especially paired raw wastewater-treated effluent data—from canmaking plants, or plants in other categories with comparable wastewaters, with well-operated polishing filters.

3. The Agency has included dissolved air flotation and chemical emulsion breaking as recommended technologies for existing sources that have high levels of oil and grease in their wastewaters. As is explained in Section VII of this preamble and Section VII of the development document, the Agency is confident that these technologies—in addition to oil skimming—will reduce oil and grease and TTO to concentrations that will allow the proposed limitations and standards to be met. These oil removal technologies perform well on wastewaters generated in other industries and are expected to perform satisfactorily on canmaking wastewaters. Dissolved air flotation is used in the canmaking industry, and the Agency previously has requested canmakers to supply data with respect to the performance of this technology. As of the date of this proposal no data has been received. The Agency would be interested in receiving data on the performance of dissolved air flotation and chemical emulsion breaking in canmaking facilities, however, to confirm the performance of these technologies. Wherever possible, interested persons should submit long-term sampling data—especially paired raw wastewater-treated effluent data—from canmaking plants with well-operated dissolved air flotation and chemical emulsion breaking technologies.

4. The Agency is continuing to seek additional data to support these proposed limitations and standards, and specifically requests long-term sampling data (especially paired raw wastewater treated effluent data) from canmaking plants having well-operated chemical precipitation and sedimentation systems.

5. To determine the economic impact of this regulations, the Agency has calculated the cost of installing BPT, BAT, PSES, NSPS, and PSNS for each facility for which canmaking data were 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 or employment losses as a result of this regulation. Because the Agency did not have plant specific data on some financial measures, as such data is often proprietary, the Agency used industry-wide ranges or averages. The Agency invites comments on these analyses and projections. The Agency particularly seeks comment on whether incremental costs are achievable by canmakers; especially those that are small or less profitable. Commenters should not focus 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 nonenvironmental investments, product prices, profitability, availability of less costly technology and international competitiveness.

6. The Agency is seeking comment on the achievability and costs associated with new source flow reduction. Specifically the Agency requests comment with supporting data on the efficiency benefits associated with flow reduction such as reduced water use charges, sewer charges, and decreased treatment system size and cost.

The proposed regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291. Any comments from OMB to EPA and any EPA response to those comments are available for public inspection at the EPA Public Information Reference Unit, Room 2922 (EPA Library), Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460.

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.

XXIV. List of Subjects in 40 CFR Part 465

Metal cans, Metal coating and allied services, Waste treatment and disposal, Water pollution control.

Dated: January 31, 1983

Anne M. Gorsuch,

Administrator.

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

Act—The Clean Water Act

Agency—The U.S. Environmental Protection Agency
BAT—The best available technology economically achievable under Section 304(b)(2)(B) of the Act
BCT—The best conventional pollutant control technology, under Section 304(b)(4) of the Act
BDT—The best available demonstrated control technology processes, operating methods, or other alternatives, including where practicable, a standard permitting no discharge of pollutants under section 306(a)(1) of the Act
BMP—Best management practices under Section 304(e) of the Act
BPT—The best practicable control technology currently available under Section 304(b)(1) of the Act
Clean Water Act—The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1251 *et seq.*), as amended by the Clean Water Act of 1977 (Pub. L. 95–217)
Direct discharger—A plant that discharges pollutants into water of the United States
Indirect discharger—A plant that introduces pollutrants into a publicly owned treatment works
NPDES permit—A National Pollutant Discharge Elimination System permit issued under Section 402 of the Act
NSPS—New source performance standards under Section 306 of the Act
POTW—Publicly owned treatment works
PSES—Pretreatment standards for existing sources of indirect discharges under Section 307(b) of the Act
PSNS—Pretreatment standards for new sources of direct discharges under Section 307 (b) and (c) of the Act
RCRA—Resource Conservation and Recovery Act (Pub. L. 94–580) of 1976, as amended

