Federal Register

Friday,
December 22, 2000

Part IX

Environmental Protection Agency

40 CFR Parts 136 and 437

Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Centralized Waste Treatment Point Source Category; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 136 and 437

[FRL–6863–8]

RIN 2040–AB78

Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Centralized Waste Treatment Point Source Category

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This final rule represents the culmination of the Agency's effort to develop Clean Water Act (CWA) effluent limitations guidelines and standards for wastewater discharges from the centralized waste treatment industry. This final regulation generally applies to wastewater discharges associated with the operation of new and existing centralized waste treatment facilities which accept hazardous or non-hazardous industrial wastes, wastewater, and/or used material from off-site for treatment of the wastes and/or recovery of materials from the wastes.

EPA expects compliance with this regulation to reduce the discharge of conventional pollutants by at least 9.7 million pounds per year and toxic and non-conventional pollutants by at least 9.3 million pounds per year. EPA estimates the annual cost of the rule will be $35.1 million (pre-tax $1997). EPA estimates that the annual benefits of the rule will range from $2.56 million to $8.09 million ($1997).

This final rule also amends EPA's Guidelines Establishing Test Procedures for the Analysis of Pollutants (40 CFR Part 136) to add 10 semivolatile organic pollutants to Method 625 and 6 semivolatile organic pollutants to Method 1625.

DATES: This regulation shall become effective January 22, 2001. In accordance with 40 CFR 23.2, this action is considered promulgated for purposes of judicial review as of 1 pm Eastern Daylight Time on January 5, 2001.

ADDRESSES: The public record for this rulemaking has been established under docket number W–98–21 and is located in the Water Docket, East Tower Basement, 401 M St. SW, Washington, DC 20460. The record is available for inspection from 9 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. For access to the docket materials, call (202) 260–3027 to schedule an appointment. You may have to pay a reasonable fee for copying.

FOR FURTHER INFORMATION CONTACT: For technical information concerning today's final rule, contact Ms. Jan Matuszko at (202) 260–9126 or Mr. Timothy Connor at (202) 260–3164. For economic information contact Dr. William Wheeler at (202) 260–7905.

SUPPLEMENTARY INFORMATION:

Regulated Entities

Entities potentially regulated by this action include facilities of the following types that discharge pollutants to waters of the U.S.:

Category	Examples of regulated entities
Industry	• Discharges from stand-alone waste treatment and recovery facilities receiving materials from off-site. These facilities may treat hazardous or non-hazardous waste, hazardous or non-hazardous wastewater, and/or used material from off-site, for disposal, recycling, or recovery. • Certain discharges from waste treatment systems at facilities primarily engaged in other industrial operations. Thus, industrial facilities which process their own, on-site generated, process wastewater with hazardous or non-hazardous wastes, wastewaters, and/or used material received from off-site, in certain circumstances, may be subject to this rule with respect to a portion of their discharge.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that EPA is aware could potentially be regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether your facility is regulated by this action, you should carefully examine the applicability criteria listed in Section 437.1 and the definitions in Section 437.2 of the rule and detailed further in Section V of this preamble. If you still have questions regarding the applicability of this action to a particular entity (after consulting Section V), consult one of the persons listed for technical information in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Compliance Dates

Existing direct dischargers must comply with limitations based on the best practicable technology currently available, the best conventional pollutant control technology, and the best available technology economically achievable as soon as their National Pollutant Discharge Elimination System (NDPES) permits includes such limitations. Existing indirect dischargers subject to today's regulations must comply with the pretreatment standards for existing sources no later than December 22, 2003. New direct and indirect discharging sources must comply with applicable guidelines and standards on the date the new sources begin discharging.

Supporting Documentation

The final regulations are supported by several major documents:

1. ''Development Document for Final Effluent Limitations Guidelines and Standards for the Centralized Waste Treatment Industry'' (EPA–821–R–00–020) referred to in the preamble as the final technical development document (TDD). This TDD presents the technical information that formed the basis for EPA's decisions concerning the final rule. In it, EPA describes, among other things, the data collection activities, the wastewater treatment technology options considered, the pollutants found in CWT wastewaters, and the estimation of costs to the industry to comply with final limitations and standards.

2. ''Economic Analysis of Final Effluent Limitations Guidelines and Standards for the Centralized Waste Treatment Industry'' (EPA–821–R–00–024) referred to in this preamble as the Final EA. The EA estimates the economic and financial costs of compliance with the final regulation on individual process lines, facilities and companies.

3. ''Detailed Costing Document for the Final Effluent Limitations Guidelines and Standards for the Centralized Waste Treatment Industry'' (EPA–821–R–00–021) referred to in this preamble as the Final Costing Document. This document presents the methodology used to estimate compliance costs for this final rule.

4. ''Cost Effectiveness Analysis of Final Effluent Limitations Guidelines and Standards for the Centralized Waste

Treatment Industry'' (EPA–821–R–00–023) referred to in this preamble as the Cost Effectiveness Report.

5. ''Environmental Assessment for the Final Effluent Limitations Guidelines and Standards for the Centralized Waste Treatment Industry'' (EPA–821–R–00–022) referred to as the Final Environmental Assessment in this preamble.

How To Obtain Supporting Documents

All of the supporting documents are available from the Office of Water Resource Center, MC–4100, U.S. EPA, 401 M Street, SW, Washington, DC 20460; telephone (202) 260–7786 for publication requests.

Organization of This Document

I. Legal Authority

The U.S. Environmental Protection Agency is promulgating these regulations under the authority of Sections 301, 304, 306, 307, 308, 402, and 501 of the Clean Water Act, 33 U.S.C. 1311, 1314, 1316, 1317, 1318, 1342, and 1361.

II. Background

A. Clean Water Act

Congress adopted the Clean Water Act (CWA) to ''restore and maintain the chemical, physical, and biological integrity of the Nation's waters'' (Section 101(a), 33 U.S.C. 1251(a)). To achieve this goal, the CWA prohibits the discharge of pollutants into navigable waters except in compliance with the statute. The Clean Water Act confronts the problem of water pollution on a number of different fronts. Its primary reliance, however, is on establishing restrictions on the types and amounts of pollutants discharged from various industrial, commercial, and public sources of wastewater.

Congress recognized that regulating only those sources that discharge effluent directly into the nation's waters would not be sufficient to achieve the CWA's goals. Consequently, the CWA requires EPA to promulgate nationally applicable pretreatment standards that restrict pollutant discharges for those who discharge wastewater indirectly through sewers flowing to publicly-owned treatment works (POTWs) (Section 307(b) and (c), 33 U.S.C. 1317(b) and (c)). National pretreatment standards are established for those pollutants in wastewater from indirect dischargers which may pass through or interfere with POTW operations. Generally, pretreatment standards are designed to ensure that wastewater from direct and indirect industrial dischargers are subject to similar levels of treatment. In addition, POTWs are required to implement local pretreatment limits applicable to their industrial indirect dischargers to satisfy any local requirements (40 CFR 403.5).

Direct dischargers must comply with effluent limitations in National Pollutant Discharge Elimination System (NPDES) permits; indirect dischargers must comply with pretreatment standards. These limitations and standards are established by regulation for categories of industrial dischargers and are based on the degree of control that can be achieved using various levels of pollution control technology.

1. Best Practicable Control Technology Currently Available (BPT)—Section 304(b)(1) of the CWA

In the regulations, EPA defines BPT effluent limits for conventional, priority,[1] and non-conventional pollutants. In specifying BPT, EPA looks at a number of factors. EPA first considers the cost of achieving effluent reductions in relation to the effluent reduction benefits. The Agency also considers the age of the equipment and facilities, the processes employed and any required process changes, engineering aspects of the control technologies, non-water quality environmental impacts (including energy requirements), and such other factors as the Agency deems appropriate (CWA 304(b)(1)(B)). Traditionally, EPA establishes BPT effluent limitations based on the average of the best performances of facilities within the industry of various ages, sizes, processes or other common characteristic. Where existing performance is uniformly inadequate, EPA may require higher levels of control than currently in place in an industrial category if the Agency determines that the technology can be practically applied.

2. Best Conventional Pollutant Control Technology (BCT)—Section 304(b)(4) of the CWA

The 1977 amendments to the CWA required EPA to identify effluent reduction levels for conventional pollutants associated with BCT for discharges from existing industrial point sources. In addition to other factors specified in Section 304(b)(4)(B), the CWA requires that EPA establish BCT limitations after consideration of a two part ''cost-reasonableness'' test. EPA explained its methodology for the development of BCT limitations in July 1986 (51 FR 24974).

Section 304(a)(4) designates the following as conventional pollutants: biochemical oxygen demand (BOD5), total suspended solids (TSS), fecal coliform, pH, and any additional pollutants defined by the Administrator as conventional. The Administrator designated oil and grease as an additional conventional pollutant on July 30, 1979 (44 FR 44501).

3. Best Available Technology Economically Achievable (BAT)—Section 304(b)(2) of the CWA

In general, BAT effluent limitations guidelines represent the best economically achievable performance of plants in the industrial subcategory or category. The factors considered in assessing BAT include the cost of achieving BAT effluent reductions, the age of equipment and facilities involved, the process employed, potential process changes, and non-water quality environmental impacts, including energy requirements. The Agency retains considerable discretion in assigning the weight to be accorded these factors. BAT limitations may be based on effluent reductions attainable through changes in a facility's processes and operations. As with BPT, where existing performance is uniformly inadequate, BAT may require a higher level of performance than is currently being achieved based on technology transferred from a different subcategory or category. BAT may be based upon process changes or internal controls, even when these technologies are not common industry practice.

4. New Source Performance Standards (NSPS)—Section 306 of the CWA

NSPS reflect effluent reductions that are achievable based on the best available demonstrated control technology. New facilities have the opportunity to install the best and most efficient production processes and wastewater treatment technologies. As a result, NSPS should represent the most stringent controls attainable through the application of the best available control technology for all pollutants (i.e., conventional, non-conventional, and priority pollutants). In establishing NSPS, EPA is directed to take into consideration the cost of achieving the effluent reduction and any non-water quality environmental impacts and energy requirements.

[1] In the initial stages of EPA CWA regulation, EPA efforts emphasized the achievement of BPT limitations for control of the ''classical'' pollutants (e.g., TSS, pH, BOD5). However, nothing on the face of the statute explicitly restricted BPT limitations to such pollutants. Following passage of the Clean Water Act of 1977 with its requirement for point sources to achieve best available technology limitations to control discharges of toxic pollutants, EPA shifted its focus to address the listed priority pollutants under the guidelines program. BPT guidelines continue to include limitations to address all pollutants.

5. Pretreatment Standards for Existing Sources (PSES)—Section 307(b) of the CWA

PSES are designed to prevent the discharge of pollutants that pass through, interfere-with, or are otherwise incompatible with the operation of publicly-owned treatment works (POTW). The CWA authorizes EPA to establish pretreatment standards for pollutants that pass through POTWs or interfere with treatment processes or sludge disposal methods at POTWs. Pretreatment standards for existing sources are technology-based and analogous to BAT effluent limitations guidelines.

The General Pretreatment Regulations, which set forth the framework for the implementation of national effluent guidelines and standards, are found at 40 CFR Part 403. Those regulations contain a definition of pass-through that addresses localized rather than national instances of pass-through and establish pretreatment standards that apply to all non-domestic discharges.

6. Pretreatment Standards for New Sources (PSNS)—Section 307(b) of the CWA

Like PSES, PSNS are designed to prevent the discharges of pollutants that pass through, interfere-with, or are otherwise incompatible with the operation of POTWs. PSNS are to be issued at the same time as NSPS. New indirect dischargers have the opportunity to incorporate into their plants the best available demonstrated technologies. The Agency considers the same factors in promulgating PSNS as it considers in promulgating NSPS.

B. Section 304(m) Requirements

Section 304(m) of the CWA, added by the Water Quality Act of 1987, requires EPA to establish schedules for (1) reviewing and revising existing effluent limitations guidelines and standards (''effluent guidelines'') and (2) promulgating new effluent guidelines. On January 2, 1990, EPA published an Effluent Guidelines Plan (55 FR 80) that established schedules for developing new and revised effluent guidelines for several industry categories. One of the industries for which the Agency established a schedule was the Hazardous Waste Treatment Industry.

The Natural Resources Defense Council (NRDC) and Public Citizen, Inc. filed suit against the Agency, alleging violation of Section 304(m) and other statutory authorities requiring promulgation of effluent guidelines (*NRDC et al.* v. *Reilly,* Civ. No. 89–2980 (D.D.C.)). Under the terms of the consent decree in that case, as amended, EPA agreed, among other things, to propose effluent guidelines for the ''Centralized Waste Treatment Industry'' category by April 31, 1994 and take final action by August 2000.

C. The Land Disposal Restrictions Program

1. Introduction to RCRA Land Disposal Restrictions (LDR)

The Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA), enacted on November 8, 1984, largely prohibit the land disposal of untreated hazardous wastes. Once a hazardous waste is prohibited from land disposal, the statute provides only two options for legal land disposal: Meet the treatment standard for the waste prior to land disposal, or dispose of the waste in a land disposal unit that has been found to satisfy the statutory no-migration-test. A no-migration-unit is one from which there will be no migration of hazardous constituents for as long as the waste remains hazardous (RCRA Sections 3004(d),(e),(g)(5)).

Under section 3004, the treatment standards that EPA develops may be expressed as either constituent concentration levels or as specific methods of treatment. The criteria for these standards is that they must substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized (RCRA Section 3004(m)(1)). For purposes of the restrictions, the RCRA program defines land disposal to include any placement of hazardous waste in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, or underground mine or cave. Land disposal restrictions are published in 40 CFR Part 268.

EPA has used hazardous waste treatability data as the basis for land disposal restrictions standards. First, EPA has identified Best Demonstrated Available Treatment Technology (BDAT) for each listed hazardous waste. BDAT is that treatment technology that EPA finds to be the most effective for a waste, which is also readily available to generators and treaters. In some cases, EPA has designated, for a particular wastestream, a treatment technology which has been shown to successfully treat a similar, but more difficult to treat, wastestream. This ensured that the land disposal restrictions standards for a listed wastestream were achievable since they always reflected the actual treatability of the waste itself or of a more refractory waste.

As part of the Land Disposal Restrictions (LDR), Universal Treatment Standards (UTS) were promulgated as part of the RCRA phase two final rule (July 27,1994). The UTS are a series of concentrations for wastewaters and non-wastewaters that provide a single treatment standard for each constituent. Previously, the LDR regulated constituents according to the identity of the original waste; thus, several numerical treatment standards might exist for each constituent. The UTS simplified the standards by having only one treatment standard for each constituent in any waste residue.

The LDR treatment standards established under RCRA may differ from the Clean Water Act effluent guidelines published here today both in their format and in the numerical values set for each constituent. The differences result from the use of different legal criteria for developing the limits and resulting differences in the technical and economic criteria and data sets used for establishing the respective limits.

The difference in format between the LDR and effluent guidelines is that LDR establishes a single daily limit for each pollutant parameter whereas the effluent guidelines generally establish monthly and daily limits. Additionally, the effluent guidelines provide for several types of discharge, including new vs. existing sources, and indirect vs. direct discharge.

The differences in numerical limits established under the Clean Water Act may differ, not only from LDR and UTS, but also from point-source category to point-source category (for example, Electroplating, 40 CFR Part 413; and Metal Finishing, 40 CFR Part 433). The effluent guidelines and standards are industry-specific, subcategory-specific, and technology-based. The numerical limits are typically based on different data sets that reflect the performance of specific wastewater management and treatment practices. Differences in the limits reflect consideration of the CWA statutory factors that the Administrator is required to evaluate in developing technically and economically achievable limitations and standards. A consequence of these differing approaches is that similar wastestreams can be regulated at different levels.

2. Overlap Between LDR Standards and the Centralized Waste Treatment Industry Effluent Guidelines

EPA's survey for this guideline identified no facilities discharging wastewater effluent to land disposal units. There is, consequently, no overlap between this regulation for the CWT Industry and the Universal Treatment Standards. Any CWT facility, however, discharging effluent to a land disposal unit that meets these limitations and standards would meet the Universal Treatment Standards.

III. Centralized Waste Treatment Industry Effluent Guideline Rulemaking History

A. January 27, 1995 Proposal

On January 27, 1995, EPA proposed regulations (60 FR 5464) to reduce discharges to navigable waters of toxic, conventional, and non-conventional pollutants in wastewater from facilities defined in the proposal as ''centralized waste treatment facilities.'' As proposed, these effluent limitations guidelines and standards would have applied to ''any facility that treats any hazardous or non-hazardous industrial waste received from off-site by tanker truck, trailer/roll-off bins, drums, barge or other forms of shipment.'' The proposal did not extend to facilities that received waste from off-site solely via pipeline. Facilities proposed for regulation included both stand-alone waste treatment and recovery facilities that treat waste received from off-site, as well as those facilities that treat on-site generated process wastewater with wastes received from off-site.

The Agency proposed limitations and standards for an estimated 85 facilities in three subcategories. EPA proposed limitations and standards for three subcategories for the centralized waste treatment (CWT) industry: metal-bearing waste treatment and recovery, oily waste treatment and recovery, and organic waste treatment and recovery. EPA based the BPT effluent limitations proposed in 1995 on the technologies listed in Table III.A–1 below. EPA based BCT, BAT, NSPS, PSES, and PSNS on the same technologies as BPT.

TABLE III.A–1.—TECHNOLOGY BASIS FOR 1995 PROPOSAL

Proposed subpart	Name of subcategory	Technology basis
A	Metal-Bearing Waste Treatment and Recovery	Selective Metals Precipitation, Pressure Filtration, Secondary Precipitation, Solid-Liquid Separation, and Tertiary Precipitation. For Metal-Bearing Waste Which Includes Concentrated Cyanide Streams: Pretreatment by Alkaline Chlorination at Elevated Operating Conditions.
B	Oily Waste Treatment and Recovery	Emulsion Breaking/Gravity Separation and Ultrafiltration; or Emulsion Breaking/Gravity Separation, Ultrafiltration, Carbon Adsorption, and Reverse Osmosis.
C	Organic Waste Treatment and Recovery	Equalization, Air Stripping, Biological Treatment, and Multimedia Filtration.

B. September 16, 1996 Notice of Data Availability

Based on comments received on the 1995 proposal and new information, EPA reexamined its conclusions about the Oily Waste Treatment and Recovery subcategory, or ''oils subcategory.'' (The 1995 proposal had defined facilities in this subcategory as ''facilities that treat, and/or recover oil from oily waste received from off-site.'') Subsequently, in September 1996 EPA announced the availability of the new data on this subcategory (61 FR 48800). EPA explained that it had underestimated the size of the oils subcategory, and that the data used to develop the original proposal may have mischaracterized this portion of the CWT industry. EPA had based its original estimates on the size of this segment of the industry on information obtained from the 1991 Waste Treatment Industry Questionnaire. The basis year for the questionnaire was 1989. However, many of the new oils facilities discussed in this notice began operation after 1989. EPA concluded that many of these facilities may have started up or modified their existing operations in response to requirements in EPA regulations, specifically, the provisions of 40 CFR 279, promulgated on September 10, 1992 (Standards for the Management of Used Oil). These regulations govern the handling of used oils under the Solid Waste Disposal Act and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). EPA's 1996 notice discussed the additional facilities, provided a revised description of the subcategory, and described how the 1995 proposal limitations and standards, if promulgated, would have affected such facilities. The notice, among other items, also solicited comments on the use of dissolved air flotation as a treatment technology for this subcategory.

C. January 13, 1999 Supplemental Proposal

On January 13, 1999 (64 FR 2280), EPA published a supplemental proposal that represented the Agency's second look at Clean Water Act national effluent guidelines and standards for wastewater discharges from centralized waste treatment facilities. The supplemental proposal presented revised limitations and standards based on the new information obtained from comments to the 1996 Notice of Data Availability and additional field sampling data. It also included changes to the scope of the rule.

In the supplemental proposal, the Agency proposed limitations and standards that EPA estimated would apply to 206 facilities in three subcategories. These subcategories were the same as those proposed in 1995: metal-bearing waste treatment and recovery, used/waste oil treatment and recovery, and organic waste treatment. EPA based the BPT effluent limitations proposed in 1999 on different technologies than those selected at the time of the 1995 proposal. The technology bases for the supplemental proposal are listed in Table III.C–1 below.

TABLE III.C–1.—TECHNOLOGY BASIS FOR 1999 PROPOSAL

Proposed subpart	Name of subcategory	Technology basis
A	Metal-Bearing Waste Treatment and Recovery	Batch Precipitation, Liquid-Solid Separation, Secondary Precipitation, Clarification, and Sand Filtration. For Metal-Bearing Waste Which Includes Concentrated Cyanide Streams: Alkaline Chlorination in a two step process.
B	Used/Waste Oil Treatment and Recovery	Emulsion Breaking/Gravity Separation, Secondary Gravity Separation and Dissolved Air Flotation.
C	Organic Waste Treatment	Equalization and Biological Treatment.

For the metals subcategory, EPA proposed limitations and standards for BCT, BAT, and PSES based on the same technologies as BPT, but based NSPS and PSNS on a different technology: selective metals precipitation, liquid-solid separation, secondary precipitation, liquid-solid separation, tertiary precipitation, and clarification.

For the oils subcategory, EPA proposed to base BCT, BAT, NSPS, and PSNS on the same technologies as BPT, but based PSES on a different technology: emulsion breaking/gravity separation and dissolved air flotation.

For the organics subcategory, EPA proposed to base BCT, BAT, NSPS, PSES, and PSNS on the same technologies as BPT.

IV. Re-Consideration of Significant Proposal Issues and Summary of Significant Changes Since Proposal

A. Oils Subcategory—Consideration of Regulatory Options on the Basis of the RCRA Classification of the Waste Receipts

As explained in the 1999 proposal, among other alternatives, EPA was considering whether it should develop limitations and standards for two categories (rather than a single category) of oils treatment facilities. The Small Business Advocacy Review (SBAR) Panel for this rule, convened by EPA in November 1997, discussed this option. For a detailed summary of the panel's findings and discussion, see the 1999 proposal and ''Final Report of the SBREFA Small Business Advocacy Review Panel on EPA's Planned Proposed Rule for Effluent Limitations Guidelines and Standards for the Centralized Waste Treatment Industry'' (DCN 21.5.1). Under this approach EPA would establish different limitations and standards for oils subcategory facilities depending on whether they treat RCRA subtitle C hazardous wastes (either exclusively or in combination with non-hazardous wastes) or treat only non-hazardous wastes.

At the time of the SBAR Panel, EPA had collected certain information on facilities that treat a mixture of hazardous and non-hazardous wastes as well as facilities that treat non-hazardous wastes only. The bulk of the data was from RCRA facilities treating RCRA subtitle C hazardous waste together with non-hazardous waste. The data on wastestreams did not show a significant difference in the types of pollutants for the streams being treated at RCRA and at non-RCRA permitted facilities or the treatability of those pollutants. Although the data did suggest that pollutant concentrations tended to be somewhat higher in raw waste going to RCRA permitted facilities, which in turn suggested that treatment would be more cost-effective at such facilities, the information EPA had collected from non-RCRA permitted facilities was insufficient to support the conclusion that EPA should differentiate between oils facilities on the basis of RCRA classification of the wastes treated at the facility. Consequently, EPA did not propose different regulatory requirements for facilities based on distinctions between hazardous and non-hazardous wastes.

EPA, following the SBAR panel, collected wastewater samples at twelve other facilities that treat only non-hazardous materials. EPA collected the samples in order to broaden the database with additional information on the pollutant profiles of the wastes that are treated at these facilities. While EPA included the analytical results of the sampling efforts in the Appendix of the technical development document for the proposal, EPA had not, at the time of the proposal, reviewed the data in detail or compared the data to the earlier data it had collected. As the proposal also explained, EPA planned to review the data in detail and present a preliminary assessment of its findings at a public hearing during the comment period for the proposal.

At a public hearing on February 18, 1999, EPA described the relevant sampling data, the constraints of evaluating this data, and a comparison of data from hazardous and non-hazardous wastestreams. This data showed that, while the mean and median values of influent concentration of hazardous wastestream data are greater than for non-hazardous wastestreams for most pollutants examined, the ranges of concentration for the hazardous and non-hazardous wastestreams overlap for most pollutants. In its presentation, EPA indicated that it planned to re-examine the oils subcategory in terms of pollutant loadings, removals, limitations and standards, costs, impacts, and benefits. EPA requested comment on this issue, and extended the comment period for this issue to 30 days after the public hearing. EPA's presentation is included in the public record for this rulemaking as DCN 28.1.1. [Other supporting information is in Section 28.]

Five commenters provided specific input on basing regulatory options for the oils subcategory on the RCRA classification of the waste receipts. Two commenters supported differentiation on this basis. They asserted that there are significant differences between facilities that accept non-hazardous wastes and those that accept a combination of hazardous and non-hazardous waste in terms of pollutant loadings and the number and type of pollutants, the types of treatment methods employed, and price structures. Three commenters opposed differentiation based on RCRA classification. These commenters do not believe that RCRA classification is a critical distinction, but rather believe that RCRA classification often has no impact on the treatability of the waste or final effluent quality. They commented that non-hazardous waste receipts have approximately the same constituents as hazardous waste receipts. From an environmental perspective, they believe that it is irrelevant whether the source of the pollutants of concern is a hazardous or non-hazardous facility.

EPA has reexamined this data using the same standards it applied earlier in this rulemaking for determining pollutants of concern for this industry (see Chapter 6 of the Final Technical

Development Document). Based on this review, EPA determined that the pollutants of concern for non-hazardous facilities are largely the same as those previously identified for the oils subcategory (EPA had based its earlier conclusion on data from facilities processing a mix of hazardous and non-hazardous waste receipts).

EPA also looked to see if the treatment technologies at strictly non-hazardous facilities differ from those at facilities that accept both hazardous and non-hazardous wastes. EPA's database shows that the range of treatment technologies employed at both types of facilities is similar.

Essentially, the only operational difference EPA has observed between hazardous and non-hazardous oils treatment facilities is that hazardous oils waste facilities treat wastes with higher influent concentrations. EPA's data show that the average pollutant concentrations in non-hazardous wastes are lower than in hazardous wastes. Consequently, pollutant loadings, removals and treatment cost estimates will differ to some extent depending on the RCRA classification of the wastes that are treated. As explained above, however, both types of facilities treat for the same pollutants and the concentration ranges of these pollutants overlap at hazardous and non-hazardous operations. In these circumstances, the characteristics of wastes treated at hazardous operations do not require a different treatment technology from that used at non-hazardous operations. The choice of treatment technology for a particular facility is a function primarily of the effluent concentration required, not of any inherent differences in the wastes being treated. As a result, EPA concluded that there is no basis in the chemistry of the wastewaters being treated which supported development of different limitations and standards for hazardous and non-hazardous oils facilities. Furthermore, after evaluating treatment technology costs, EPA found that the costs for RCRA permitted facilities were equivalent to those for non-RCRA facilities, although, as noted above, loadings reductions at the non-RCRA permitted facilities will generally be lower. Given these factors, EPA decided that it should not develop different limitations and standards for RCRA hazardous and non-hazardous oils facilities. DCN 33.1.1 discusses the determination in more detail. EPA notes, however, that its estimates of loadings, removals, and revenue generated from treating the different types of wastes take account of differences in the type of wastes treated.

B. Consideration of Regulatory Options on the Basis of Revenue

As detailed in the 1999 proposal, among other alternatives, EPA looked at whether it should develop alternative regulatory requirements for the oils subcategory facilities based on revenue because of potential adverse economic consequences to small businesses. The SBAR Panel, convened by EPA, discussed this option. Among the regulatory alternatives discussed by the panel and detailed in the 1999 proposal was limiting the scope of the rule to minimize impacts. Under this approach, EPA would not establish national pretreatment standards for indirect dischargers owned by small companies with less than $6 million in annual revenue. EPA did not propose to limit the scope of the rule based on this approach but did request comment on the issue.

Concerning the recommendation that EPA establish alternative limitations and standards on the basis of revenue, commenters largely supported EPA's conclusion that this approach should not be adopted. Commenters stated that small businesses should be subject to the same standards and requirements as other industrial users in this category because:

- The limitations and standards are economically achievable for small CWT facilities;
- The perception that small CWT facilities do not have the potential to cause significant impacts to the environment is not true;
- The quantity of pollutants present and the toxicity of the pollutants are the only relevant factors for determining impacts to receiving streams and POTWs from CWT discharges;
- The business size is irrelevant to the impact of a facility's discharges;
- A small facility can have as great an impact on the environment as a large facility;
- There would be no incentive to ensure wastes are adequately treated at all CWT facilities;
- Small facilities could operate at a fraction of the cost (since they would not have to meet the limitations and standards) and capture more market share leading to more wastes going to the POTW untreated; and
- Large facilities could easily manipulate their corporate structure to take advantage of small business exemptions.

None of the commenters supported a small business exclusion, but a few noted that EPA should look at reducing monitoring requirements for small businesses in order to reduce their costs of compliance without compromising effective treatment. None of the commenters provided EPA with any other suggestions on ways to mitigate small business concerns that EPA had not already considered. After careful consideration of the comments and its database, EPA has decided that it should not limit the scope of today's rule based on revenue . EPA did reassess the costs for all of the alternatives discussed in the proposal for the final rule. Chapter 8 of the Final EA includes a full presentation of the costs of the alternatives.

C. Consideration of Regulatory Options on the Basis of Flow

As detailed in the 1999 proposal, among other alternatives, EPA looked at whether it should develop alternative regulatory requirements for the oils subcategory facilities based on wastewater flow level because of potential adverse economic consequences to small businesses. The SBAR Panel, convened by EPA, discussed this option. Among the regulatory alternatives discussed by the panel and detailed in the 1999 proposal was limiting the scope of the rule to minimize impacts. Under this approach, EPA would not establish national pretreatment standards for indirect oils dischargers with flows under 3.5 million gallons per year, or alternately for non-hazardous oils facilities with flows under either 3.5 or 7.5 MGY. The SBAR Panel noted, in particular, that excluding indirect dischargers with flows of less than 3.5 MGY would significantly reduce the economic impact of the rule on small businesses while reducing pollutant removals by an estimated 6%. (See Section X.M of this preamble for a more detailed discussion of regulatory flexibility options and their projected impacts.) EPA did not propose to limit the scope of the rule based on these approaches but did request comment on the issue.

Concerning the recommendation that EPA establish alternative limitations and standards on the basis of flow, commenters largely supported EPA's conclusion that this approach should not be adopted. Commenters stated that low flow facilities should be subject to the same standards and requirements as other industrial users in this category because:

- The perception that small CWT facilities do not have the potential to cause significant impacts to the environment is not true;
- The amount of pollutants in wastewater for a CWT facility is not a function solely of the volume of wastes that the facility receives;

• The quantity of pollutants present and the toxicity of the pollutants are the only relevant factors for determining impacts to receiving streams and POTWs from CWT discharges;
• A small facility can have as great an impact on the environment as a large facility;
• There would be no incentive to ensure wastes are adequately treated at all CWT facilities; and
• Small facilities could operate at a fraction of the cost (since they would not have to meet the limitations and standards) and capture more market share leading to more wastes going to the POTW untreated.

None of the commenters supported an exclusion based on flow, but a few noted that EPA should look at reducing monitoring requirements for small businesses in order to reduce their costs of compliance without compromising effective treatment. None of the commenters provided EPA with any other suggestions on ways to mitigate small business concerns that EPA had not already considered. After careful consideration of the comments and its database, EPA has decided that it should not limit the scope of today's rule based on flow. EPA did reassess the costs for all of the alternatives discussed in the proposal for the final rule. Chapter 8 of the Final EA includes a full presentation of the costs of the alternatives.

D. Consideration of Indicator Parameters for the Oils Subcategory

As detailed in the proposal, EPA looked at various ways to reduce the costs of this rule (particularly the costs to small businesses) while ensuring proper treatment of off-site wastes. One of the options considered by EPA and discussed in the proposal was providing an alternative compliance-monitoring regime for indirect discharging facilities. Under this alternative monitoring approach, facilities could choose to (1) monitor for all regulated pollutants, or (2) monitor for the conventional parameters, metal parameters, and monitor for the regulated organic pollutants in this subcategory using an indicator parameter such as hexane extractable material (HEM) or silica gel treated-hexane extractable material (SGT–HEM). The proposal further noted that EPA was conducting a study to determine which organic pollutants are measured by SGT–HEM and HEM and solicited comment on the use of indicator parameters.

Many commenters responded to EPA's request with essentially an equivalent number opposing and favoring the use of indicator parameters. The commenters that supported its use cited the decreased analytical costs and the wide range of organic compounds that can be measured with these analyses. Commenters that did not support the use of SGT–HEM or HEM as indicator pollutants raised a number of concerns including the following:
• These measurements are non-specific and highly subject to interferences;
• No direct and quantified correlation has ever been developed between HEM (or SGT–HEM) and specific organic pollutants;
• There is no evidence that regulating HEM or SGT–HEM would result in adequate regulation of toxics;
• The determination has not been made that the organic pollutants of interest are measured by either HEM or SGT–HEM; and
• SGT–HEM does not measure all of the regulated pollutants, particularly polyaromatic hydrocarbons (PAHs).

None of the commenters suggested possible alternative indicator parameters.

During its development of proposed effluent limitations guidelines and pretreatment standards for the industrial laundries point source category, EPA evaluated the suitability of SGT–HEM and HEM as indicator parameters for that rulemaking. EPA presented the results of its study in a Notice of Data Availability on December 23, 1998 (63 FR 71054). In the study, EPA attempted to identify compounds present in HEM/SGT–HEM extracts from industrial laundry wastewaters using gas chromatography/mass spectroscopy (GC/MS) in order to determine which pollutants of concern might be components of, and therefore measured by, HEM or SGT–HEM. However, EPA was only able to identify approximately two percent of the constituents present in the wastestream. Most of these constituents identified were alkanes. In general, the data from this study also do not support the use of SGT–HEM as an appropriate indicator parameter for the organic pollutants present in CWT wastewaters since few of these pollutants were identified in the HEM/SGT–HEM extract.

As part of its consideration of the use of an indicator parameter for this rule, EPA again reviewed the data from the industrial laundries study as well as the data collected here. EPA statistically analyzed the relationship between seven organic pollutants and SGT–HEM or HEM. EPA's data show general trends of increasing concentrations of HEM and SGT–HEM with increasing concentrations of organic pollutants. However, the data demonstrate substantial variability and, despite this general trend, EPA noted that the non-detected values for organics were associated with just about every level of HEM and SGT–HEM and conversely, that high levels of some organic pollutants were associated with low levels of HEM/SGT–HEM. As a result, EPA cannot demonstrate that establishing a numerical limit for SGT–HEM or HEM would provide consistent control of the organic pollutants by the model treatment technologies.

Therefore, while EPA is cognizant of the cost savings that can be achieved in some instances by using indicator parameters, EPA has rejected this alternative monitoring approach for CWT wastewaters.

E. Consideration of Reduced Monitoring for Small Businesses

Another alternative discussed in the proposal which could reduce costs to small businesses was to develop different limitations and pretreatment standards for small businesses based on an assumption of less frequent monitoring for facilities owned and operated by small businesses. The proposal explained that there were three major issues presented by this approach. First, EPA NDPES and pretreatment regulations (applicable to State-authorized program as well) do not require facilities to indicate whether they are small or large businesses in obtaining NPDES or POTW local pretreatment program discharge permits. EPA was concerned about the manner in which the small business determination could be made. Second, EPA does not generally establish nationally applicable monitoring frequency requirements. EPA expressed concern that permitting authorities would be reluctant to reduce monitoring frequencies on EPA's recommendation alone. Third, while the technology basis and the long-term averages for the limitations would be the same, the monthly average limitations based upon reduced monitoring assumptions would be higher. EPA expressed concern that higher monthly average limitations for facilities with less frequent required monitoring might allow these facilities to target a less stringent level of treatment than that reflected by the long-term average. EPA solicited comment on all these issues as well as ways to ensure that any monitoring relief the Agency might provide would not jeopardize treatment performance or the environment.

EPA only received direct comments on this issue from state and local control authorities. These commenters did not support reduced monitoring frequencies

for small businesses. They believe that the control authority should continue to establish monitoring frequencies on a case by case basis taking into account the probable impact of the discharge to the surface water or POTW, compliance history of the facility, and other relevant factors. Further they expressed concern over the burden of verifying and maintaining the confidentiality of the economic information provided by facilities claiming the small business status.

Therefore, after careful consideration of comments and its database, EPA has rejected adopting alternative limitations and standards based on reduced monitoring requirements for small businesses.

F. Multiple Wastestream Subcategory Consideration

In the 1999 proposal, EPA proposed to establish limitations and standards for three subcategories of CWT facilities: facilities treating either metal, oily, or organic wastes and wastewater. Section VII of the proposal detailed this subcategorization scheme. See 64 FR 2300 (1999). While EPA did not propose limitations and standards for a multiple wastestream subcategory, the proposal did discuss EPA's consideration of a multiple wastestream subcategory. The proposal explained that multiple wastestream subcategory limitations, if adopted, would apply to facilities that treat wastes in more than one subcategory. EPA would establish limitations and standards for the multiple wastestream subcategory by combining pollutant limitations from the three subcategories, where relevant, and selecting the most stringent value where they overlap.

EPA's consideration of this option responded to comments to the 1995 proposal and the 1996 Notice of Data Availability. The primary reason some members of the waste treatment industry favored development of a multiple wastestream subcategory was to simplify implementation for facilities treating wastes covered by multiple subcategories. As detailed in the proposal, EPA's primary reason for not proposing (and adopting) this option was its concern that facilities that accept wastes in multiple subcategories need to provide effective treatment of all waste receipts. This concern was based on EPA's data that showed such facilities did not currently have adequate treatment-in-place. While these facilities meet their permit limitations, EPA concluded that compliance was likely achieved through co-dilution of dissimilar wastes rather than treatment. As a result, EPA determined that adoption of ''multiple wastestream subcategory'' limitations as described above could arguably encourage ineffective treatment.

EPA solicited comments on ways to develop a ''multiple wastestream subcategory'' which ensures treatment rather than dilution. The vast majority of comments on the 1999 proposal supported the establishment of a multiple wastestream subcategory for this rule, and re-iterated their concerns about implementing the three-subcategory scheme at multiple-subcategory facilities. One commenter suggested a way to implement a fourth subcategory while ensuring treatment. This commenter suggested that EPA follow the approach taken for the Pesticide Formulating, Packaging and Repackaging (PFPR) Point Source category (40 CFR Part 455). Under this approach, multiple wastestream subcategory facilities would have the option of (1) monitoring for compliance with the appropriate subcategory limitations after each treatment step or (2) monitoring for compliance with the multiple wastestream subcategory limitations at a combined discharge point and certifying that equivalent treatment to that which would be required for each subcategory waste separately is installed and properly designed, maintained, and operated. This option would eliminate the use of the combined wastestream formula or building block approach in calculating limits or standards for multiple wastestream subcategory CWT facilities (The combined wastestream formula and the building block approach are discussed in more detail in Chapter 14 of the Final Technical Development Document). Commenters suggested that an equivalent treatment system could be defined as a wastewater treatment system that is demonstrated to achieve comparable removals to the treatment system on which EPA based the limitations and standards. Ways of demonstrating equivalence might include data from recognized sources of information on pollution control, treatability tests, or self-monitoring data showing comparable removals to the applicable pollution control technology.

EPA has now concluded that the approaches adopted in the PFPR rule address the concerns identified earlier. EPA agrees with commenters that developing appropriate limitations on a site-specific basis for multiple wastestream facilities presents many challenges and that the use of a multiple wastestream subcategory would simplify implementation of the rule. Moreover, the limits applied to multiple wastestream treaters would be a compilation of the most stringent limits from each applicable subcategory and would generally be similar to or stricter than the limits calculated via the application of the combined wastestream formula or building block approach. Most significantly, the equivalent treatment certification requirement would address EPA's concerns that the wastes receive adequate treatment.

Therefore, for today's final rule, EPA has established a fourth subcategory: the multiple wastestream subcategory. Section XIII.A.5.b details the manner in which EPA envisions the multiple wastestream subcategory will be implemented. Further, EPA is preparing a guidance manual to aid permit writers/control authorities and CWT facilities in implementing the certification process.

G. Analytical Methods

Section 304(h) of the Clean Water Act directs EPA to promulgate guidelines establishing test procedures for the analysis of pollutants. These test procedures (methods) are used to determine the presence and concentration of pollutants in wastewater, and are used for compliance monitoring and for filing applications for the NPDES program under 40 CFR 122.21, 122.41, 122.44 and 123.25, and for the implementation of the pretreatment standards under 40 CFR 403.10 and 403.12. EPA publishes test procedures for the wastewater program at 40 CFR 136.3. Currently approved methods for metals and cyanide are included in the table of approved inorganic test procedures at 40 CFR 136.3, Table I–B. Table I–C at 40 CFR 136.3 lists approved methods for measurement of non-pesticide organic pollutants, and Table I–D lists approved methods for the toxic pesticide pollutants and for other pesticide pollutants. Dischargers must use the test methods promulgated at 40 CFR Part 136.3 or incorporated by reference in the tables to monitor pollutant discharges from the centralized waste treatment (CWT) industry, unless specified otherwise in part 437 or by the permitting authority.

Today's final rule amends 40 CFR Part 136, Appendix A, to specify the applicability of certain methods for specific wastestreams. The amendments accomplish several objectives, which are outlined in the following paragraphs. Briefly, the amendments clarify EPA's intent regarding the applicability of Methods 625 and 1625 for some of the pollutant parameters in today's rule for Centralized Waste Treatment facilities and also for some of

the pollutant parameters in 40 CFR 445 (Landfills Point Source Category).