Appendix B—Toxic Pollutants Not Detected

(a) Subpart D—Canmaking Subcategory
001 Acenaphthene
002 Acrolein
003 Acrylonitrile
005 Benzidine
008 1,2,4-trichlorobenzene
009 Hexachlorobenzene
010 1,2-dichloroethane
012 Hexachloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
016 Chloroethane
017 [Deleted]
019 2-chloroethyl vinyl ether (mixed)
020 2-chloronaphthalene
021 2,4,6-trichlorophenol
022 Parachlorometa cresol
024 2-chlorophenol
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3-dichlorobenzidine
030 1,2-trans-dichloroethylene
031 2,4-dichlorophenol
032 1,2-dichloropropane
033 1,2-dichloropropylene (1,3-dichloropropene)
034 2,4-dimethyphenol
035 2,4-dinitrotoluene
036 2,6-dinitrotoluene
039 Fluoranthene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 Bis(2-chloroisopropyl) ether
043 Bis(2-chloroethyxy) methane
045 Methyl chloride (dichloromethane)
046 Methyl bromide (bromomethane)
047 Bromoform (tribromomethane)
049 [Deleted]
050 [Deleted]
052 Hexachlorobutadiene
053 Hexachloromyclopentadiene
054 Isophorone
056 Nitrobenzene
057 2-nitrophenol
058 4-nitrophenol
059 2,4-dinitrophenol
060 4,6-dinitro-o-cresol
061 N-nitrosodimethylamine
063 N-nitrosodi-n-propylamine
064 Pentachlorophenol
069 Di-N-octyl phthalate
073 Benzo(a)pyrene (3,4-benzopyrene)
074 3,4-Benzofluoranthene (benzo(b)fluoranthene)
075 11,12-benzofluoranthene (benzo(b)fluoranthene)
077 Acenaphthylene
079 1,12-benzoperylene (benzo(ghi)perylene)
082 1,2,5,6-dibenzanthracene dibenzo(,h)anthracene
083 Ideno (1,2,3-cd) pyrene (2,3-o-pheynylene pyrene)
084 Pyrene
088 Vinyl chloride (chloroethylene)
089 Aldrin
090 Dieldrin
094 4,4-DDD (p,p-TDE)
095 Alpha-endosulfan
096 Beta-endosulfan
099 Endrin aldehyde
105 Delta-BHC (PCB-polychlorinated biphenyls)
106 PCB-1242 (Arochlor 1242)
108 PCB-1221 (Arochlor 1221)
109 PCB-1232 (Arochlor 1232)
111 PCB-1260 (Arochlor 1260)
112 PCB-1016 (Arochlor 1016)
113 Toxaphene
114 Antimony
116 Asbestos
117 Beryllium
125 Selenium
126 Silver
127 Thallium
129 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)

Appendix C—Toxic Pollutants Detected Below the Nominal Quantification Limit

(a) Subpart D—Canmaking Subcategory.
004 Benzene
006 Carbon tetrachloride (tetrachloromethane)
007 Chlorobenzene
013 1,1-dichloroethane
023 Chloroform (trichloromethane)
037 1,2-diphenylhydrazine
038 Ethylbenzene
048 Dichlorobromomethane
051 Chlorodibromomethane
055 Naphthalene
062 N-nitrosodiphenylamine
065 Phenol
070 Diethyl phthalate
071 Dimethyl phthalate
072 1,2-benzanthracene (benzo(a)anthracene)
076 Chrysene
078 Anthracene
080 Fluorene
081 Phenanthrene
085 Tetrachloroethylene
087 Trichloroethylene
091 Chlordane (technical mixture and metabolites)
092 4,4-DDT
093 4,4-DDE (p,p-DDX)
097 Endosulfan sulfate
098 Endrin
100 Heptachlor
101 Heptachlor epoxide (BHC-hexachlorocyclohexane
102 Alpha-BHC
103 Beta-BHC
104 Gamma-BHC (lindane)
107 PCB-1254 (Arochlor 1254)
110 PCB-1248 (Arochlor 1248)

Appendix D—Toxic Pollutants Not Treatable Using Technologies Considered Applicable to the Subcategory

(a) Subpart D—Canmaking Subcategory.
115 Arsenic
118 Cadmium
120 Copper
121 Cyanide
122 Lead
123 Mercury
124 Nickel

Appendix E—Toxic Pollutants Controlled at BPT, BAT and NSPS But Not Specifically Regulated

(a) Subpart D—Canmaking Subcategory.
011 1,1,1-trichloroethane
018 Bis (2-chloroethyl) ether
029 1,1-dichloroethylene
044 Methylene chloride (dichloromethane)
066 Bis(2-ethylhexyll)phthalate
067 Butyl benzylphthalate
068 Di-N-butyl phthalate
086 Toluene

Appendix F—Segments Not Regulated

(a) The manufacture of seamed cans (clinched, soldered or welded).

(b) The manufacture of seamless cans from coated stock.

(c) The manufacture of can ends and can tops.

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

PART 465—[AMENDED]

1. EPA proposes to amend the table of contents to 40 CFR Part 465 by adding a new subpart D to read as follows:

* * * * * *

Subpart D—Canmaking Subcategory

Sec.
465.40 Applicability; description of the canmaking subcategory.

2. EPA proposes to revise § 465.01 to read as follows:

§ 465.01 Applicability.

This part applies to any coil coating facility or to any canmaking facility that discharges a pollutant to waters of the United States or that introduces pollutants to a publicly owned treatment works.

3. EPA proposes to amend § 465.02 by adding new paragraphs (h) and (i) to read as follows:

§ 465.02 [Amended]

* * * * *

(h) The term "can" means a container formed from sheet metal and consisting of a body and two ends or a body and a top.

(i) the term "canmaking" means the manufacturing process or processes used to manufacture a can from a basis metal.