The 1999 CWT proposal (at 64 FR 2297) stated that 11 CWT semivolatile organic pollutants and two CWT volatile organic pollutants (2-butanone and 2-propanone) were not listed in Table I–C at 40 CFR 136.3. Even though these 13 analytes were not shown in Table I–C, there were already approved test methods for six of these 13, as follows: EPA Method 1624 lists 2-butanone and 2-propanone, provides performance data for these two analytes, and is an approved method for these two analytes. EPA Method 1625 lists four of the 11 CWT semivolatile organic pollutants with relevant performance data and is an approved method for these four analytes (alpha-terpineol, carbazole, n-decane, and n-octadecane).

In the 1999 CWT proposal, EPA proposed to expand the analyte list for the already-approved methods and also to allow modified versions of Methods 625 and 1625. The Docket for the proposed rulemaking included the proposed modifications to Methods 625 and 1625 regarding expansion of the analyte list. The expanded list covered 17 pollutants in total, including all of the proposed CWT semivolatile organic pollutants. For 7 of those analytes, performance data were not available for either method and these data were not included in the Docket at proposal. EPA also noted its plans for further validation of the method modifications.

Since proposal, EPA has gathered performance data on the additional seven CWT analytes and additional analytes of interest for other industry categories. In January 2000, EPA amended Methods 625 and 1625 by adding the performance data for the additional analytes. The amendments consist of text, performance data, and quality control (QC) acceptance criteria for the additional analytes. This information will allow a laboratory to practice the methods with the additional analytes as an integral part. The QC acceptance criteria for the additional analytes were validated in single-laboratory studies. The January 2000 amendments were part of the rulemaking notice for the effluent limitations guidelines and standards for the Landfills Point Source Category (65 FR 3008, January 19, 2000). EPA's intent was to promulgate amendments to Methods 625 and 1625 that would allow the use of those methods for specific pollutants regulated in 40 CFR Part 445 (i.e., Landfills) for purposes of that rule only. Some of the pollutants had also been included in the CWT proposal. Subsequent to the Landfills promulgation, EPA received inquiries about the scope and applicability of the amendments to the test methods. In response to those inquiries, EPA published a notice of data availability (NODA) and request for comment on the data collected for the additional analytes (see 65 FR 41391, July 5, 2000).

The NODA clarified EPA's intent regarding the method amendments by explaining that the amendments published on January 19, 2000 ''* * * are applicable only to the five regulated pollutants in the Landfills rule when found in the wastestreams regulated under that rule.'' (65 FR 41392) The NODA also announced EPA's plans to further amend the methods in the final CWT rulemaking (*i.e.,* today's rulemaking) to specify that the revisions to Methods 625 and 1625 apply to the pollutants promulgated in today's rule and only for the wastestreams regulated in today's rule. In today's amendments to 40 CFR Part 136, Appendix A, EPA thus clarifies its intent regarding the scope of method amendments. Specifically, the amendments include additional text to the Introduction section of the attachment at the end of Methods 625 and 1625 and footnotes to Tables in the attachment. The amendments delineate the scope of Methods 625 and 1625 regarding compliance with monitoring requirements for the wastestreams covered by 40 CFR Parts 437 and 445. In addition, EPA deleted from the attachment to the methods those analytes not covered by the Landfills and CWT final rules.

H. Statistical Methodology Changes

Chapter 10 of the Final Technical Development Document provides a detailed description of the data and methodology used to develop long-term averages, variability factors and limitations and standards for today's final rule. Today's final rule encompasses the following changes in the statistical methodology since the 1999 proposal.

1. Metals Option 4 Long-Term Average and Limitations Calculations

EPA used two different data sets collected at a single facility in developing long-term averages and limitations for Option 4 in the Metals Subcategory. At the time of the proposal, EPA analyzed these data sets separately. That is, even though these data were collected from the same facility, EPA averaged each data set separately and then used the medians of the two sets of averages, just as if the data were from two different facilities. In other effluent guidelines, EPA has often taken this approach when the data were collected by two different data sources. Following comment on this issue, EPA reviewed the data and determined that the data were collected in overlapping time periods. As such, for the final rule, EPA has combined this data together into a single data set and calculated averages accordingly. This has the effect of giving more weight than in the original analysis to the data set with more observations and the result, in most instances, is that the final metals subcategory limitations are less stringent than those proposed in January 1999.

2. Variability Factors

The proposal discussed two different approaches to calculating variability factors—one based on pollutant variability factors and one based on group variability factors. The pollutant variability factor is the average of the variability factors from facilities with the model technologies for the option, and the group variability factor is the median of the pollutant variability factors from pollutants with similar chemical structures. At the time of the proposal, EPA generally used the product of the group variability factor and the pollutant long-term average in calculating each pollutant limitation and solicited comment on this approach. After receiving comments that supported using the pollutant variability factors, EPA assessed the range of values for the pollutant variability factors within each group. Contrary to EPA's expectations for chemically similar pollutants to be treated similarly by each treatment technology, EPA noted a wide range of values for the pollutant variability factors within each group. EPA determined that it is more likely that such ranges resulted from unique features in the data rather than differences in treatment between chemically similar pollutants. But, because of the range in values, EPA concluded that pollutant limitations would be best calculated using the pollutant variability factors. Because it determined that pollutant variability factors were the most appropriate choice for calculating limitations, EPA relaxed its dataset requirements slightly to allow calculation of a few additional pollutant variability factors beyond those in the proposal. For the few pollutants where pollutant variability factors still could not be calculated because the datasets contained too few detected values (which are used to establish variance estimates for the variability factors), EPA concluded that its use of group variability factors provides reasonable estimates of pollutant specific

variability factors. After a final review and evaluation of the data and resulting limitations, EPA determined that the final limitations appropriately incorporate the variability of the pollutant concentrations discharged by the CWT industry.

I. Significant Changes in Treatment Technology Cost Estimates

Chapter 11 of the Final Technical Development Document provides a detailed description of the data and methodology used to develop compliance cost estimates for the final CWT regulation. This section provides a summary of major changes in the costing methodology since the 1999 proposal.

1. RCRA Permit Modification Costs Removed

In estimating compliance costs for the proposed regulation, EPA included RCRA permit modification capital costs as one component of the total capital costs. This was an error. The wastewater treatment unit exemption at 40 CFR 264.1(g)(6), 40 CFR 265.1(c)(10), and 40 CFR 270.1(c)(2)(v) exempts, from RCRA permit modification requirements, wastewater treatment units at facilities that are subject to NPDES or pretreatment requirements under the Clean Water Act. Thus, CWT facilities would not need to modify their RCRA permits as a result of this rule and would not incur these RCRA permit modification costs. The final rule does not include these RCRA permit modification costs.

2. Altered DAF Costs for Oils Subcategory Includes Increased Holding Tank Capacity

At the time of the proposal, for facilities with flow rates less than 20 gallons per minute (gpm), EPA included cost estimates for a holding tank. EPA included the holding tank because it assumed that facilities with flow rates less than 20 gpm would not operate their DAF systems every day.

Regardless of the flow rate, EPA's design assumption for the holding tank was one day of storage. EPA received comment that many oils subcategory facilities may require more than 24 hours of storage and thus, EPA did not allow adequate holding capacity for all facilities. In response to this comment, EPA has altered the DAF capital costs to include holding tanks capable of retaining enough flow volume to operate the minimum size DAF system for one 24-hour period, in addition to the holding tank capacity costed at proposal.

3. Nutrient Addition, Heating, and Sludge Disposal Costs Included in the Organic Subcategory Compliance Cost Estimates

At the time of the proposal, EPA estimated operational costs for the technology option selected as the basis for the organics subcategory limitations on the actual practices used at the facility sampled during EPA's sampling episode. This did not include chemical addition or heating of wastes. In response to public comment concerning the need, on occasion, for chemical addition (nutrient addition, pH control, etc.) and heating of the waste during cold temperature months, EPA modified its capital and O&M cost estimates for sequencing batch reactor (SBR) treatment to include costs for nutrient addition and adjustments for cold operating conditions. These adjustments are detailed in Section 3.1 of the ''Final Costing Document.''

Additionally, at the time of the proposal, EPA included capital costs and O&M costs for sludge processing equipment associated with the organics subcategory, but failed to include costs for sludge disposal. EPA has corrected this oversight, and added a separate cost estimate for SBR system sludge disposal.

J. Significant Changes in Oils Subcategory Loadings Estimates

At the time of the 1999 proposal, EPA did not distinguish between facilities with RCRA permits and facilities without RCRA permits when it estimated current pollutant loadings for the oils subcategory. Rather, EPA had seven sets of data representing effluent from emulsion breaking/gravity separation that were collected at various types of oils subcategory facilities. For each pollutant of concern, and for each data set, EPA calculated the mean concentration of the data collected over the sampling episode. Then, for the remaining facilities in the oils subcategory (*i.e.,* those facilities for which EPA did not have facility-specific information), EPA randomly assigned one of the seven data sets. For facilities that had additional treatment-in-place, EPA then reduced these current loadings estimates as detailed in Chapter 12 of the Final Technical Development Document.

For the final CWT rule, EPA has altered this approach. In estimating loadings and removals for the oils subcategory, EPA used data specific to either RCRA or non-RCRA permitted facilities. EPA no longer estimates current performance by randomly assigning a data set as described above. Rather, for each pollutant of concern, EPA has calculated a single concentration value for RCRA permitted facilities and a single concentration value for non-RCRA permitted facilities; both values represent effluent from emulsion breaking/gravity separation. (This is assumed to be the minimum treatment in-place at all oils facilities; only removals beyond this and any other in-place treatment are projected to result from this rule.) The specific methodology used to calculate these values and EPA's final methodology used to estimate pollutant loadings and removals for the entire CWT industry are detailed in Chapter 12 of the Final Technical Development Document.

K. Changes in POTW Percent Removal Estimates

EPA establishes pretreatment standards for those BAT pollutants that pass through POTWs. Therefore, for indirect dischargers, before establishing pretreatment standards, EPA examines whether the pollutants discharged by the industry ''pass through'' POTWs to waters of the U.S. or interfere with POTW operations or sludge disposal practices. Generally, to determine if pollutants pass through POTWs, EPA compares the percentage of the pollutant removed by well-operated POTWs achieving secondary treatment with the percentage of the pollutant removed by facilities meeting BAT effluent limitations.

The primary source of the POTW percent removal data is the ''Fate of Priority Pollutants in Publicly Owned Treatment Works'' (EPA 440/1–82/303, September 1982), commonly referred to as the ''50–POTW Study.'' The 50–POTW Study presents data on the performance of 50 well-operated POTWs that employ secondary biological treatment in removing pollutants.

At the time of the 50–POTW sampling program, which spanned approximately 2½ years (July 1978 to November 1980), EPA collected samples at selected POTWs across the U.S. The samples were subsequently analyzed by either EPA or EPA-contract laboratories using test procedures (analytical methods) specified by the Agency or in use at the laboratories. Laboratories typically reported the analytical method used along with the test results. However, for those cases in which the laboratory specified no analytical method, EPA was able to identify the method based on the nature of the results and knowledge of the methods available at the time.

Each laboratory reported results for the pollutants for which it tested. If the

laboratory found a pollutant to be present, the laboratory reported a result. If the laboratory found the pollutant not to be present, the laboratory reported either that the pollutant was ''not detected'' or a value with a ''less than'' sign (<) indicating that the pollutant was below that value. The value reported along with the ''less than'' sign was the lowest level to which the laboratory believed it could reliably measure. EPA subsequently established these lowest levels as the ''minimum levels'' of quantitation (MLs). In some instances, different laboratories reported different MLs for the same pollutant using the same analytical method.

Because of the variety of reporting protocols among the 50–POTW Study laboratories (pages 27 to 30, 50–POTW Study), EPA reviewed the percent removal calculations used in the pass-through analysis for previous industry studies, including those performed when developing the CWT proposal and effluent guidelines for Organic Chemicals, Plastics, and Synthetic Fibers Manufacturing, Landfills, and Commercial Hazardous Waste Combustors. EPA found that, for 12 parameters, different analytical MLs were reported for different rulemaking studies (10 of the 25 metals, cyanide, and one of the 41 organics).

To provide consistency for data analysis and establishment of removal efficiencies, EPA reviewed the 50–POTW Study, standardized the reported MLs for use in the CWT final rules and other rulemaking efforts. (This review of the 50–POTW Study analytical laboratory reporting practices and standardization of ML values is described further in DCN 33.3.1).

In using the 50–POTW Study data to estimate percent removals, EPA has established data editing criteria for determining pollutant percent removals. Some of the editing criteria are based on differences between POTW and industry BAT treatment system influent concentrations. For many toxic pollutants, POTW influent concentrations were much lower than those of BAT treatment systems. For many pollutants, particularly organic pollutants, the effluent concentrations from both POTW and BAT treatment systems, were below the level that could be found or measured. As noted in the 50–POTW Study, analytical laboratories reported pollutant concentrations below the analytical ML, qualitatively, as ''not detected'' or ''trace,'' and reported a measured value above this level. Subsequent rulemaking studies such as the 1987 OCPSF study used the analytical method ML established in 40 CFR Part 136 for laboratory data reported below the analytical ML. Use of the nominal ML may overestimate the effluent concentration and underestimate the percent removal. Because the data collected for evaluating POTW percent removals included both effluent and influent levels that were close to the analytical MLs, EPA devised hierarchal data editing criteria to exclude data with low influent concentration levels, thereby minimizing the possibility that low POTW removals might simply reflect low influent concentrations instead of being a true measure of treatment effectiveness.

EPA has generally used hierarchic data editing criteria for the pollutants in the 50–POTW Study. For the final CWT rule, the editing criteria include

(1) Substitute the standardized pollutant-specific analytical ML for values reported as ''not detected,'' ''trace,'' ''less than [followed by a number],'' or a number less than the standardized analytical ML,

(2) Retain pollutant influent and corresponding effluent values if the average pollutant influent level is greater than or equal to 10 times the pollutant ML (10xML), and

(3) If none of the average pollutant influent concentrations are at least 10 times the ML, then retain average influent values greater than or equal to two times the ML (2xML) along with the corresponding average effluent values. (EPA used 2xML for the final rule, instead of the 20 µg/l criterion used at proposal, because it more accurately reflects the pollutant-specific data than using a fixed numerical cut-off. For 67 percent of the of pollutants, 2xML is 20 µg/l.)

EPA then calculates each POTW percent removal for each pollutant based on its average influent and its average effluent values. The national POTW percent removal used for each pollutant in the pass-through test is the median value of all the POTW pollutant specific percent removals.

The 50–POTW study provided performance data for 48 pollutants of concern for both the 1999 proposal and today's final rule (15 metals, 31 organics, cyanide, and ammonia). These corrections resulted in lower national POTW performance (median percent removal) for 5 metals and ammonia; in higher performance for 5 metals; and no change for the remaining 5 metals, 31 organics, and cyanide.

V. Scope/Applicability of the Regulation

Many of the commenters had questions about what waste treatment facilities were subject to the guideline and in what circumstances. The sections which follow address these issues.

A. Overview

A broad spectrum of facilities engage in waste treatment and waste recovery operations. For some, waste treatment and recovery is their only business. Many of these facilities treat wastes generated in a variety of industries. In addition, there are also a significant number of facilities that are dedicated exclusively to the recovery of a single metal. For other facilities, waste treatment is merely an ancillary component of the industrial operation at the facility. There are still others engaged in industrial activities that the acceptance and treatment of waste (not generated in their own production operations) represents a substantial and integral aspect of the business.

EPA has always intended that these guidelines would regulate the first category of waste treaters. It has struggled, however, with how to draw the line, for purposes of applying this rule between the other types of operations. For example, as noted above, there are certain industries that recover a single metal. EPA has already developed guidelines specifically addressing their particular industrial processes and pollutants. In those circumstances it would make little sense to subject them to regulations developed for waste treatment operations treating a mixture of different wastes.[2] The data collected for this effort, however, clearly show that there are other industrial operations whose waste treatment operations treat a variety of wastes from on-site and off-site sources. The wastes treated at these industries do not look substantially different from those being treated at facilities engaged exclusively in waste treatment. The discussion below explains how EPA has decided to strike the balance.

The universe of facilities which are potentially subject to this guideline generally includes the following. First, except where noted otherwise, EPA is establishing limitations and standards for stand-alone waste treatment and recovery facilities receiving materials from off-site—classic ''centralized waste treaters.'' These facilities may treat either for disposal or for recovery or recycle hazardous or non-hazardous waste, hazardous or non-hazardous

[2] EPA has already established national effluent guidelines and standards for certain metals recovery operations. See, for example, subpart C of 40 CFR part 421—Nonferrous Metals Manufacturing Point Source Category that establishes limitations and standards applicable to discharges resulting from the recovery, processing and remelting of aluminum scraps to produce metallic aluminum alloys.

wastewater, or used material received from off-site. Second, while EPA is generally not subjecting discharges from waste treatment systems at facilities primarily engaged in other industrial operations to the scope of this rule, the rule will regulate at least a portion of their wastewater in certain circumstances. Thus, industrial facilities which process their own, on-site generated, process wastewater along with hazardous or non-hazardous wastes, wastewaters, and/or used material received from off-site may be subject to this rule with respect to a portion of their discharge unless certain conditions are met.

The wastewater flows covered by this rule include some or all flows related to off-site waste receipts and on-site CWT wastewater generated as a result of CWT operations. The kinds of on-site CWT wastewater generated at these facilities include, for example, the following: solubilization wastewater, emulsion breaking/gravity separation wastewater, used oil processing wastewater, treatment equipment washes, transport washes (tanker truck, drum, and roll-off boxes), laboratory-derived wastewater, air pollution control wastewater, landfill wastewater from on-site landfills, and contaminated storm water. Chapter 14 of the technical development document provides detailed discussion of CWT wastewaters.

The way EPA has expressed the applicability provisions of the final rule is to apply the provisions of this rule to all wastewater discharges to a receiving stream or the introduction of wastewater to a publicly owned treatment works from a facility that this regulation defines as a centralized waste treatment facility unless specifically excluded. The following sections discuss the applicability of the CWT rule to various wastewater discharges associated with centralized waste treatment operations.

EPA received numerous comments on the 1995 proposal and 1996 Notice of Data Availability concerning the applicability of this rule to various operations. Consequently, EPA devoted significant discussion in the 1999 supplemental proposal to applicability issues. Again, in response, EPA received numerous comments on applicability issues. Many commenters were simply seeking clarification of the coverage of this rule to a specific operation. Table V.A–1 below provides a general summary of regulated and non-regulated CWT operations. EPA presents a detailed discussion of these operations in V.B through V.Z.

TABLE V.A–1.—EXAMPLES OF REGULATED AND NON-REGULATED CWT OPERATIONS

Centralized waste treatment activity	Regulated by this rule	Not regulated by this rule	For further information see
Those performed at federally owned facilities.	All federally owned CWT operations	None	V.E
POTWs	None	All	V.F
Thermal drying of POTW biosolids	None	All	V.H
Sanitary wastes or toilet wastes	None	All	V.Y
Food processing wastes	None	All	V.X
Manufacturing facilities	Those that accept off-site wastes for treatment and/or recovery that are not generated in a manufacturing process subject to the same limitations/standards as on-site generated waste and that the permit writer determines are not similar to, and compatible with treatment of, the on-site waste.	All others	V.B
Product stewardship	Those that accept waste materials from use of their products that are not similar to, and compatible with, treatment of waste generated on-site.	Those that accept back their unused products, shipping and storage containers with product residues, and off-specification products.	V.D
Petroleum refineries (SIC Code 2911) and petroleum distribution terminals (SIC Code 4612, 4613, 5171, 5172).	For off-site materials other than those listed in the next column, see discussion for manufacturing facilities.	Those that receive and manage off-site petroleum-containing materials generated by petroleum exploration, production, transportation, refining and marketing activities.	V.B
Pulp and paper off-site landfill leachates	Those that accept off-site landfill leachates for treatment and/or recovery that are not generated in a manufacturing process subject to the same limitations/standards as on-site generated waste and that the permit writer determines are not similar to, and compatible with, the on-site waste.	All others	V.B
Pipeline materials	Materials received via pipeline from waste consolidators or commingled with other covered CWT wastewaters.	All other piped materials and POTWs	V.C
Recycle/recovery activities	All unless specifically excluded elsewhere.		V.Q
Traditional solvent recovery	None	All	V.T
Fuel blenders	Those that generate a wastewater	''Dry'' operations	V.T
Scrap metals recyclers	None	All	V.M
Silver recovery	Only included where wastewater generated from these activities is commingled with other covered wastes.	All others	V.R
Used oil filters & only absorbent recycling	Those that generate a wastewater	''Dry'' operations	V.V
High Temperature Metals Recovery (HTMR).	Those that generate a wastewater	''Dry'' operations	V.S

TABLE V.A–1.—EXAMPLES OF REGULATED AND NON-REGULATED CWT OPERATIONS—Continued

Centralized waste treatment activity	Regulated by this rule	Not regulated by this rule	For further information see
Used glycol recovery	All	None	V.Q
Re-refining	All	None	V.U
Solids, soils, and sludges	Those activities which generate a wastewater unless specifically excluded.	''Dry'' operations	V.L
Stabilization/Solidification	Those that generate a wastewater	''Dry'' operations	V.O
Transfer stations and recycling centers	None	All	V.N
Incineration activities	Only included when the wastewater generated from these activities is received from off-site and commingled with other covered wastewater.	All others	V.K
Transportation and/or transportation equipment cleaning.	Only included where wastewater generated from these activities is commingled with other covered waters.	All others	V.I
Landfills	Only included where wastewater generated from these activities is commingled with other covered waters.	All others	V.J
Grease trap/interceptor wastes	Those which contain petroleum based oils.	Those which contain animal or vegetable fats/oils.	V.W
Marine generated wastes	Off-loaded and subsequently sent to a CWT facility at a separate location and commingled with other covered wastewater.	All others	V.G
Waste, wastewater or used material reuse.	Those activities not listed in the next column or excluded elsewhere.	Not covered if the wastewater is accepted for use in place of potable water or if materials are accepted in place of virgin treatment chemicals.	V.P
Treatability, research and development, or analytical activities.	Only included where wastewater generated from these activities is commingled with other covered waters.	All others	V.Z

B. Manufacturing Facilities

Throughout the development of this rule, EPA has contemplated that the rule would apply to wastewater discharges from facilities that, while primarily engaged in other industrial operations, also may treat and/or treat for recovery or recycle off-site wastes or used materials. These facilities primarily treat wastes generated as a result of their own on-site manufacturing operations. Their wastewater discharges are, by and large, already subject to effluent guidelines and standards. (Some treatment operations, however, may be located at manufacturing facilities which are not subject to effluent guidelines and standards). All of these facilities also accept off-site generated wastes for treatment. In some instances, a facility under the same corporate ownership generates these off-site wastes. The facility treats these intra-company transfers on a non-commercial basis. In other instances, the off-site wastestreams originate from a company under a different ownership— an inter-company transfer. In some instances, the off-site wastes received at these industrial facilities are generated by a facility performing the same manufacturing operations, while in other instances, the off-site wastestreams are generated by facilities engaged in entirely unrelated manufacturing operations. Some receive a constant wastestream from only a handful of customers and some receive a wide variety of wastestreams from hundreds of customers.

EPA received extensive comment concerning how the CWT rule should apply to facilities that provide waste treatment and/or recovery operations for off-site generated wastes, but whose primary business is something other than waste treatment or recovery. In general, commenters urged EPA to limit the scope of the regulation in one of several ways. Commenters suggested restricting the scope either to:

- Facilities whose sole purpose is the treatment of off-site wastes and wastewaters; or
- Facilities which only accept off-site wastes on a commercial basis; or
- Facilities which accept off-site wastes which are not produced as a result of industrial operations subject to the same effluent guidelines and standards as the on-site generated wastes or off-site wastes which are not compatible with the on-site generated wastes and the on-site wastewater treatment system; or
- Manufacturing facilities which accept off-site wastes in excess of a de minimis level.

In the supplemental proposal, EPA proposed subjecting centralized waste treatment operations at manufacturing facilities to the provisions of the rule unless one of the following conditions was met:

- In the case of manufacturing facilities subject to national effluent limitations guidelines for existing sources, standards of performance for new sources, or pretreatment standards for new and existing sources (national effluent guidelines and standards), if the process or operation generating the wastes received from off-site for treatment is subject to the same national effluent guidelines and standards as the process or operation generating the on-site wastes; or
- In the case of manufacturing facilities not subject to existing national effluent guidelines and standards, if the process or operation generating the waste received from off-site is from the same industry (other than the waste treatment industry) and of a similar nature to the waste generated on-site.

After careful consideration of comments and further review of its database, EPA continues to regard this approach as appropriate, with some modifications. EPA has concluded that many manufacturing facilities, even though they are engaged primarily in another business, are also engaged in traditional CWT activities and, therefore, should be subject to this rule.

EPA has been unable to establish any direct correlation between the source of the off-site waste (intra-company or inter-company) and the similarity (or compatibility with) of the off-site waste to the on-site generated wastes that would support a blanket exclusion from this rule for intra-company waste treatment. EPA further concludes that all off-site wastewaters should be treated effectively irrespective of their volume, or their volume in relation to the volume of on-site generated waste and, thus, has rejected any exception for small volumes. As explained in the 1999 proposal, EPA's primary concern is that the effluent guidelines and standards currently in place for one industry may not ensure adequate treatment for wastes generated at another industry.

EPA has, however, concluded that there are circumstances where an off-site waste will receive adequate treatment at the treating facility even though the off-site waste may be generated by a manufacturing process that (if treated at the generating location) would be subject to a different set of effluent guidelines and standards than the effluent guidelines and standards applicable to the treating site. The record for this rule provides information and data on such facilities that support EPA's conclusion. An example is a pesticide formulating and packaging facility (PFPR), subject to 40 CFR 455 Subpart C, which sends its wastewaters off-site for treatment to a facility which manufactures the pesticide active ingredients. (The manufacturing facility is subject to a separate set of effluent guidelines and standards specific to pesticide manufacturers, 40 CFR 455 Subpart A and B). In this case, the same pollutants are likely to be present in the off-site and on-site generated wastewaters, even though the wastewaters are subject to different regulations. Therefore, the treating facility will need to use treatment appropriate for efficient removal of these pollutants. This situation would not be covered by this rule.

As a second example, consider a petroleum refinery that accepts off-site wastewaters. If the petroleum refinery (SIC Code 2911) accepts wastes generated off-site at petroleum distribution terminals (SIC Code 4612, 4613, 5171, and 5172), then the former is subject to effluent guidelines and standards for petroleum refineries (40 CFR 419), but the latter is not currently subject to any national effluent guidelines. However, the wastewaters generated at petroleum marketing terminals are based on materials manufactured at the refineries, and therefore would likely reflect the same pollutant profile. This situation would not be covered by this rule.

A third example involves clean-up activities at manufacturing sites. As part of clean-up operations at its facility, one commenter (called facility A) noted that it accepts contaminated groundwater from a different manufacturing facility located next door (facility B). The contaminated groundwater site (while not located on facility A, the treating facility) was contaminated by the manufacturing process at the treating site (facility A) and not at the site where located (facility B). As such, the contaminated wastewater would be similar and compatible with the on-site generated wastewater at facility A. In this case, the CWT rule would not apply.

EPA received information on each of the examples provided in comment on the rule. The comments detail instances in which the off-site wastewaters, while not subject to the same national effluent guidelines and standards as the wastewater generated on-site, are similar to the on-site generated manufacturing wastewaters and compatible with the on-site treatment system. In these cases, EPA concluded that the application of the CWT rule may not result in increased environmental protection, but simply add an additional layer of complexity for the treating facility and the permit writer or control authority.

Furthermore, EPA determined there are other instances of off-site waste acceptance at manufacturing facilities in which the off-site wastes, while not from the same industrial category, are similar to the on-site generated manufacturing wastewaters and compatible with the manufacturing wastewater treatment system. Consequently, for purposes of this rule, EPA has decided that, where the dischargers establishes that the wastes being treated are of similar nature and compatible with treatment of the on-site wastes, the CWT limitations and standards will not apply to the resulting discharge. EPA concluded that, in those circumstances, the permit writer or control authority should instead apply the limitations or standards applicable to the treatment of on-site wastewater to wastewaters generated through treatment of the off-site waste. Under the approach adopted for the final rule, the permit writer or control authority will determine whether the off-site generated waste accepted for treatment and/or recovery at a manufacturing facility (whether subject to national effluent guidelines and standards or not) and commingled for treatment in the on-site treatment system is similar to the on-site generated wastes and compatible with the on-site treatment system. If it is, then the discharge of the treated effluent should be subject to the applicable on-site limitations (or standards) even if the off-site wastes would be subject to a different set of national effluent guidelines and standards as the on-site generated wastes (or no national effluent guidelines and standards) if treated where generated. In the event that the permit writer or control authority makes this determination, the treating facility would be subject to the on-site limits only and not subject to the CWT guideline.

For this final rule, EPA has not rigidly defined when a waste is of similar character and the treatment of it is compatible with the treatment of the on-site wastes, believing that permit writers and control authorities are in the best position to determine this term. Permit writers and control authorities should compare the wastewaters at the manufacturing facility to the off-site generated wastewaters (constituents and concentrations) and the appropriateness of the treatment system to the off-site generated wastewaters on a case by case basis. The final guideline commits the decision that an off-site wastewater is similar and compatible (and thus whether CWT limitations or standards would apply) to the permit writer or control authority. A treating facility must submit information demonstrating to the permit writer or control authority that the off-site waste is similar and compatible. EPA cautions permit writers and control authorities that the judgment of ''similar and compatible'' should be made based only on the development of a full record on this issue. If the treating facility has not clearly established that the off-site wastewaters are similar to the on-site generated manufacturing wastewaters and compatible with the treatment system in the permit writer's or control authority's best judgment, the permit writer or control authority must apply the CWT limitations (or standards) to the treating facility.

Therefore, EPA has concluded that centralized waste treatment operations at manufacturing facilities will be subject to provisions of the rule unless one of the following conditions is met:

- In the case of a facility subject to national effluent limitation guidelines for existing sources, standards of performance for new sources, or pretreatment standards for new and existing sources, if the facility demonstrates that the wastes received

from off-site for treatment and/or recovery are generated in a process or operation that would be subject to the same national effluent guidelines and standards as the process or operation generating the on-site wastes; or

• In the case of a facility subject to national effluent guidelines and standards if the facility demonstrates that the waste received from off-site is similar in nature to the waste generated on-site and compatible with the on-site treatment system; or

• In the case of a facility not subject to national effluent limitations and standards, if the facility demonstrates that the waste received from off-site is similar in nature to the waste generated on-site and compatible with the on-site treatment system.

EPA contemplates that this approach would be implemented in the following manner. A facility that is currently subject to national effluent limitation guidelines or pretreatment standards receives wastewater from off-site for treatment. The wastewater is commingled for treatment with manufacturing wastewater generated on-site. If the off-site wastewater is subject to the same limitations or standards as the onsite wastewater (or would be if treated where generated) or if the off-site wastewater is similar to the onsite wastewater and compatible with the treatment system, the CWT limitations or standards would not apply to the discharge associated with the off-site wastewater flows. In that case, another guideline or standard applies. If, however, the off-site wastewater is not subject to the same national limitation guidelines or standards (or if none exist) and if the off-site wastewater is not similar to the onsite wastewater and compatible with the treatment system, that portion of the discharge associated with the off-site flow would be subject to CWT requirements. (Of course, the portion of the wastewater generated on-site remains subject to applicable limitations and standards for the facility. If the off-site and on-site wastewaters are commingled prior to discharge, the permit writer or control authority would use the ''combined wastestream formula'' or ''building block approach'' to determine limitations for the commingled wastestream).

Certain facilities that are subject to the CWT regulations because they accept wastes whose treatment is not compatible with the treatment of wastes generated on-site may nevertheless be subject to limitations and standards based on the otherwise applicable provisions of 40 CFR Subchapter N. Thus, the final regulations provide for the permit writer or pretreatment control authority to develop ''alternative limitations and standards'' for certain facilities in a narrow set of circumstances. See *e.g.*, 40 CFR 437.10(b). Under this approach, which EPA discussed in the 1999 proposal, permit writers or control authorities could require manufacturing facilities that treat off-site wastes to meet all otherwise-applicable categorical limitations and standards for the industries from which the waste was generated. This approach would also determine limitations or standards for any commingled on-site and off-site wastewater using the ''combined wastestream formula'' or ''building block approach.'' The permit writer or control authority would apply the categorical limitations or standards from the industries generating the wastewater, rather than the CWT limitations or standards, to the off-site portion of the commingled wastestream. The use of the combined wastestream formula and building block approaches for CWT wastes is discussed further in Section XIV.F of the 1999 proposal (64 FR 2342–2343). The permit writer (or pretreatment control authority) may establish alternative limitations and standards only when a facility receives continuous flows of process wastewaters with relatively consistent pollutant profiles from no more than five customers. EPA's information shows that, in practice, permit writers are currently following this approach for facilities that treat off-site waste for no more than five facilities. This approach is not appropriate for facilities that receive variable off-site wastewaters or that service more than a handful of customers.

After further consideration of the above described alternative and careful consideration of comments received on this alternative, EPA determined that the permit writer (or local pretreatment authority) should have the option in a limited set of circumstances of applying the applicable categorical limitations or standards to the off-site wastestreams. This is the approach described above. Thus, the final rule authorizes permit writers or control authorities (at their discretion) to subject the wastewater associated with the treatment of the off-site wastes to limitations or standards based on the categorical limitations or standards from the industries generating the wastewater, rather than applying the CWT limitations or standards to the off-site portion of the commingled wastestream. Consequently, the applicability provisions of Subparts A, B, C and D provide for such authority. See 40 CFR 437.10(b), 437.20(b), 437.30(b) & 437.40(b).

C. Pipeline Transfers (Fixed Delivery Systems)

EPA did not propose to apply CWT limitations and standards to facilities that receive off-site wastes for treatment solely via an open or enclosed conduit (for example, pipeline, channels, ditches, trenches, *etc.*). EPA did not propose to include pipeline facilities because, based on information obtained by the Agency, facilities that receive all their wastes through a pipeline or trench (fixed delivery systems) from the original source of waste generation receive continuous flows of process wastewater with relatively consistent pollutant profiles. These wastewaters are traditional wastewaters from the applicable industrial category that generally remain constant from day to day in terms of the concentration and type of pollutant parameters. Unlike traditional CWT facilities, their customers and wastewater sources do not change and are limited by the physical and monetary constraints associated with pipelines. The preamble to the 1999 proposal provides additional detail on the characteristics of CWT facilities that accept waste for treatment through pipelines only (64 FR 2286–2287). The preamble also explained that permit writers were applying the ''building block approach,'' in writing current discharge permits for pipeline facilities and that in all cases examined, the treating facility was required to comply with otherwise applicable effluent guidelines and standards.

EPA did not receive any information in response to the 1999 proposed rule that has convinced the Agency to change its treatment of pipeline facilities for purposes of this rule. Consequently, the scope of this final rule excludes wastes that are piped to waste treatment facilities. See 40 CFR 437.1(b)(3). These wastes will continue to be subject to otherwise applicable effluent guidelines and standards. In EPA's view, it is more appropriate for permit writers and control authorities to develop restrictions for treatment facilities that receive wastewater by pipeline on an individual basis by applying the ''combined wastestream formula'' or ''building block'' approach.

There are two exceptions to this approach. The first is for facilities that receive waste via conduit (that is, pipeline, trenches, ditches, *etc.*) from facilities that are acting merely as waste collection or consolidation centers that are not the original source of the waste. These wastewaters are subject to the CWT rule. The basis for EPA's exclusion

of waste treatment facilities receiving wastes by pipeline from the scope of the rule was that such facilities did not receive the same types of varying wastes as CWT facilities receiving wastes by truck or tanker. Pipeline facilities receive flows of wastes with consistent pollutant profiles. Waste consolidators, on the other hand, which send their flows to a treatment facility via pipeline are delivering wastes like those typically received by CWT facilities in tanks or trucks. See 40 CFR 437.1(b)(3). The second is for facilities that serve as both CWT facilities and pipeline facilities (i.e., receive waste from off-site via pipeline as well as some other mode of transportation such as trucks). If this type of facility commingles the trucked and piped waste prior to discharge, then both the trucked and piped wastewaters at these facilities are subject to the CWT rule. The basis for the pipeline exclusion no longer applies because the addition of hauled waste introduces variability in pollutant concentrations and characteristics that are not true for the piped wastes. See 40 CFR 437.1(b)(3). However, if such a facility discharges these wastewaters separately, then only the trucked off-site wastewater is subject to provisions of the CWT rule and the piped waste subject to limitations and standards based on the applicable 40 CFR Subchapter N limitations and standards. POTWs are not considered CWTs and are not subject to the limitations and standards of this rule. However, as discussed more fully in Section V.F, POTWs should not be receiving wastes from industrial users subject to national effluent guidelines and standards (either by pipeline or otherwise) that do not comply with applicable pretreament standards.

D. Product Stewardship

As detailed in the proposed rule (64 FR 2287), many members of the manufacturing community have adopted ''product stewardship'' programs as an additional service for their customers to promote recycling and reuse of products and to reduce the potential for adverse environmental impacts from chemical products. Commenters defined ''product stewardship'' in this way: ''Taking back spent, used, or unused products, shipping and storage containers with product residues, off-specification products and waste materials from use of products.'' Generally, whenever possible, these manufacturing plants recover and reuse materials from these products in chemical processes at their facilities. Manufacturing companies that cannot reuse the spent, used, or unused materials treat these materials/wastewaters in their wastewater treatment plants. EPA's review of the comments suggests that, with few exceptions, the materials treated in the on-site wastewater treatment systems were produced at facilities subject to the same effluent limitations guidelines as the materials being manufactured on-site. In industry's view, such materials are inherently compatible with the treatment system.

In the proposal, EPA explained that it had decided it would treat wastewater generated from materials that are taken back for recycle or re-use under a product stewardship program in the same way it proposed to treat wastewater generated in treating any other off-site waste. If the materials received from off-site under the product stewardship program are produced at an industrial operation subject to the same limitations and standards in 40 CFR Subchapter N as the on-site generated manufacturing wastes, the treating facility would not be subject to CWT requirements with respect to the resulting wastewaters. Because EPA remained concerned that circumstances exist in which used materials or waste products may not be compatible with the otherwise existing treatment system, EPA did not propose a blanket exemption for product stewardship activities from the scope of this rulemaking. Under the proposal, wastewater from the treatment of used products or waste materials would be subject to the CWT rule if it were not produced at facilities subject to the same provisions of Subchapter N as wastewater from the treatment of the other on-site generated wastes.

EPA received numerous comments on this approach. Many commenters claimed that the proposed rule would deter product stewardship activities, and that EPA should not extend the rule to cover wastewater from certain product stewardship activities. Some commented that these materials are generally not ''treated,'' but re-used or recovered, and for that reason they were fundamentally different from other wastes in the CWT industry. Others commented that while EPA's intent seemed to be appropriate, the language was much too restrictive. For example, commenters noted that when a product goes off-site to another manufacturing facility that is subject to different effluent limitation guidelines and standards, the product (while it remains unchanged) would then be subject to a different set of effluent limitations or standards. If the manufacturing facilities which originally produced the product took back the off-spec product from its customer, the proposal as written, would require that the treating facility be subject to CWT even though the off-spec waste would clearly be the same as those generated on-site.

EPA applauds the efforts of manufacturing facilities to reduce pollution and the environmental impacts of their products and does not want to discourage these practices. Consequently, the final rule does not cover product stewardship activities in certain circumstances. Product stewardship activities at a manufacturing facility which involve taking back their unused products, shipping and storage containers with product residues, and off-spec products will not be subject to provisions of the CWT rule.

Certain other recovery activities may, however, remain subject to this rule. EPA is concerned about the treatment of spent, used or waste materials returned to the original manufacturer when it is treated with on-site wastewater. In some cases, wastewater from these recovery processes may not be compatible with the existing treatment system. The mere fact that these materials may be accepted for re-use or recycling rather than ''treatment'' does not ensure that resulting wastewaters would be inherently compatible with the treatment system. EPA is unable to see how such activities differ from waste recovery operations that the Agency has concluded should be subject to these guidelines. Here is an illustrative example. An inorganic chemical manufacturer produces industrial chemicals that one of its customers uses in the manufacture of printed circuit boards. The chemical manufacturer accepts spent etchants (waste materials from use of product) from its customer for recovery and re-use of certain metals in its inorganic chemical manufacturing process. (Note that CWT facilities not located at manufacturing sites also accept spent etchants). The recovery process generates a wastewater. Recovery may have introduced into the wastewater many pollutants that were not present in the wastewater generated in producing the inorganic chemical. These pollutants may not be compatible with, or effectively treated, in the treatment process at the inorganic chemical manufacturing facility. The same may be true if the accepting facility determined that spent etchant could not be effectively reused and recovered and directed the material to their wastewater treatment system.

Therefore, EPA has concluded that product stewardship activities that involve taking back spent, used or waste materials from use of products should,

as a general matter, be subject to provisions of this rule unless any of the exclusions established for manufacturing facilities as explained in V.B. would apply. See 40 CFR § 437.1(b)(2) & (4). Thus, those activities that involve used products or waste materials that are not subject to effluent guidelines or standards from the same category as the on-site generated wastes or that are not similar to the on-site generated manufacturing wastes and compatible with the treatment systems (as determined by the permit writer or control authority) are subject to today's rulemaking under 40 CFR § 437.1(b)(2). EPA concluded that this approach will not curtail product stewardship activities, in general, but will ensure that all wastes are treated effectively.

E. Federally Owned Facilities

Throughout development of this rule, EPA's database has included information on CWT facilities owned by the federal government. It has always been EPA's intention that federal facilities which accept wastes, wastewater, or used material from off-site for treatment and/or recovery of materials would be subject to provisions of this rule unless they meet the conditions under which the rule would not apply, *e.g.* treated off-site wastes subject to the same 40 CFR Subchapter N provisions as the federal facility.