4. EPA proposes to amend §465.03 by adding paragraphs (c) and (d) to read as follows:

§ 465.03 [Amended]

* * * * *

(c) 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). The optional oil and grease parameter is not eligible for allowance for removal achieved at a POTW under 40 CFR 403.7.

(d) Aluminum is used as an indicator pollutant for toxic pollutants and a POTW may give credit for aluminum removal only to the extent that it is determined that chromium, zinc and other toxic metals are removed by the POTW.

5. EPA proposes to revise § 465.04 to read as follows:

§ 465.04 Compliance date for PSES.

(a) For Subparts A, B, and C the compliance date for Pretreatment Standards for Existing Sources (PSES) is December 1, 1985.[1]

(b) For Subpart D, the compliance date for Pretreatment Standards for Existing Sources will be three years from the date of promulgation of Subpart D.[1]

6. EPA proposes to add a new Subpart D to read as follows:

Subpart D—Canmaking Subcategory

§ 465.40 Applicability; description of the canmaking subcategory.

This subpart applies to discharges to waters of the United States, and introductions of pollutants into publicly owned treatment works from the manufacturing of seamless can bodies, which are washed.

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

Except as provided in 40 CFR 125.30–.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart D

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Maximum for monthly average
	g (lbs)/1,000,000 cans manufactured	
Cr	74.21 (0.163)	30.03 (0.066)
Zn	235.01 (0.517)	98.95 (0.217)
Al	803.98 (1.768)	328.66 (0.723)
F	10513.65 (23.130)	4664.88 (10.262)
P	2950.89 (6.491)	1206.86 (2.655)
O&G	3534.00 (7.774)	2120.40 (4.664)
TSS	7244.70 (15.938)	3534.00 (7.774)
pH	(1)	(1)

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

§ 465.42 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:

[1]The Consent Decree in *NRDC* v. *Train*, 12 ERC 1833 (D.C.C. 1979) specifies a compliance data for PSES of no later than June 30, 1984. EPA will be moving for modification of that provision of the Decree. Should the Court deny that motion, EPA will be required to modify this compliance date accordingly.

Subpart D

Pollutant or pollutant property	*BAT effluent limitations*	
	Maximum for any one day	Maximum for monthly average
	g (lbs)/1,000,000 cans manufactured	
Cr	24.10 (0.053)	9.75 (0.021)
Zn	76.34 (0.167	32.14 (0.070)
Al	261.17 (0.574)	106.76 (0.234)
F	3415.30 (7.513)	1515.36 (3.333)
P	958.58 (2.108)	392.04 (0.862)

§ 465.43 New source performance standards.

The following standards of performance establish the quantity of quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart:

Subpart D

Pollutant or pollutant property	NSPS effluent limitations	
	Maximum for any one day	Maximum for monthly average
	g (lbs)/1,000,000 cans manufactured	
Cr	5.88 (0.013)	2.38 (0.005)
Zn	18.62 (0.041)	4.84 (0.017)
Al	63.7 (0.140)	26.04 (0.57)
F	833.0 (1.833)	369.60 (0.813)
P	233.8 (0.514)	95.62 (0.210)
O&G	280.0 (0.616)	168.0 (0.370)
TSS	574.0 (1.263)	280.0 (0.616)
pH	(1)	(1)

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

§ 465.44 Pretreatment standards for existing sources.

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must comply with 40 CFR Part 403 and achieve the following pretreatment standards for existing sources.

Subpart D

Pollutant or pollutant property	PSES effluent limitations	
	Maximum for any one day	Maximum for monthly average
	kg (lbs)/1000,000 cans manufactured	
Cr	24.10 (0.053)	9.75 (0.021)
Zn	76.34 (0.167)	32.14 (0.070)
Al	261.17 (0.574)	106.76 (0.234)
F	3415.30 (7.513)	1515.36 (3.333)
P	958.58 (2.108)	392.04 (0.862)
TTO	18.36 (0.040)	8.61 (0.009)
O&G (for alternate monitoring)	2353.0 (5.177)	1148.0 (2.526)

§ 465.45 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.

Subpart D

Pollutant or pollutant property	PSNS	
	Maximum for any one day	Maximum for monthly average
	g (lbs)/1000,000 cans manufactured	
CR	5.88 (0.013)	2.38 (0.005)
Az	18.62 (0.041)	7.84 (0.017)
Al	63.7 (0.140)	26.04 (0.057)
F	833.0 (1.833)	369.60 (0.813)
P	233.8 (0.514)	95.62 (0.210)
TTO	4.48 (0.010)	2.10 (0.005)
O&G (for alternate monitoring)	280.0 (0.616)	168.0 (0.616)

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

Except as provided in 40 CFR 125.30—.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology:

Subpart D

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any one day	Maximum for monthly average
	g (lbs)/1000,000 cans manufactured	
O&G	1148.00 (2.526)	688.80 (1.515)
TSS	2353.4 (5.177)	1148.00 (2.526)
pH		

Within the range of 7.5 to 10 at all times.

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