EPA's database contains information on 23 federally owned facilities that operate treatment systems. EPA has determined that 15 of these facilities are not subject to provisions of the CWT rule because they do not accept off-site wastes. Of the remaining facilities, 6 are not subject to provisions of the CWT rule because they perform CWT activities to which the rule would not apply. Therefore, EPA has identified 1 federally owned CWT facility that is subject to this rule. EPA has included this facility in all of its analyses.

F. Publicly Owned Treatment Works (POTWs)

Comments to the 1995 and 1999 CWT proposals establish that large and small POTWs accept a large volume of hauled wastes. A special discharge survey conducted by the Association of Metropolitan Sewerage Agencies (AMSA) indicates that 42.5 percent of POTW respondents accept hauled industrial wastes. More recent comments suggest that this may underestimate the volume of hauled wastes POTWs receive.

A large quantity of the wastes trucked to POTWs is septage and chemical toilet wastes. EPA did not evaluate these wastes for regulation and they are not subject to this rule. EPA would expect that POTWs would adequately treat these sanitary waste flows because EPA would expect septage and chemical toilet wastes to closely resemble sewage with respect to organic content.

POTWs also receive significant volumes of trucked industrial and commercial wastes. Examples of these include wastes subject to pretreatment standards under 40 CFR subchapter N, as well as wastes not subject to national effluent guidelines and standards. These wastes may include oil-water emulsions or mixtures, coolants, tank cleaning water, bilge water, restaurant grease trap wastes, groundwater remediation water, contaminated storm water run-off, interceptor wastewaters, and used glycols. CWT facilities also treat many of these wastes and discharges from these operations may be subject to the final CWT limits.

EPA received numerous comments on how the CWT rule should apply to POTWs. Commenters were largely divided on the applicability of the CWT rule to POTWs. All of the POTWs that commented on the proposal agreed that the CWT rule should not apply to POTWs. They stated that under the CWA, effluent guidelines and pretreatment standards do not apply to POTWs. Rather, as established by the CWA, POTWs are subject to secondary treatment and water quality standards. These commenters further stated that POTWs generally accept trucked wastes as a service to their community to insure that these wastes receive proper treatment. Commenting POTWs further cited that trucked wastes comprise a de minimis portion of the total volume of wastewater treated at their facilities.

Non-POTW commenters were, on the other hand, unanimously of the view that the CWT rule should apply to POTWs. These commenters asserted that POTWs and CWT facilities are competing for many of the same wastestreams, and therefore POTWs should be subject to the same standards as CWT facilities. These commenters stated that POTWs are actively competing for wastestreams not subject to national effluent guidelines and standards, and cautioned that EPA should be concerned that this hauled waste is being accepted with little or no documentation regarding the source, little or no monitoring of the shipments when they arrive, and no pretreatment before mixing with the normal POTW influent. They also expressed concern that POTWs often do not have equivalent treatment compared to CWT facilities and that pollutant reductions are often due to dilution rather than treatment. Finally, many CWT facilities commented that by not including POTWs in the scope of the CWT rule, EPA might actually increase the discharge of pollutants to the nation's waters since waste generators will have an incentive to ship directly to POTWs thus skipping what would have been effective pretreatment at the CWT facility.

It is clear from reviewing the comments that many commenters may misunderstand the interaction between effluent guidelines and pretreatment standards, and they are consequently confused about how this guideline will affect POTW operations. The following discussion is intended as clarification. Under the CWA, all direct dischargers must comply with technology-based effluent guidelines and any more stringent limitations necessary to meet State water quality standards. In the case of certain pollutants and for certain categories and classes of direct dischargers, EPA promulgates guidelines that establish these technology-based limitations. In the case of POTWs, the CWA specifically identifies the technology—secondary treatment that is the basis for POTW effluent limitations.

In addition, the CWA also requires EPA to establish pretreatment standards for indirect dischargers—those introducing wastewater to a POTW either by pipe or sewer or by transporting the waste by truck or rail to the POTW. These standards are designed to prevent the discharges of pollutants that pass-through, interfere or are otherwise incompatible with POTW operations. The standards are technology-based and analogous to technology-based effluent limitations applicable to direct dischargers. Once EPA has established pretreatment standards, no indirect discharger may introduce wastewater to a POTW for which there are pretreatment standards except in compliance with the standard. The CWA specifically prohibits the owner or operator of any source from violating a pretreatment standard. See section 307(d) of the CWA. This prohibition applies whether the wastewater is discharged through a sewer system or sent to a POTW by truck or rail.

The CWA does authorize a POTW, in limited circumstances, to revise pretreatment standards for a discharger to take account of the POTW's actual removal of a particular pollutant. ''Removal credits'' may be available to a discharger generally under the following conditions. First, the granting of the removal credit by the POTW must not cause a violation of the POTW's permit limitations or conditions.

Second, the POTW's treatment of the pollutant must not result in a sewage sludge that cannot be use of disposed of in accordance with sewage sludge regulations promulgated pursuant to section 405 of the CWA. See section 307(b) of the CWA.

EPA has promulgated regulations at 40 CFR Part 403 (General Pretreatment Regulations for Existing and New Sources of Pollution) that establish pretreatment standards and requirements that apply to any source introducing pollutants from a non-domestic source into a POTW. These standards include a general prohibition on the introduction of any pollutant that might pass through or interfere as well as prohibitions on specific pollutants such as those that may create a fire or explosion hazard or corrosive structural damage. EPA has also promulgated national effluent pretreatment standards (like the pretreatment standards promulgated here today) for specific industry categories as separate regulations at 40 CFR subchapter N.

The regulations at 40 CFR Part 403 also require all POTWs with a design flow greater than 5 MGD per day to develop a pretreatment program. Moreover, EPA or a State may require a POTW with a design flow that is less than or equal to 5 MGD to develop a pretreatment program if warranted by circumstances in order to prevent pass through or interference. See 40 CFR 403.8(a). These pretreatment programs must require compliance with all applicable pretreatment standards and requirements by industrial users of the POTW. See 40 CFR 403.8(f)(ii). Furthermore, each POTW developing a pretreatment program must develop and enforce specific local limits to implement the general and specific prohibition against pass-through and interference. See 40 CFR 403.5(c). Thus, any POTW subject to the requirement to develop a pretreatment program that accepts waste that does not comply with a general or specific prohibition or with national effluent pretreatment standards is in violation of the regulations.

Consequently, following promulgation of today's rule, POTWs with pretreatment programs that receive wastestreams both subject to and not regulated by national effluent standards and limitations must ensure the wastestreams do not violate these requirements. In practice, with respect to the wastestreams discussed by commenters, this means that a POTW may not accept untreated wastestreams subject to national effluent guidelines and standards. These would include wastestreams subject to pretreatment standards in 40 CFR subchapter N (*e.g.*, electroplating wastes). Moreover, a POTW may not accept certain other streams not subject to national guidelines and standards such as oil-water emulsions or mixtures if those streams contain pollutants that would pass through or interfere with POTW operation. Note that 40 CFR 403.5(b)(5) specifically prohibits the introduction into a POTW of petroleum oil that will cause pass-through or interference. Given EPA's conclusion here that oily wastewaters contain pollutants that will pass through POTWs, it is likely that many POTWs are accepting wastes for treatment that contain pollutants that will pass through.

EPA is concerned that wastestreams accepted at POTWs, both those subject to and those not regulated by national effluent guidelines and standards, receive proper treatment. In 1999, EPA's Office of Wastewater Management published the ''Guidance Manual for the Control of Wastes Hauled to Publicly Owned Treatment Works'' (EPA 833-B–98–003, September 1999). This document again stresses that national effluent pretreatment standards apply to waste generated by national effluent guidelines and standards (40 CFR parts 401 to 471), whether the waste is introduced to the POTW through the sewer system or hauled to the POTW. Moreover, EPA regulations require that POTWs must ensure pretreatment of wastes subject to national effluent standards received at the POTW regardless of the mode of transportation.

Similarly, because a POTW must ensure that no user is introducing pollutants into the POTW that would pass-through the POTW into the receiving waters or interfere with the POTW operation, EPA strongly recommends that each POTW should document and monitor all hauled wastestreams to ensure that necessary pretreatment steps have been performed. The guidance establishes a waste acceptance procedure that clearly resembles that generally performed at CWT facilities. Further, in the case of wastestreams not subject to national guidelines and standards, the POTW should also monitor the hauled wastestreams to ensure that pollutant reductions at the POTW will be achieved through treatment and not dilution.

Based on the types of hauled wastewater that commenters have indicated POTWs accept, EPA shares the concern of many commenters that pollutant reductions in these hauled wastewaters at POTWs are largely due to dilution. EPA reminds POTWs that wastewaters that contain significant quantities of metal pollutants, significant quantities of petroleum-based oil and grease, or significant quantities of non-biodegradable organic constituents should be pretreated by the generating facility or an appropriate treatment facility prior to acceptance at the POTW. EPA further reminds POTWs that this remains true regardless of whether or not these wastewaters comprise a de minimis portion of the total volume of the wastewaters treated at their facility. EPA concluded that if POTWs monitor hauled wastes appropriately and additionally ensure that all hauled wastes not subject to national effluent guidelines and standards can be effectively treated with their biological treatment systems then many of the issues raised by non-POTW commenters will be alleviated.

EPA is aware of a POTW that plans to open a wastewater treatment system to operate in conjunction with its POTW operations. This facility would accept wastewaters subject to national guidelines and standards, treat them, and then discharge them to the POTW's treatment plant. The acceptance by a POTW of wastes subject to national effluent guidelines and standards that do not comply with pretreatment standards would seem to violate the requirements noted above unless the POTW has revised the applicable standards to take account of its removal of certain pollutants. EPA's regulations at 40 CFR § 403.7 describe the process for obtaining removal credits and identifying the pollutants for which removal credits may be available. Under the current regulations, removal credits are only available for a limited number of pollutants. The 1999 notice described the removal credits program and when and for what pollutants such credits might be available at 64 FR 2339–10. EPA would note that the new wastewater treatment system would itself be a POTW (or part of the POTW) and, thus, any wastewater introduced to it must meet all applicable pretreatment standards. However, because POTWs are already covered by the technology requirements (*i.e.*, secondary treatment) specified in the CWA (40 CFR 133), they are not considered CWT facilities and are not within the scope of today's rule.

G. Marine Generated Wastes

In the proposed rule (64 FR 2291), EPA defined marine waste as waste generated as part of the normal maintenance and operation of a ship, boat, or barge operating on inland, coastal or open waters. Such wastes may include ballast water, bilge water, and other wastes generated as part of routine ship operations. The proposal further explained that EPA considered

wastewater off-loaded from a ship as being generated on-site at the point where it is off-loaded provided that the waste is generated as part of the routine maintenance and operation of the ship on which it originated while at sea. The waste is not considered an off-site generated waste (and thus subject to CWT requirements) as long as it is treated and discharged at the ship servicing facility where it is off-loaded. Therefore, EPA proposed not to include these facilities as CWT facilities. The proposal further clarified that if marine generated wastes are off-loaded and subsequently sent to a CWT facility at a separate location and commingled with other covered wastewater, these facilities and their wastestreams would be subject to provisions of this rule.

After careful consideration of comments, EPA has not modified its approach for marine generated waste with one exception. For today's rule, EPA defines marine waste as waste generated as part of the normal maintenance and operation of a ship, boat, or barge operating on inland, coastal or open waters, or while berthed. See 40 CFR § 437.1(c)(2). In response to commenters' requests for clarification, EPA has changed the definition to clarify that wastes generated while ships are berthed are part of normal maintenance and operational activities and are thus ''on-site.'' As a further point of clarification, waste generated while a ship is berthed is not an off-site generated waste so long as it is treated and discharged at the ship servicing facility where it is off-loaded. If, however, marine generated wastes are off-loaded and subsequently sent to a CWT facility at a separate location and commingled with other covered wastewater, these facilities and their wastestreams are subject to provisions of this rule.

H. Thermal Drying of POTW Biosolids

The thermal drying of POTW biosolids was not a focus of EPA's initial regulatory effort to develop this guideline. Consequently, EPA did not target thermal dryers during its data collection activities. However, commenters to the 1999 proposal provided information on thermal drying activities and requested EPA's views as to whether such operations would be subject to this rule. Thermal dryers accept off-site generated POTW biosolids (sludges that remain after wastewater treatment at a POTW) and treat these biosolids with a variety of technologies (*e.g.* rotary drum dryers) to form pellets. These biosolids can then be land applied. The thermal drying process generates two primary wastewater streams: facility water wash down and blowdown from wet scrubbers. These wastewaters are discharged back to the POTW that produced the biosolids.

Commenters to the 1999 proposal requested that EPA not include these activities within the scope of this rule for the following reasons:

- The POTW and the thermal dryer form a closed loop system. POTWs are the sole source of off-site waste received by thermal dryers. All wastewaters generated from the treatment of these biosolids are returned to the generator (the POTW).
- All storage and processing areas at these facilities are enclosed. Therefore, this material poses very little or no threat to storm water.
- Thermal drying activities bear little resemblance to the other regulated activities. Mandated testing parameters and other requirements under the CWT rule have little applicability to biosolids processing.

EPA agrees with commenters that thermal drying of biosolids should not be subject to provisions of the CWT rule. Because the only source of off-site wastes received at these drying facilities is biosolids produced at the POTW, the wastewater being generated from thermal drying of these biosolids should contain the same pollutants being treated at the POTW. As a result, the wastewater should be completely compatible with the treatment system at the POTW and should not cause any pass-through or interference. Consequently, thermal drying of POTW biosolids is not subject to provisions of the CWT rule. See 40 CFR 437.1(b)(4).

I. Transporters and/or Transportation Equipment Cleaners

Facilities that treat wastewater that results from cleaning tanker trucks, rail tank cars, or barges may be subject to the provisions of this rule if not subject to the Transportation Equipment Cleaning (TEC) Point Source Category guidelines (40 CFR Part 442). Thus, for example, the CWT rule does not apply to discharges from wastewater treatment at facilities engaged exclusively in cleaning the interiors of transportation equipment covered by the TEC regulation. EPA promulgated these guidelines on August 14, 2000 at 65 FR 49666. The TEC regulation applies to facilities that solely accept tanks which have been previously emptied or that contain a small amount of product, called a ''heel,'' typically accounting for less than one percent of the volume of the tank. A facility that accepts for cleaning a tank truck, rail tank car, or barge not ''empty'' for purposes of TEC may be subject to the provisions established for the CWT rule.

There are some facilities that are engaged in traditional CWT activities and also engaged in traditional TEC activities. If the wastewaters from the two operations are commingled, under the approach adopted for TEC, the commingled wastewater flow from the transportation equipment cleaning activities would be subject to CWT limits. Therefore, a facility performing transportation equipment cleaning as well as other CWT services that commingles these wastes is a CWT facility and all of the wastewater discharges are subject to provisions of this rule. If, however, a facility is performing both operations and the wastestreams are not commingled (that is, transportation equipment cleaning process wastewater is treated in one system and CWT wastes are treated in a second, separate system), both the TEC rule and CWT rule apply to the respective wastewaters. See 40 CFR 437.1(b)(10).

As a further point of clarification, the CWT rule does apply to transportation equipment cleaning wastewater received from off-site. Transportation equipment cleaning wastes received from off-site that are treated at CWT facilities along with other off-site wastes are subject to provisions of this rule.

J. Landfill Wastewaters

EPA published effluent limitations guidelines for Landfills, (40 CFR Part 445) at 65 FR 3007, (January 19, 2000). There, EPA established limits for facilities which operate landfills subject to the provisions established in 40 CFR Parts 257, 258, 264, and 265. The final Landfills rule limitations do not apply to wastewater associated with landfills operated in conjunction with other industrial or commercial operations in most circumstances.

In the CWT industry, there are some facilities that are engaged both in CWT activities and in operating landfills. For the CWT final rule, EPA's approach to facilities which treat mixtures of CWT wastewater and landfill wastewater is consistent with that established for the landfill guideline. Therefore, a facility performing landfill activities as well as other CWT services that commingles the wastewater is a CWT facility only, and all of the wastewater discharges are subject to the provisions of this rule. If a facility is performing both operations and the wastestreams are not commingled (that is, landfill wastewater is treated in one treatment system and CWT wastewater is treated in a second, separate, treatment system), the provisions of the Landfill rule and CWT

rule apply to their respective wastewater.

Additionally, under the approach established in the Landfills rulemaking, CWT facilities which are dedicated to landfill wastewater only, whether they are located at a landfill site or not, are subject to the effluent limitations for Landfills. These dedicated landfill CWT facilities are not subject to provisions of the CWT rulemaking.

As a further point of clarification, landfill wastewater is not specifically excluded from provisions of this rule. Landfill wastewater that is treated at CWT facilities along with other covered off-site wastestreams are subject to provisions of this rule. Furthermore, a landfill that commingles for treatment its own landfill wastewater with other landfill wastewater only is subject to the Landfill limits in the circumstances described in V.B above.

K. Incineration Activities

In January of this year, EPA promulgated effluent guidelines and pretreatment standards for wastewater discharges from a limited segment of the waste combustion industry. 65 FR 4360 (January 27, 2000). This regulation, codified at 40 CFR Part 444, applies to the discharge from a ''commercial hazardous waste combustor'' (CHWC). CHWCs are commercial incinerators that treat or recover energy from hazardous industrial waste.

There may be certain industrial facilities (for whom EPA has established guidelines limitations or standards in 40 CFR subpart N) which are subject to the CWT regulation that also operate incinerators or CHWCs. For the CWT final rule, EPA has adopted the same approach it has followed for other industrial facilities subject to national limitations and standards. Where a facility treats CHWC (or other incinerator wastewater) with CWT wastewater, the permit writer (or local control authority) would establish discharge limitations (or pretreatment standards) by using a flow-weighted combination of the CHWC limitations/standards (or BPJ incinerator wastewater limitations/standards) and the CWT limitations/standards. Thus, an organic chemical facility with an on-site CHWC (or other incinerator) that is also a CWT would be subject to combined wastestream formula pretreatment standards or building block limitations based on all three 40 CFR subpart N regulations.

Additionally, a facility which only treats CHWC wastewater (or other incinerator wastewaters or waste that is similar in nature as determined by the permitting authority, see Section V.B), whether located at a CHWC site or not, would be subject not to the CWT regulations but to the otherwise applicable limitations or standards (either CHWC or, in the case of non-CHWC incinerator wastewater, limitations or standards developed by the permit writer or local control authority). EPA notes, however, that it has not identified any CWT facilities that are dedicated to CHWC (or other incineration) wastewaters only.

Further, incineration wastewaters are not specifically excluded from provisions of this rule. Incineration wastewaters received from off-site that are treated at CWT facilities along with other covered off-site wastestreams are subject to CWT limitations and provisions of this rule.

L. Solids, Soils and Sludges

EPA did not distinguish in its information gathering efforts between those waste treatment and recovery facilities treating aqueous waste and those treating non-aqueous wastes or a combination of both. Thus, EPA's 308 Waste Treatment Industry Questionnaire and related CWT Detailed Monitoring Questionnaire (DMQ) asked for information on CWT operations without regard to the type of waste treated. EPA's sampling program also included facilities that accepted both aqueous and solid wastes for treatment and/or recovery. In fact, the facility that forms the technology basis for the metals subcategory limitations treats both liquid and solid wastes. A facility that accepts wastes from off-site for treatment and/or recovery that generates a wastewater is subject to the CWT rule regardless of whether the wastes are aqueous or non-aqueous. Therefore, wastewater generated in the treatment of solids received from off-site is subject to the CWT rule.

As a further point of clarification, the main concern in the treatment or recycling of off-site ''solid wastes'' is that pollutants contained in the solid waste may be transferred to a process or contact water resulting in a wastewater that may require treatment. Examples of such wastewaters include, but are not limited to:

- Entrained water directly removed through dewatering operations (for example, sludge dewatering);
- Contact water added to wash or leach contaminants from the waste material; and
- Storm water that comes in direct contact with waste material which contain liquids.

The treatment or recovery of solids that remain in solid form when contacted with water and which do not leach any chemicals into the water are not subject to this rule. Examples of excluded solids recovery operations are the recycling of aluminum cans, glass and plastic bottles. As a further point of clarification, any wastewater generated at a municipal recycling center is not subject to provisions of this rule.

M. Scrap Metal Processors and Auto Salvage Operations

During development of this regulation, EPA did not examine facilities engaged in scrap metal processing or auto salvage operations as part of its study. EPA did not attempt to collect information on these types of operations. However, commenters to the 1999 proposal provided some information on these activities. Commenters noted that these operations often generate contaminated wastewaters as a secondary part of their operations. As described by commenters, wastewater is often produced when rainwater comes in contact with the scrap metal and/or automobiles during collection and storage. This rainwater then becomes contaminated with oily residue from the scrap metal and/or automobiles. Contaminated storm water is the only wastewater resulting from these operations.

Because contaminated storm water generated from centralized scrap metal processing or auto salvage operations would, as the regulatory language is specified, be subject to regulation, EPA considered whether it had a basis for regulating wastewaters from these operations. Other than the limited information supplied by commenters, EPA has very little data concerning these activities and the facilities that conduct these activities. As a result, EPA concluded that it should not include within the scope of the guideline wastewaters generated from centralized scrap metal processing or auto salvage at this time. EPA would expect that permit writers and control authorities would develop limitations or local limits to establish site-specific permit requirements for any centralized scrap metal processing or auto salvage operations generating and discharging a contaminated stormwater.

N. Transfer Stations

During the initial stages of development of this rule, EPA did not envision transfer stations as part of the centralized waste treatment industry. As such, EPA did not attempt to collect information on the operation of transfer stations. However, EPA received comment to the 1999 proposal asking

that EPA clarify its coverage of these facilities by this rule.

EPA has very little information on the operation of transfer stations. Based on comments, while transfer stations could fall within the definition of a CWT since they accept off-site industrial wastes, they do not perform any treatment or recovery of the off-site wastes. Transfer stations simply facilitate the distribution of wastes for disposal. Consequently, EPA has concluded that transfer stations should not be subject to provisions of the CWT rule.

O. Stabilization/Solidification

As explained in the 1999 proposal, EPA concluded that, by definition, stabilization/solidification operations are ''dry'' and do not produce any wastewater. As such, EPA did not propose to include stabilization/solidification processes in the CWT rule. At that time, EPA also explained that it was considering a subcategory for stabilization operations with a zero discharge requirement, and requested comment on this approach.

EPA received very little comment on stabilization/solidification and no new data from industry following the 1999 proposal. One commenter suggested EPA require stabilization/solidification operations to be zero discharge. Another suggested EPA use the same approach proposed for facilities handling used oil filters. A third commented that EPA should not promulgate a zero discharge requirement because, in the event that a wastewater is produced by stabilization/solidification operations, the facility would not have the option to treat the wastewater on-site.

EPA re-examined its database and concluded that while ''solidification/stabilization'' processes do not themselves produce any wastewater, there are often wastewaters associated with these processes. The major wastewater reported by questionnaire respondents associated with stabilization/solidification operations is equipment wash down. Further, the database shows that many of the wastes accepted from off-site for stabilization/solidification are the same or similar to wastes accepted for other covered CWT operations.

Consequently, EPA is not promulgating a subcategory for stabilization/solidification with a zero discharge requirement. EPA agrees with commenters that, in the event that there are wastewaters produced by or associated with these operations, facilities should have the option of choosing whether to treat the wastes on-site or through other means. If these operations produce a wastewater, then the discharge of wastewater from these facilities should be subject to provisions of this rule. Therefore, ''dry'' stabilization/solidification operations themselves are not subject to provisions of the CWT rule. However, wastewater discharges from stabilization/solidification operations that are performed on waste received from off site are subject to provisions of this rule. This approach is consistent with EPA's approach to fuel blending operations and used oil filter management.

P. Waste, Wastewater, or Used Material Re-Use

EPA recognizes that some facilities accept wastewater from off-site for re-use rather than treatment or recovery. The intent in accepting these off-site ''treated'' wastewaters is to replace potable water or more expensive pure water obtained from wells, surface waters, etc. Examples include, but are not limited to:

- The acceptance of wastewater from off-site for use in place of potable water in industrial processes;
- The use of secondary POTW effluents as non-contact cooling water; and
- The use of storm water in place of potable water at shared industrial facilities located in industrial parks.

Likewise, EPA is also aware that some facilities accept used materials such as spent pickle liquor for re-use as a treatment chemical in place of virgin treatment chemicals.

EPA applauds all pollution prevention activities, especially those that allow treated wastewater or spent chemicals to be re-used rather than discharged. EPA does not define this type of activity as treatment or recovery. Therefore, the acceptance of off-site wastewater or spent chemicals for re-use in the treatment system or other industrial process is not a CWT activity and is not subject to provisions of this rule.

Q. Recovery and Recycling Operations

Many CWT facilities perform recovery activities that lead to recycling of materials either at the recovering site or at another location. The purpose of these activities is to recycle product back into a use for which it was originally intended, not the treatment and disposal of wastewater streams. Examples of such activities include but are not limited to: used oil processing, used glycol recovery, fuel blending, metals recovery, and re-refining. Many commenters to both the 1995 proposal and the 1999 proposal noted that these activities should not be included under the scope of this rule because they are not ''treatment,'' but ''recovery'' activities.

EPA applauds efforts to reduce pollution and the ancillary adverse consequences to the environment associated with product disposal and does not want to discourage these practices. However, EPA also recognizes that while the intent of these activities is not treatment of a ''wastewater,'' but rather recovery of a used or waste material, wastewater is usually generated from these recovery processes. Generally, the facility performing the recovery activity also performs on-site treatment of the resulting wastewater. EPA wants to ensure that these wastewaters receive appropriate treatment.

From the beginning of its data gathering activities associated with the development of this rule, EPA has included recycling and recovery activities along with wastewater treatment activities. In fact, EPA developed sections of the 308 Questionnaire to specifically target the collection of information on metals, solids, oils, and organics recovery activities. Many of the facilities visited and sampled by EPA perform recovery operations. Some of these facilities refer to themselves as ''recyclers'' and not ''wastewater treatment facilities.'' EPA's sampling data show that in many instances the pollutants and concentrations of pollutants in wastewaters generated from recycling/recovery activities are very similar or more concentrated than wastewaters accepted for ''treatment'' only. In fact, many facilities that perform recovery operations combine the wastewater generated from the recovery operations with other off-site wastewater received for treatment. Consequently, EPA has concluded that recovery operations are included in the scope of this rule. Therefore, unless specifically stated elsewhere, facilities that recycle and recover off-site waste, wastewaters and/or used materials are considered ''centralized waste treatment facilities'' and are subject to provisions of this rule. However, if metals recovery operations are subject to the secondary metals provisions of 40 CFR 421, the Nonferrous Metals Manufacturing Point Source Category, then the provisions of this part do not apply. These secondary metals subcategories are Subpart C (Secondary Aluminum Smelting Subcategory), Subpart F (Secondary Copper Subcategory), Subpart L (Secondary Silver Subcategory), Subpart M (Secondary Lead Subcategory), Subpart P (Primary and Secondary Germanium and Gallium Subcategory), Subpart Q (Secondary Indium

Subcategory), Subpart R (Secondary Mercury Subcategory), Subpart T (Secondary Molybdenum and Vanadium Subcategory), Subpart V (Secondary Nickel Subcategory), Subpart X (Secondary Precious Metals Subcategory), Subpart Z (Secondary Tantalum Subcategory), Subpart AA (Secondary Tin Subcategory), Subpart AB (Primary and Secondary Titanium Subcategory), Subpart AC (Secondary Tungsten and Cobalt Subcategory), and Subpart AD (Secondary Uranium Subcategory).

R. Silver Recovery Operations From Used Photographic and X-Ray Materials

At the time of the 1999 proposal, EPA proposed not to include electrolytic plating/metallic replacement silver recovery operations of used photographic and x-ray materials within the scope of this rule. The Agency based its conclusion on the fundamental difference in technology used to recover silver at facilities devoted exclusively to treatment of photographic and x-ray wastes. However, for off-site wastes that are treated/recovered at these facilities through any other process and/or waste generated at these facilities as a result of any other centralized treatment/recovery process, the Agency proposed that these wastewaters would be subject to provisions of this rule.

The Agency received many comments to the 1999 proposal that supported EPA's decision to not include electrolytic plating/metallic replacement silver recovery operation of used photographic and x-ray materials within the scope of this rule. However, commenters additionally noted that while many of these facilities primarily use electrolytic plating followed by metallic replacement in silver recovery operations, there are other processes that are also utilized. Commenters further noted that new silver recovery technologies are emerging and being studied and developed on a regular basis. As such, commenters asked EPA to not include silver recovery operations from used photographic and x-ray materials regardless of the method used to recover the silver.

EPA agrees with commenters that facilities that are devoted exclusively to the centralized recovery of silver from photographic and x-ray wastes should not be covered by this rule, regardless of the type of process used to recover the silver. As such, facilities that exclusively perform centralized silver recovery from used photographic and x-ray wastes are not subject to provisions of this rule. EPA would expect that, as is the case now with wastewater discharges associated with this operation, the control authority or permit writer would determine whether to apply the provisions of 40 CFR part 421, Subpart L (the Secondary Silver Subcategory of the Nonferrous Metals Manufacturing Regulation) or establish BPJ, site-specific permit requirements.

There are some facilities, however, which are engaged in traditional CWT activities and also engaged in centralized silver recovery from photographic and x-ray materials. If the wastewaters from the two operations are commingled, the commingled silver recovery wastewater flow would be subject to CWT limitations or standards. Therefore, a facility performing centralized silver recovery from used photographic and x-ray materials as well as some other covered CWT services that commingles these wastes are subject to provision of the CWT rule. All of the wastewater discharges are subject to provisions of this rule. If, however, a facility is performing both operations and the wastestreams are not commingled (that is, silver recovery wastewater is treated in one system and CWT wastes are treated in a second, separate system), the permit writer or control authority should apply the provision of 40 CFR part 421, if applicable, or continue to establish BPJ, site-specific permit requirements for the discharge associated with the silver recovery operations and apply the CWT rule to the wastewaters associated with the other covered CWT activities.

As a further point of clarification, wastewater generated as a result of centralized silver recovery operations are not specifically excluded from provisions of this rule. Silver recovery wastewaters that are treated at CWT facilities with other covered off-site wastestreams are subject to provisions of this rule.

S. High Temperature Metals Recovery

EPA is aware of three facilities in the U.S. that recover metal using a ''high temperature metals recovery'' process (HTMR). HTMR facilities recycle metal-bearing materials in a pyrometallurgical process that employs very high temperature furnaces. These facilities do not use the water-based precipitation/filtration technologies to recover metals from wastewater observed at metals subcategory facilities throughout the CWT industry. At the time of the proposal, EPA believed that all HTMR processes were ''dry'' (*i.e.,* did not produce a wastewater). Consequently, in the 1999 proposal, EPA proposed not to include facilities that perform high temperature metals recovery (HTMR) within the coverage of this rule. EPA further requested comment on whether EPA should promulgate a zero discharge requirement for facilities that utilize the HTMR process.

Based on comment to the proposal, EPA has concluded that while most HTMR processes are dry, one of the three known HTMR facilities produces a wastewater (scrubber blowdown). As such, EPA has concluded that a zero discharge requirement for HTMR facilities is inappropriate and has not included it in the final CWT rule. However, upon further examination of the comments and its database, EPA has concluded that HTMR facilities that generate a wastewater should be included within the scope of the CWT rule. While the HTMR process is different from other recycling technologies studied by EPA for this rulemaking, EPA has concluded that the wastewater produced from HTMR operations contains many of the CWT metals subcategory pollutants of concern and that the concentration of these pollutants falls solidly within the range of wastewaters in the CWT metals subcategory. As such, while the HTMR process may be different from water-based precipitation technologies, the resulting wastewaters are similar (see DCN 33.2.1). Therefore, it is appropriate for EPA to establish limits for HTMR wastewaters using the metals subcategory technology basis and these limits will be achievable. EPA has revised all of its analysis to reflect the inclusion of these ''non-dry'' HTMR facilities within the scope of the CWT rule. However, if high temperature metals recovery operations are subject to any of the secondary metals provisions of 40 CFR 421, the Nonferrous Metals Manufacturing Point Source Category, then the provisions of this part do not apply. See Section V.Q for a list of the secondary metals subcategories.

T. Solvent Recycling/Fuel Blending

EPA studied the solvent recycling industry in the 1980s. EPA published its findings in the ''Preliminary Data Summary for the Solvent Recycling Industry'' (EPA 440/1–89/102) in September 1989 that describes this industry and its recycling processes. There, EPA has explained solvent recovery as ''the recycling of spent solvents that are not the byproduct or waste product of a manufacturing process or cleaning operation located on the same site.'' Facilities generally recycle spent solvents in two main operations. Traditional solvent recovery involves pretreatment of the wastestream (in some cases) and separation of the solvent mixtures by specially constructed distillation columns. In most cases, traditional

solvent recovery is performed at organic chemical manufacturing facilities. As a result, wastewater discharges resulting from this process are subject to effluent limitations guidelines and standards for the organic chemicals industry (often abbreviated as OCPSF) (40 CFR part 414).

EPA is aware that there are a few facilities that accept solvents from other facilities for commercial solvent recovery operations. Some perform solvent recovery of spent or contaminated chemicals received from pharmaceutical and other chemical manufacturing companies. Some recycle spent solvents generated by parts washers and other cleaning devices operated by automotive shops, dry cleaners, and other small businesses. Because these commercial solvent recovery facilities are not located at an organic manufacturing facility, the provisions of 40 CFR 414, as written, do not apply to them.

Based on comments to the 1999 CWT proposal, EPA considered whether it should regulate commercial solvent recovery facilities under the provisions of this rule. EPA has determined, however, not to include these commercial solvent recovery operations within the scope of this rule at this time. Throughout the development of this rule, EPA has clearly stated that traditional solvent recovery operations would not be included within the scope of this rule. In developing its database to support this rule, while EPA did collect limited information on these activities, EPA intentionally excluded known solvent recoverers from its data collection activities. As such, EPA has only limited data on solvent recovery activities that are not already subject to OCPSF. It did not obtain information to characterize the wastewaters generated at such operations. Thus, EPA has no basis for determining whether or not such operations are sufficiently similar to the organic waste subcategory so that they may properly be regulated as organic wastestreams. Therefore, wastewaters resulting from traditional solvent recovery activities as defined above are not subject to these effluent guidelines.

For wastewaters associated with traditional solvent recovery activities located at organic chemical manufacturing facilities, permit writers (and local control authorities) will, of course, use the Organic Chemicals, Plastics, and Synthetic Fibers (OCPSF) guideline to establish discharge requirements. For commercial traditional solvent recovery activities (not located at an organic chemical manufacturing site), permit writers (and local control authorities) should carefully examine the wastewater to see if it also contains pollutants regulated by the OCPSF guidelines when the permit writer establishes case-by-case limitations under NPDES regulations at 40 CFR 125.3 or the control authority establishes local limits under the General Pretreatment Regulations at 40 CFR 403.5. Permit writers or local control authorities must include technology-based limits for any toxic pollutant which is or may be discharged at a level greater than the level which can be achieved by treatment requirements appropriate to the permittee, or any pollutant which may pass through or interfere with POTW operations. (See 40 CFR 122.44(e), 125.3. See also 40 CFR 403.5).

Fuel blending is a type of solvent recovery. Fuel blending is the process of mixing wastes for the purpose of regenerating a fuel for reuse. At the time of the 1995 proposal, EPA did not include fuel-blending operations within the scope of the CWT rule because EPA believed the fuel blending process was ''dry'' (that is, no wastewaters were produced). Based on comments to the original proposal and the Notice of Data Availability and its review of data it has obtained, EPA has reconfirmed its conclusion that true fuel blenders do not generate any process wastewaters and are, therefore, zero dischargers. EPA is concerned, however, that the term ''fuel blending'' may be loosely applied to any process where recovered hydrocarbons are combined as a fuel product. Such operations occur at nearly all used oil and fuel recovery facilities.

EPA has, therefore, not included ''dry'' fuel blending operations within the scope of the CWT rule. In the event that wastewater is generated at a CWT fuel blending facility, the discharge of wastewaters associated with these operations is subject to this rule.

U. Re-Refining

When EPA initially proposed guidelines and standards for CWT facilities, the regulations would have limited discharges from used oil reprocessors/reclaimers, but did not specifically include or exclude discharges from used oil re-refiners. During review of information received on the 1995 proposal and assessment of the information collected, the Agency, at one point, considered limiting the scope of this regulation to reprocessors/reclaimers only because it was not clear whether re-refiners actually generated wastewater. However, further data gathering efforts have revealed that re-refiners may generate wastewater and that the principal sources of re-refining wastewaters are essentially the same as for reprocessors/reclaimers. Consequently, the final guidelines will apply to re-refining wastewater.

EPA studied the used oil reclamation and re-refining industry in the 1980s. In September 1989, EPA published the ''Preliminary Data Summary for the Used Oil Reclamation and Re-Refining Industry'' (EPA 440/1–89/014) that describes this industry and the processes utilized. This document generally characterizes the industry in terms of the types of equipment used to process the used oil. Minor processors (reclaimers) generally separate water and solids from the used oil using simple settling technology, primarily in-line filtering, and gravity settling with or without heat addition. Major processors (reclaimers) generally use various combinations of more sophisticated technology including screen filtration, heated settling, centrifugation, and light fraction distillation primarily to remove water. Re-refiners generally use the most sophisticated systems that include, in addition to the previous technologies, a vacuum distillation step to separate the oil into different components.

Today's final rule applies to the process wastewater discharges from used oil re-refining operations. The principal sources of wastewater include oil-water gravity separation (often accompanied by chemical/thermal emulsion breaking) and dehydration unit operations (including light distillation and the first stage of vacuum distillation). EPA has, to date, identified two re-refining facilities.

V. Used Oil Filter and Oily Absorbent Recycling

EPA did not obtain information on used oil filter or oily-absorbent (oil soaked or contaminated disposable rags, paper, or pads) recycling through the Waste Treatment Industry Questionnaire. However, in response to the September 1996 Notice of Data Availability and the 1999 proposal, EPA received comments from facilities which recycle used oil filters and oily absorbents. In addition, EPA also visited several used oil reprocessors that recycle used oil filters or oily absorbents as part of their operations.

Used oil filter and oily absorbent recycling processes range from simple crushing and draining of entrained oil to more involved processes where filters or absorbent materials are shredded and the metal and filter material are separated. Generally, the resulting used oil is recycled, the separated metal product is sold to a smelter, and the

separated filter material is sold as a solid fuel. Based on information collected during EPA's site visits and comments on the 1999 proposal, wastewater may be generated during all phases of the recycling activity including collection activities, plant maintenance, and air pollution control. EPA notes, however, that based on its observations, many of these activities are ''dry'' and do not produce associated wastewaters. In fact, at the time of the 1999 proposal, EPA believed these activities were largely ''dry'' and requested comment on whether EPA should promulgate a zero discharge requirement for facilities performing used oil filter recovery.

As detailed above, based on comment on the proposal, EPA has learned that not all used oil filter and absorbent recycling activities are dry. Consequently, EPA has decided that it should not adopt a zero discharge requirement for these activities. Upon further examination of the comments and its database, EPA has concluded that it should include used oil filter and absorbent recovery facilities that generate a wastewater within the scope of the CWT rule. While EPA does not have data specific to used oil filter recovery on the characteristics of these wastewaters, these wastewaters are often combined with other covered CWT wastewaters for treatment. Further, since the material being recovered is primarily used oil, EPA has concluded that any resulting wastewaters will be similar (in terms of constituents and concentration) to wastewaters generated from used oil recovery. As a result, EPA has concluded that these operations should be regulated as are other centralized used oil recovery activities. Where information is available to EPA on these operations, EPA has revised its analysis to reflect the inclusion of these ''non-dry'' used oil filter and absorbent facilities within the scope of the CWT rule.

W. Grease Trap/Interceptor Wastes

EPA received comments suggesting that the scope of the CWT rule should not include grease, sand, and oil interceptor wastes. Some of these wastes are from non-industrial sources and some are from industrial sources. Some are treated at central locations designed to treat grease trap/interceptor wastes exclusively and some of these wastes are treated at traditional CWT facilities with traditional CWT wastes. Examples of the types of customers which generate these grease trap/interceptor wastes include, but are not limited to auto and truck maintenance and repair shops; auto body and parts shops; car washes; gas stations; commercial bottling facilities; food and produce distribution shops; restaurants; and tire shops.

Throughout the development of this rule, EPA has directed its efforts to CWT operations that treat and/or recover off-site industrial wastes and not to food-related wastes. Grease trap/interceptor wastes are defined as animal or vegetable fats/oils from grease traps or interceptors generated by facilities engaged in food service activities. Such facilities include, but are not limited to restaurants, cafeterias, caterers, commercial bottling facilities, and food and distribution shops. EPA has concluded that these wastes are fundamentally different from the types of wastes examined for this rule and are outside the scope of this rule. Grease trap/interceptor wastes should not contain any hazardous chemicals or materials that would prevent the fats/oils from being recovered and recycled.

Wastewater discharges from the centralized treatment of wastes produced from oil interceptors, however, which are designed to collect petroleum-based oils, sand, etc. from industrial type processes, are a different case and EPA has determined that this wastewater is properly subject to this rule. Examples of facilities that produce oil interceptor waste include, but are not limited to, auto and truck maintenance and repair shops; auto body and parts shops; car washes; and gas stations. EPA collected data on the types and concentrations of pollutants in oil interceptor wastes through comments and EPA sampling. The data show, that like other CWT wastes, the concentration of pollutants can vary greatly from one wastestream to another. EPA's sampling data show that these materials can be very similar in nature and concentration to other wastes covered by this rule. Consequently, EPA has determined these wastes should be included within the scope of this rule.

X. Food Processing Wastes

During development of this rule, EPA did not collect information from facilities engaged in centralized waste treatment of food processing wastes. As detailed in V.W, EPA envisioned that this rule would be limited to the treatment and/or recovery of off-site industrial wastes. While food processing may be an ''industrial'' activity, these wastes do not contain heavy metals, concentrated organics, or petroleum based oils. In terms of contaminants of concern, these wastes are similar to those generated by cafeterias, restaurants, etc. Consequently, the final guidelines will not apply to animal and vegetable fats/oils wastewaters at CWT facilities, specifically those generated by food processors/manufacturers.

Y. Sanitary Wastes and/or Chemical Toilet Wastes

The provisions of the CWT rule, as previously explained, will not cover sanitary wastes (such as septage), nor will they cover chemical toilet wastes. EPA expects that permit writers and control authorities would develop BPJ limitations or local limits to establish site-specific permit requirements for any commercial sanitary waste treatment facility.

Similarly, sanitary wastes or chemical toilet wastes received from off-site and treated at an industrial facility or a CWT facility are not subject to the provisions of the CWT rule. If these wastes are mixed with industrial wastes, EPA would expect that, as is the case now with ancillary sanitary waste flows mixed for treatment at facilities subject to national effluent guidelines and standards, the permit writer would establish BPJ, site-specific permit requirements.

Z. Treatability, Research and Development, and Analytical Studies

During the initial stages of development of this rule, EPA did not envision regulation of facilities which accept off-site wastes for treatability studies, research and development, or chemical or physical analysis. As such, EPA did not attempt to collect information on these activities. However, EPA received comment to its proposals asking that EPA clarify its coverage of these activities by this rule.

EPA has very little information on these activities. Based on comments, these activities, arguably, would fall within the definition of Centralized Waste Treatment since they accept off-site wastes. The purpose of these activities is not treatment or recovery, but rather the evaluation of different treatment techniques. Consequently, EPA has concluded that treatability, research and development or analytical activities should not be subject to provisions of the CWT rule.

Permit writers and local authorities should use their Best Professional Judgment (BPJ) and local limits authority to establish limitations and standards for these wastestreams. Under EPA's regulations, permit writers or local control authorities must include technology-based limits either for any toxic pollutant which is or may be discharged at a level greater than the level which can be achieved by treatment requirements appropriate to

the permittee or for any pollutant which may pass through or interfere with POTW operations. (See 40 CFR 122.44(e), 125.3.) See also 40 CFR 403.5. EPA would expect that, in some cases, wastewater associated with these activities might look very much like the wastestreams regulated under this rule. In those circumstances, permit writers (and local control authorities) may want to consider the technical development document developed for the CWT guideline when the permit writer establishes case-by-case limitations under NPDES regulations at 40 CFR 125.3 or the control authority establishes local limits under the General Pretreatment Regulations at 40 CFR 403.5.

EPA notes that if a CWT facility accepts off-site wastes for treatability, research and development, or analytical activities, and commingles any resulting wastewaters with other covered wastewaters prior to discharge, these wastewaters would be subject to provisions of this rule.

VI. Subcategorization

EPA developed different limitations and standards for the CWT operations depending on the type of waste received for treatment or recovery. EPA remains convinced this is the most appropriate basis for subcategorizing the CWT industry. EPA has determined that there are four subcategories appropriate for the CWT industry:

- Subcategory A: Facilities that treat or recover metal from metal-bearing waste, wastewater, or used material received from off-site (''metals subcategory'');
- Subcategory B: Facilities that treat or recover oil from oily waste, wastewater, or used material received from off-site (''oils subcategory'');
- Subcategory C: Facilities that treat or recover organics from organic waste, wastewater, or used material received from off-site (''organics subcategory''); and
- Subcategory D: Facilities that treat or recover some combination of metal-bearing, oily, or organic waste, wastewater, or used material received from off-site (''multiple wastestream subcategory'').

For a detailed explanation of EPA's subcategorization methodology and factors considered as the basis for today's subcategorization, see the 1999 proposal (64 FR 2300–2301) and Chapter 5 of the Final Technical Development Document.

VII. Industry Description

As detailed in Section V above, the universe of CWT facilities in the United States is broad. The development of this industry is largely a result of the adoption of the increased pollution control measures required by the CWA and RCRA. The 1999 proposal (64 FR 2293–2294) and Chapter 4 of the technical development document provide a detailed description of the development of this industry and its operation. EPA's 1999 proposal (64 FR 2301–2302) and Chapter 5 of the Final Technical Development Document also provide detailed descriptions of operations at facilities by subcategory.

EPA now estimates that there are 223 CWT facilities. Changes in the estimate of the total number of CWT facilities since the proposal reflect facilities that were included or excluded because of scope changes/clarifications. EPA is aware that CWT facilities have entered or left the centralized waste treatment market. This is expected in a service industry. Even so, EPA is comfortable that its estimate of facilities is reasonable and has not adjusted it, other than to account for scope changes/clarifications. Of these 223 CWT facilities, approximately 14 discharge directly to surface waters of the U.S., 151 discharge indirectly to POTWs, and 58 are zero or alternative dischargers. The zero or alternative discharge methods include (1) wastewater is disposed of by alternate means such as deep well injection or incineration; (2) wastewater is sent off-site for treatment, generally to another CWT; (3) wastewater is evaporated; and (4) no wastewater is generated. There are 62, 178, and 32 facilities in the metals, oils, and organics subcategories, respectively. Thirty-seven facilities accept wastes from multiple subcategories and could be subject to the multiple wastestream subcategory.

VIII. The Final Regulation

For a detailed discussion of all technology options considered in the development of today's final rule, see the proposal (64 FR 2305–2315) and Chapter 9 of the technical development document.

A. Best Practicable Control Technology (BPT)

1. Subcategory A—Metals Subcategory

EPA is establishing BPT limitations for the metals subcategory for 19 pollutants, including cyanide. The technology basis for these BPT limitations is metals option 4: primary precipitation, liquid-solid separation, secondary precipitation, clarification, and sand filtration. This is the same technology that was the basis for the 1999 proposed limitations. Under option 4, the treater varies pH levels and treatment chemicals in order to promote optimal removal of the wide range of metal pollutants found in CWT metals wastewaters. Different metals are preferentially removed with different treatment chemicals and different pH levels. Generally, BPT limitations based on option 4 will require some facilities to more carefully control their treatment systems, increase the quantities of treatment chemicals they use, perform an additional precipitation step, and add a clarification and sand filtration step. In the case of complex cyanide, metal-bearing streams, EPA's limitations require cyanide removal prior to metals treatment. EPA based the cyanide limitations on cyanide option 2 treatment, which is alkaline chlorination in a two-step process.

The Agency concluded that this treatment system represented the best practicable technology currently available and should be the basis for the BPT metals limitations for the following reasons. First, the option 4 technology is one that is readily applicable to all facilities that are treating metal-bearing wastestreams. It is based on a technology including two-stage chemical precipitation that is currently used at approximately 25 percent of the facilities in this subcategory. Second, the adoption of this level of control would represent a significant reduction in pollutants discharged into the environment by facilities in this subcategory. Option 4 would annually remove approximately 4.1 million pounds of TSS and metals now discharged to the Nation's waters. Third, the Agency assessed the total cost of water pollution controls likely to be incurred for option 4 in relation to the effluent reduction benefits and determined these costs were reasonable—$0.40 per pound ($1997). In the 1999 proposal, EPA explained why it rejected the other options it considered for BPT. See 64 FR 2280 at 2306.

Although EPA is not changing the technology basis from that proposed, EPA is revising all of the BPT metals subcategory limitations. This is due to changes in the statistical methodology used to calculate pollutant long-term averages and limitations as detailed in Section IV.H above.

The Agency used chemical precipitation treatment technology performance data from the Metal Finishing regulation (40 CFR Part 433) to establish direct discharge limitations for TSS because the facility from which the option 4 limitations were derived is an indirect discharger and the treatment system is not necessarily designed for

optimum removal of conventional parameters, due to the lack of stringent local limits for these parameters. EPA has concluded that the transfer of this data is appropriate given the absence of adequate treatment technology for this pollutant at the only otherwise well-operated BPT CWT facility examined by EPA. Based on a review of the data, EPA concluded that similar wastes (in terms of TSS concentrations) are being treated at both metal finishing and centralized waste treatment facilities, and that the use of the metal finishing data to derive TSS limits for this subcategory is warranted. Because the technology basis for the transferred limitations includes clarification rather than sand filtration, the Agency also included a clarification step prior to sand filtration (which the option 4 facility does not have) in the technology basis for option 4 for facilities subject to BPT. Therefore, because the technology basis for CWT is based on primary chemical precipitation, primary clarification, secondary chemical precipitation, secondary clarification, and sand filtration and the technology basis for Metal Finishing is based on primary precipitation and clarification only, EPA concluded that CWT facilities will perform similarly (or better) when treating TSS in wastes in this subcategory.

BPT limitations established by option 4 (except TSS) are based on data from a single, well-operated system. Generally, for purposes of defining BPT effluent limitations, EPA looks at the performance of the best treatment technology and calculates limitations from some level of average performance measured at facilities that employ this ''best'' treatment technology. In reviewing technologies currently in use in this subcategory, however, EPA found that facilities generally utilize a single stage chemical precipitation step—a technology which does not achieve adequate metals removals for the wastestreams observed at these operations. EPA did identify facilities that utilize additional metals wastewater treatment, generally secondary chemical precipitation, but without the final multimedia filtration step. Also, EPA found that only the BPT model facility accepts a full spectrum of waste, often with extremely high metals concentrations and provides, therefore, a suitable basis to determine the performance that a well-designed and operated system can achieve for a wide range of raw waste concentrations. Consequently, EPA is adopting BPT limitations based on performance data from this facility. For further discussion, see the 1999 proposal at 64 FR 2280–2357.

Cyanide Subset. EPA is adopting BPT limitations for the metals subcategory for cyanide bearing streams. The presence of high cyanide concentrations detrimentally affects the performance of metal precipitation processes due to the formation of metal-cyanide complexes. Effective treatment of such wastes typically requires a cyanide destruction step prior to any metal precipitation steps. Consequently, in the case of metal streams which contain concentrated cyanide complexes, EPA based BPT limitations on an additional treatment step to destroy cyanide before metals precipitation: alkaline chlorination in a two-step process (cyanide option 2). This is the same technology that was the basis for the 1999 proposed limitations. In the first step, cyanide is oxidized to cyanate in a pH range of 9 to 11. The second step oxidizes cyanate to carbon dioxide and nitrogen at a controlled pH of 8.5.

There are several reasons supporting the selection of limitations based on cyanide option 2, as explained in detail in the 1999 proposal at 64 FR 2309. First, the facility achieving cyanide option 2 removals accepts a full spectrum of cyanide waste. Consequently, the treatment used by the cyanide option 2 facility can be readily applied to all facilities in the subset of this subcategory. Second, adoption of this level of control would represent a significant reduction in pollutants discharged into the environment by facilities in this subset. Finally, the Agency assessed the total cost for cyanide option 2 in relation to the effluent reduction benefits and determined these costs were economically reasonable.

2. Subcategory B—Oils Subcategory

The Agency is today adopting BPT limitations for the oils subcategory for 22 pollutants. The technology basis for the BPT limitations is oils option 9: emulsion breaking/gravity separation, secondary gravity separation and dissolved air flotation. This is the same technology that was the basis for the 1999 proposed limitations. EPA's data indicate that all oils treatment facilities currently utilize some form of emulsion breaking and/or gravity separation system. Secondary gravity separation involves using a series of tanks to separate the oil and water and then skimming the oily component off. The resulting water moves to the next step. The gravity separation steps are then followed by dissolved air flotation (DAF). DAF separates solid or liquid particles from a liquid phase by introducing air bubbles into the liquid phase. The bubbles attach to the particles and rise to the top of the mixture. Often, chemicals are added to increase the removal of metal constituents. BPT limitations based on this option will likely require some facilities to more carefully control their treatment systems, perform additional gravity separation steps, or install and operate a DAF system. For oils streams with relatively high concentrations of metals, these limitations will also require some facilities to use increased quantities of treatment chemicals to enhance the removal of metals.

EPA developed the final limitations for this option using sampling data from facilities both with and without the secondary gravity separation step. EPA's data show that the secondary gravity separation step may not always be necessary to meet the final limitations, depending on the level of treatment in the initial gravity-separation/emulsion-breaking step. EPA's data show there is a wide range of pollutants being discharged from this initial treatment step. EPA concluded that if many of the facilities optimize treatment at this level, the secondary gravity separation step may not be required. However, EPA estimated the costs to comply with the limitations with the secondary gravity separation step included to ensure this technology option's economic achievability.

The Agency is today adopting BPT limitations for the oils subcategory based on Option 9, emulsion breaking/gravity separation, secondary gravity separation and dissolved air flotation for two reasons. First, the adoption of this level of control would represent a significant reduction in pollutants discharged into the environment by facilities in this subcategory. Second, the Agency assessed the total costs of water pollution controls likely to be incurred for this option in relation to the effluent reduction benefits and determined these costs were reasonable at $0.63/lb ($1997). In the 1999 proposal, EPA explained why it rejected the other options it considered for BPT for this subcategory. See 64 FR 2280 at 2309–11.

EPA believes it is important to note that BPT limitations for conventional parameters established by Option 9 are based on data from a single, well-operated, indirect-discharging system. Generally, for purposes of defining BPT effluent limitations, EPA looks at the performance of the best treatment technology and calculates limitations from some level of average performance measured at facilities that employ this ''best'' treatment technology. The

facilities sampled as the technology basis for this subcategory, however, were not required to optimize their oil and grease or TSS removals because they discharge to POTWs. Current POTW/local permit limitations for oil and grease in this subcategory range from 100 mg/L to 2,000 mg/L and for TSS from 250 mg/L to 10,000 mg/L. Many have no oil and grease or TSS limits at all. EPA concluded that only one of the systems in this subcategory for which EPA has data was designed to remove oil and grease and TSS effectively. EPA concluded that the oil and grease and TSS removals are uniformly inadequate at the other facilities included in the BPT limitations calculations for other parameters. Consequently, EPA based the oil and grease and TSS limitations on data from a single facility.

3. Subcategory C—Organics Subcategory

The Agency is today adopting BPT limitations for the organics subcategory for 17 pollutants. The technology basis for the BPT limitations is organics option 4: equalization and biological treatment. Biological treatment for this option is in the form of a sequential batch reactor. This is the same technology that was the basis for the 1999 proposed limitations. The preamble to the proposal provided further explanation of EPA's decision (64 FR 2311–12).

The Agency concluded that this treatment system represented the best practicable technology currently available and should be the basis for the BPT organics limitations for several reasons. The technology is already used at the four direct discharging facilities that treat organic wastes and results in the removal of 28,700 lbs annually of conventional pollutants (at baseline). Moreover, because the treatment is in place, the cost of compliance with the limitations will obviously be reasonable.

Unlike the other BPT limitations adopted today, the adoption of limitations based on option 4 will not, in all probability, result in any significant change in the quantity of pollutants discharged into the environment by facilities in this subcategory. As noted, EPA's data suggests that all direct discharging facilities in this subcategory currently employ equalization and biological treatment systems, and EPA assumed that all those facilities will be able to meet the BPT limitations without additional capital or operating costs. If any facilities were to incur increased operating costs associated with the limits, EPA concluded these increases are negligible and has not quantified them. Many of these facilities are not currently required to monitor for organic parameters or are only required to monitor a couple of times a year. Thus, the estimated costs for complying with BPT limitations for this subcategory are associated with additional monitoring only. The Agency determined the additional monitoring is warranted, and will promote more effective and consistent treatment at these facilities. In the 1999 proposal, EPA explained why it rejected the other options it considered for BPT for this subcategory. See 64 FR 2280 at 2311–12.

The selected BPT option is based on the performance of a single indirect discharging facility. While EPA identified four direct discharging organics subcategory facilities that utilize biological treatment, EPA did not use data from these facilities to establish limitations because they commingle organics subcategory wastewaters with other CWT subcategory wastewaters or wastewaters subject to other national effluent guidelines and standards. Many facilities that are treating wastes that will be subject to effluent limitations for the organics subcategory also operate other industrial processes that generate much larger amounts of wastewater than the quantity of off-site generated organic waste receipts. The off-site generated organic waste receipts are directly mixed with the wastewater from the other industrial processes for treatment. Therefore, identifying facilities to sample for limitations development was difficult because the waste received for treatment and treatment unit effectiveness could not be properly characterized for off-site generated waste. The treatment system on which EPA based option 4 was one of the few facilities identified which treated organic waste receipts separately from other on-site industrial wastewater.

The Agency used biological treatment performance data from the Thermosetting Resin Subcategory of the OCPSF regulation to establish direct discharge limitations for BOD_5 and TSS because the facility from which Option 4 limitations were derived is an indirect discharger and the treatment system is not operated to effectively remove conventional pollutants. EPA has concluded that the transfer of this data is appropriate given the absence of adequate treatment technology for these pollutants at the only otherwise well-operated BPT CWT facility in this subcategory that the Agency was able to evaluate. Moreover, EPA concluded that the biological treatment systems at CWT facilities will perform similarly to those at OCPSF facilities. EPA based this conclusion on its review of the NPDES permits for the four direct discharging facilities in this subcategory. Two of these facilities are located at manufacturing facilities that commingle their wastewater for treatment and are already subject to OCPSF. The other two facilities have conventional pollutant limits which are lower than those adopted today. EPA has concluded that all of these facilities should be able to comply with the transferred limitations without incurring additional costs. Likewise, EPA has not estimated any additional pollutant removals associated with this data transfer.

4. Subcategory D—Multiple Wastestream Subcategory

The Agency is today adopting BPT limitations for the multiple wastestream subcategory for up to 38 pollutants. EPA developed four sets of limitations for each of the possible combinations of the three subcategories of wastestreams: oils and metals, oils and organics, metals and organics, and oils, metals and organics. The multiple wastestream subcategory limitations were derived by combining BPT pollutant limitations from up to all three subcategories selecting the most stringent values where they overlap.[3] Therefore, the technology basis for the multiple wastestream subcategory limitations reflects the technology basis for the applicable subcategories as detailed in VIII.A.1–3.

As detailed in IV.F, multiple wastestream subcategory limitations are only available to CWT facilities which accept waste in multiple subcategories. These facilities must certify as well as demonstrate that their treatment system obtains equivalent removals to those which are the basis for the separate subcategory limits. The multiple wastestream subcategory allows the facility to monitor for compliance just prior to discharge rather than directly following treatment of a each subcategory's wastestream. For multiple subcategory facilities, this option simplifies implementation and reduces monitoring costs. EPA has, however, estimated additional burden associated with the certification process in ''National Pollutant Discharge Elimination System (NPDES)/ Compliance Assessment/Certification Information'' ICR (No.1427.05) for direct dischargers and ''National Pretreatment Program (40 CFR part 403)'' ICR (No. 0002.08) for indirect dischargers.

EPA has determined these limitations are also best practicable technology

[3] EPA selected the most stringent maximum monthly average limitations and its corresponding maximum daily limitation.

limitations for facilities that operate in one or more CWT categories for the following reasons. EPA has concluded that, for multiple subcategory facilities, the limitations adopted in this subcategory in combination with the certification process will provide pollutant removals equal to or greater than those projected if the facility elects to comply with the individual subcategory limitations. Further, analysis shows that the costs for multi-subcategory facilities to comply with the multiple wastestream subcategory limitations are generally equal to or less than the costs associated with complying with each applicable subcategory's limitations individually. Because EPA determined that costs of complying with the individual subcategory limits are achievable and costs of complying with the multiple subcategory limits are no greater, EPA concluded that the multiple subcategory wastestream limits are economically achievable.

B. Best Conventional Pollutant Control Technology (BCT)

In today's rule, EPA adopts BCT limitations equivalent to BPT for all subcategories. In deciding whether to adopt different BCT limits, EPA considered whether there are technologies that achieve greater removals of conventional pollutants than adopted for BPT, and whether those technologies are cost-reasonable under the standards established by the CWA, and implemented through regulation. EPA generally refers to the decision criteria as the ''BCT Cost Test.'' For all four subcategories, EPA identified no technologies that can achieve greater removals of conventional pollutants than those that are the basis for BPT that are also cost-reasonable under the BCT Cost Test. Accordingly, EPA is adopting BCT effluent limitations equal to the BPT effluent limitations. For additional information on the results of the BCT Cost Test, refer to Section X.F.

C. Best Available Technology Economically Achievable (BAT)

EPA today is adopting BAT effluent limitations for all subcategories of the CWT industry based on the same technologies selected as the basis for BPT for each subcategory. The BAT limitations are the same as the BPT limitations for priority and non-conventional pollutants. As described in the BPT discussion, in general, the adoption of this level of control will represent a significant reduction in pollutants discharged into the environment by facilities in this industry. Additionally, EPA has evaluated the economic impacts associated with compliance and found the technologies to be economically achievable. The economic analysis is discussed in Section X.G.

With the exception of the metals subcategory, EPA has not identified any more stringent treatment technology option different from those evaluated for BPT that might represent best available technology economically achievable for this industry.

For the metals subcategory, EPA did consider as BAT technology a treatment technology that it had evaluated for the 1999 proposal, option 3, based on the use of selective metals precipitation. However, as detailed in the proposal (64 FR 2307–2308, 2312), there is little additional toxic removal associated with option 3 while the costs to the industry for are four times greater than the cost of the BPT option, option.[4]

EPA has concluded that it should not adopt BAT limitations based on Option 3 for several reasons. First, the option 3 technology may not be the best ''available'' technology for existing metals subcategory facilities because physical constraints may prevent its use at certain facilities. Currently, only one facility in the metals subcategory is employing selective metals precipitation, which requires the separation and holding of wastestreams in numerous treatment tanks. EPA is aware that some facilities do not have, and may not be able to obtain, sufficient space to install the additional treatment tanks that would be needed for selective metals precipitation. Second, while the removals associated with option 4 are not as great as those calculated for option 3, achievement of limitations based on the option 4 technology will still represent a significant advance in removals for the industry over those obtained from conventional precipitation technology. Given these factors, EPA has concluded it should adopt BAT limitations based on the option 4 technology.

For the oils and organics subcategories, as detailed in the proposal (64 FR 2312–2313), EPA has evaluated treatment technologies for BAT limitations, which theoretically should provide greater removal of pollutants of concern. For example, EPA identified an add-on treatment technology to technologies considered for BPT—carbon adsorption—that should have further increased removals of pollutants of concern. However, EPA's data show increases rather than decreases in concentrations of specific pollutants of concern. EPA has found that the treatment performance of activated carbon is sometimes unreliable due to the competitive adsorption and desorption of pollutants that have different affinities for adsorption on activated carbon. Also, pH changes of the wastewater going through the carbon adsorption system may cause stable metal complexes to dissolve and thus cause an increase in some metal concentrations through the adsorption system. Consequently, EPA is not adopting BAT limitations based on this technology.

D. New Source Performance Standards (NSPS)

As previously noted, under Section 306 of the Act, EPA must propose and promulgate Federal standards of performance of for categories of new sources. Section 306(e) provides that, after the effective date of the standards of performance, the owner or operator of a new source may not operate the source in violation of any applicable standard of performance. The statute defines ''standard of performance'' as a standard for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction achievable through application of the best available demonstrated control technologies, processes, operating methods or other alternatives, including, where practicable, a standard permitting no discharge of pollutants. See Section 306(a)(1) of the CWA, 33 U.S.C. 1316(a)(1). Congress envisioned that new treatment systems could meet tighter controls than existing sources because of the opportunity to incorporate the most efficient processes and treatment systems into plant design. See general discussion of legislative history in *American Iron and Steel Institute* v. *EPA,* 526 F.2d 1027, 1057–59 (3rd Cir. 1975). In establishing these standards, Congress directed EPA to consider the cost of achieving the effluent reduction and any non-water quality environmental impacts and energy requirements. As the legislative history of the CWA makes clear, consideration of cost in establishing new source standards is given less weight than in establishing BAT limitations because pollution control alternatives are available to new sources that would not be available to existing sources. See Legis. Hist. (Sen. Muskie statement of House-Senate Conference Report on 1972 Act).

For the oils and the organics subcategory, EPA is promulgating NSPS that would control the same

[4] EPA's data show that option 3 would remove approximately 6% more additional toxic pound-equivalents than option 4.

conventional, priority, and non-conventional pollutants as the BPT effluent limitations. The technologies used to control pollutants at existing facilities are fully applicable to new facilities. Therefore, EPA is promulgating NSPS oils and organics subcategory limitations that are identical to BPT/BCT/BAT.

For the metals subcategory, however, EPA is promulgating NSPS effluent limitations based on a technology which is different from that used to establish BPT/BCT/BAT limitations. EPA is promulgating NSPS for the metals subcategory based on the NSPS technology proposed in 1999—selective metals precipitation, liquid-solid separation, secondary precipitation, liquid-solid separation, and tertiary precipitation and clarification. This technology (option 3) provides the most stringent controls attainable through the application of demonstrated technology. EPA has concluded that this technology is the best demonstrated controlled technology for removing metals from the metal wastestreams typically treated in the CWT industry. Additionally, EPA has concluded that there is no barrier to entry for new sources to install, operate, and maintain treatment systems that will achieve discharge levels associated with these option 3 technologies. See X.I for a more detailed discussion of EPA's barrier to entry analysis.

An additional critical factor in EPA's decision is that new facilities will not face the same constraints on using selective metals precipitation that existing facilities may. Thus, new facilities in configuring their operation will have the opportunity to provide sufficient space to operate the multiple tanks associated with the option 3 technology.

EPA's determination to establish new source limitations based on option 3 is also tied to its conclusion that facilities using this technology have the technical capability to recover and reuse metals, whereas facilities employing technologies to comply with option 4 limitations do not generally have the capability to reuse the metals and will dispose of metal-bearing sludges in landfills. EPA's analysis shows that in the event that a new facility elects to recover and re-use metals rather than simply treating the wastes, the start-up costs for the option 3 technology may actually be less than the start-up costs for the option 4 technology. This is because of the significant reduction in RCRA permitting costs associated with recycling activities versus wastewater treatment activities. Furthermore, EPA has examined the market for re-use of metals and has concluded that these markets exist. Consequently, EPA has concluded that metals re-use with option 3 is viable. As such, this technology selection promotes the objectives of both the Clean Water Act and the Pollution Prevention Act. While EPA has concluded there is no barrier to entry associated with the option 3 technology, EPA recognizes that a CWT metals recycling facility will be required to be somewhat more selective about the waste receipts it accepts than a CWT treatment facility. However, EPA's data show that the vast majority of metal-bearing wastewaters accepted at CWT facilities are not dilute. In EPA's view, this is because generating facilities elect to treat dilute metal-bearing wastestreams on-site because of the ease in treating these wastes and the costs associated with the transport and treatment of these dilute wastes off-site. Also, there is a large amount of capacity available at existing CWT metals subcategory facilities. Consequently, EPA has concluded that existing CWT metals subcategory facilities already provide adequate capacity for dilute metal-bearing wastestreams in the event that the frequency of dilute wastes being transferred off-site for treatment increases. Finally, EPA notes that new CWT metals subcategory facilities are not required to install the option 3 technology or to recover metals. However, EPA's economic analyses show that new sources should carefully consider recycling as an alternative to wastewater treatment.

The Agency used performance data from the CWT metals subcategory BAT limitations data set to promulgate NSPS limitations for oil and grease because the facility from which the NSPS limitations were derived did not have oil and grease in its influent at treatable levels during EPA's sampling episodes. EPA has concluded that transfer of this data is appropriate given that the technology basis for NSPS includes selective metals precipitation and an additional precipitation step. As such, EPA has every reason to conclude that facilities employing the NSPS technology could achieve the limitations, given the fact that the oil and grease limitations are based on performance at a facility employing fewer treatment steps.

As was the case for BPT/BAT, the technology basis for the multiple wastestream subcategory new source limitations reflects the technology basis for the applicable subcategories.

E. Pretreatment Standards for Existing Sources (PSES)

Section 307(b) of the Clean Water Act requires EPA to promulgate pretreatment standards for pollutants that are not susceptible to treatment by POTWs or which would interfere with the operation of POTWs. EPA looks at a number of factors in deciding whether a pollutant is not susceptible to treatment at a POTW or would interfere with POTW operations—the predicate to establishment of pretreatment standards. First, EPA assesses the pollutant removals achieved by directly discharging CWT facilities using BAT treatment. Second, for CWT facilities that are indirect dischargers, EPA estimates the quantity of pollutants likely to be discharged to receiving waters after POTW removals. Third, EPA studies whether any of the pollutants introduced to POTWs by CWT facilities interfere with or are otherwise incompatible with POTW operations. In some cases, EPA also looks at the costs, other economic impacts, likely effluent reduction benefits, and treatment systems currently in-place at CWT facilities.

As noted above, among the factors EPA considers before establishing pretreatment standards is whether the pollutants discharged by an industry pass through a POTW or interfere with the POTW operation or sludge disposal practices. One of the tools traditionally used by EPA in evaluating whether pollutants pass through a POTW, is a comparison of the percentage of a pollutant removed by POTWs with the percentage of the pollutant removed by discharging facilities applying BAT. In most cases, EPA has concluded that a pollutant passes through the POTW when the median percentage removed nationwide by representative POTWs (those meeting secondary treatment requirements) is less than the median percentage removed by facilities complying with BAT effluent limitations guidelines for that pollutant. For a full explanation of how EPA performs its removal analysis, see Chapter 7 of the Technical Development Document. Based on EPA's evaluation of pass-through potential, 16 of the 19 BAT pollutants regulated by the metals subcategory, 14 of the 22 BAT pollutants regulated by the oils subcategory, 5 of the 17 BAT pollutants regulated by the organics subcategory, and up to 27 of the 38 potential BAT pollutants regulated by the multiple wastestream subcategory would pass through. EPA has accordingly adopted PSES for these pollutants. The BAT pollutants in each subcategory that were determined to pass-through are listed in Tables 7–6 through 7–8 in the TDD.

For the metal and organics subcategories, the Agency today is promulgating pretreatment standards for

existing sources (PSES) based on the same technologies as adopted for BPT and BAT.[5] EPA has determined that the technology that forms the basis for PSES for this final rule is economically achievable for both subcategories. These standards will apply to existing facilities in the metals and organics subcategories of the CWT industry that introduce wastewater to publicly-owned treatment works (POTWs). These standards will prevent pass-through of pollutants from POTWs into receiving streams and also help control contamination of POTW sludge. Today's pretreatment standards represent a national baseline for treatment of CWT wastewaters. Local authorities may establish stricter limitations (based on site-specific water quality concerns or other local factors) where necessary.

For the oils subcategory, EPA proposed to base PSES on option 8 even though option 9 (the BAT technology) achieved greater removals. Option 8 is the same technology as option 9, but does not include the secondary gravity separation step. At that time, the economic analysis showed that the additional costs associated with option 9 resulted in higher economic impacts for the subcategory. In particular, EPA expressed concerns about the economic impacts of the more expensive technology for small businesses in the oils subcategory. Furthermore, EPA estimated that pollutant removals (in pound-equivalents) for option 9 were only one percent higher than the removals for option 8.

Following proposal, EPA finalized its estimates of costs, loadings reductions, and economic impacts, and then re-examined its technology selection for PSES in the oils subcategory. As part of this examination, EPA carefully considered the impacts of both option 8 and option 9 and the differences between them. EPA also looked at subsets of the oils facilities, including the set of small businesses. Based on an evaluation of all factors, EPA has not changed the technology basis from the 1999 proposal and today sets PSES standards for the oils subcategory based on option 8.

The Agency's economic analysis is discussed in detail in Section X of this preamble and Chapter 5 of the final EA. Briefly, in evaluating economic impacts, EPA looks at a variety of impacts to facilities and firms (in particular, small businesses). For this industry, EPA determined that the most relevant economic impacts are on CWT processes and facilities. Waste industries such as the CWT industry are difficult to model economically; EPA's first attempts to model CWT operations as part of a larger facility greatly overestimated closures (see Section 7.2 of the 1995 EA and 64 FR 2326). EPA therefore decided to examine the impacts on the CWT operations and, in particular, the profitability of individual CWT processes and facilities (note that a CWT ''facility'' is all of the CWT processes at a given facility and does not include the non-CWT operations at a given facility).

EPA estimates that option 8 will cost $8.2 million per year while option 9 would cost $11.9 million per year. As discussed in Section X.H, based on these costs EPA projects 10 process closures (4.7 percent of indirect oils processes) and 12 facility closures (9.4 percent of indirect oils facilities) associated with option 8. EPA projects 15 process closures (7.0 percent of indirect oils processes) and 12 facility closures associated with option 9. The incremental economic impact of option 9 relative to option 8 for oils indirect dischargers is thus five process closures. For small businesses, however, EPA projects two process closures (2.1 percent of indirect oils processes owned by small businesses) and eight facility closures (14.0 percent of indirect oils facilities owned by small businesses) for option 8. EPA projects seven process closures (7.4 percent of indirect oils processes owned by small businesses) and eight facility closures for option 9. Thus, small businesses represent a significant share of facility closures and all of the additional process closures associated with moving from option 8 to option 9. However, EPA estimates lower additional pollutant removals between option 8 and option 9 than estimated in 1999. Today, EPA estimates an incremental pollutant reduction of only 2,644 pound-equivalents between option 8 and option 9, compared to 3,658 pound equivalents estimated at the 1999 proposal (see Section IV.J for a discussion of changes in estimated pollutant reductions). EPA has determined that achieving these slight additional pound-equivalent removals does not warrant imposition of the additional cost and impacts of option 9. All of these reasons support the selection of option 8 as the PSES technology basis. Therefore, EPA is promulgating PSES standards for the oils subcategory technology based on option 8.

In determining economic achievability for indirect dischargers in the oils subcategory, EPA acknowledges that its estimates of the impacts are not trivial (*e.g.*, an almost 10% facility closure rate). However, EPA has determined that the standards are economically achievable for the oils subcategory as a whole. EPA has concluded that, in the circumstances of this industry, the costs reflect appropriate levels for PSES control for a number of reasons. First, costs are high because a significant number of facilities in the oils subcategory will require major upgrades to their in-place treatment. The information collected for this rulemaking shows that many of the facilities with the larger impacts have little effective treatment in place. Second, this rule represents the first time EPA has established limitations and standards for this industry, so some economic impact may be expected. (*American Iron and Steel Institute* v. *EPA*, 526 F.2d 1027,1052 (3rd Cir. 1975)).

As was the case for BPT/BAT, the technology basis for pretreatment standards for the multiple wastestream subcategory reflect the technology bases for the applicable subcategories.

F. Pretreatment Standards for New Sources (PSNS)

EPA is today establishing pretreatment standards for new sources that are equal to NSPS for priority and non-conventional pollutants for the oils and organics subcategories. Since the pass-through analysis remains unchanged, for these subcategories, the Agency is establishing PSNS for the same priority and non-conventional pollutants as are being established for PSES. EPA considered the cost of the PSNS technology for new oils and organics facilities. EPA concluded that such costs are not so great as to present a barrier to entry, as demonstrated by the fact that currently operating facilities are using these technologies. The Agency considered energy requirements and other non-water quality environmental impacts and found no basis for any different standards than the selected PSNS.

For the metals subcategory, however, EPA is establishing PSNS based on a different technology than that proposed in 1999. At that time, EPA proposed to base PSNS on the option 3 technology. For the final rule, however, EPA based the pretreatment standards for new sources on the option 4 technology. EPA concluded the additional removals projected with the option 3 technology for indirect dischargers do not justify the selection of option 3. This is because, unlike in the case of direct dischargers, a significant share of the additional pollutant removals associated

[5] For the metals subcategory, the technology basis for PSES does not include the second clarification step since this step was only included to meet the transferred TSS limitations that apply to direct dischargers only.

with option 3 for indirect dischargers will occur at the POTW anyway.

As was the case for PSES, the technology basis for the multiple wastestream subcategory new source limitations reflects the technology basis for the applicable subcategories.

IX. Compliance Cost and Pollutant Reduction Estimates

A. Regulatory Costs

The Agency estimated the cost for CWT facilities to achieve each of the effluent limitations and standards promulgated today. Chapter 11 of the Final Technical Development Document provides information on the methodologies used to estimate these costs. More detailed information, including the cost curves for all treatment technologies considered as the basis for today's rule, are located in the ''Detailed Costing Document for Final Effluent Limitations Guidelines and Standards for the Centralized Waste Treatment Industry.'' This section summarizes these estimated costs. All cost estimates in this section are expressed in terms of 1997 dollars. The cost components reported in this section represent estimates of the investment cost of purchasing and installing equipment, the annual operating and maintenance costs associated with that equipment, land costs associated with equipment, and additional costs for discharge monitoring.

1. BPT Costs

Table IX.B–1 summarizes, by subcategory, the total capital expenditures, and annual O&M costs for implementing BPT (on a pre-tax, annualized basis). The total capital expenditures for BPT are estimated to be $5.32 million with annual O&M costs of $3.75 million.

TABLE IX.B–1.—COST OF IMPLEMENTING BPT REGULATIONS

[In 1997 dollars]

Subcategory	Number of facilities [1]	Total capital and land costs	Annual O&M costs	Pre-tax annualized costs
Metals Treatment and Recovery	9	4,069,600	3,103,200	3,544,900
Oils Treatment and Recovery	5	1,168,100	432,100	542,400
Organics Treatment	4	80,000	215,800	221,900
Multiple wastestream Subcategory [2]	3	1,836,200	3,618,300	4,357,000
Total for All Subcategories [3]	14	5,317,700	3,751,100	4,309,200

[1] There are 14 direct dischargers. Because some direct dischargers include operations in more than one subcategory, the sum of the facilities with operations in any one subcategory exceeds the total number of facilities.
[2] This estimate assumes that all facilities that accept waste in multiple subcategories elect to comply with the single Subcategory limitations.
[3] This total assumes that all facilities that accept waste in multiple subcategories elect to comply with each set of limitations separately.

2. BCT/BAT Costs

The costs of compliance for implementing BCT/BAT are identical to the cost of compliance with BPT because the technology used to develop BCT/BAT limitations is identical to BPT.

3. PSES Costs

The Agency estimated the cost for implementing PSES applying the same assumptions and methodology used to estimate the cost of implementing BPT. Table IX.B–2 summarizes, by subcategory, the capital expenditures and annual O&M costs for implementing PSES. The total capital expenditures for PSES are estimated to be $52.6 million with annual O&M costs of $25.5 million.

TABLE IX.B–2.—COST OF IMPLEMENTING PSES REGULATIONS

[In 1997 dollars]

Subcategory	Number of facilities [1]	Total capital and land costs	Annual O&M costs	Pre-tax annualized
Metals Treatment and Recovery	44	11,111,100	10,242,100	11,449,600
Oils Treatment and Recovery	127	23,834,000	12,484,400	14,797,600
Organics Treatment	16	17,709,200	2,766,200	4,592,800
Multiple wastestream Subcategory [2]	24	44,576,100	20,392,700	24,875,900
Total for All Subcategories [3]	151	52,654,300	25,792,700	30,840,000

[1] There are 151 indirect dischargers. Because some indirect dischargers include operations in more than one subcategory, the sum of the facilities with operations in any one subcategory exceeds the total number of facilities.
[2] This estimate assumes that all facilities that accept waste in multiple subcategories elect to comply with the single waste subcategory limitations.
[3] This total assumes that all facilities that accept waste in multiple subcategories elect to comply with each set of limitations separately.

B. Pollutant Reductions

The Agency estimated pollutant reductions for CWT activities achieving each of the effluent limitations and standards promulgated today. This section summarizes these estimated reductions and Chapter 12 of the technical development document discusses the methodology in detail. For multiple subcategory facilities, EPA estimated pollutant reductions assuming facilities will elect to comply with each subcategory's limitations separately. Table IX.C–1 summarizes, by subcategory, the reduction in discharge of pollutants for implementing BPT/BAT. For multiple subcategory facilities which elect to comply with the multiple wastestream subcategory limitations, EPA estimates pollutant removals will be equal to or greater than those presented here.

1. Conventional Pollutant Reductions

The Agency estimates that this regulation will reduce BOD_5 discharges by approximately 5.0 million pounds per year, TSS discharges by approximately 4.4 million pounds per year, and oil and grease discharges by

approximately 0.3 million pounds per year.

2. Priority and Non-Conventional Pollutant Reductions

Today's rule will reduce discharges of priority and non-conventional pollutants. Because EPA has promulgated BAT limitations equivalent to BPT, EPA estimates pollutant reductions associated with BPT and BAT will be equal.

a. Direct Discharge Facilities (BPT/BAT). The estimated reductions in priority and non-conventional pollutants directly discharged in treated final effluent resulting from implementation of BPT/BAT are listed in Table IX.C–1. The Agency estimates that promulgated BPT/BAT regulations will reduce direct discharges of priority and non-conventional pollutants by approximately 2.7 million pounds per year.

TABLE IX.C–1—REDUCTION IN DIRECT DISCHARGE OF PRIORITY AND NON-CONVENTIONAL POLLUTANTS AFTER IMPLEMENTATION OF BPT/BAT REGULATIONS

Subcategory	Priority metal and organics compounds lbs/year	Non-priority metal and organic compounds lbs/year	Total metal and organic compounds lbs/year	Total lbs-equivalent/year
Metals Treatment and Recovery	981,200	1,708,600	2,689,800	377,800
Oils Treatment and Recovery	2,100	23,100	25,200	1,800
Organics Treatment [1]	0	0	0	0
Total Removals for all Subcategories	983,300	1,731,700	2,715,000	379,600

[1] EPA estimates there will be no additional removal of organic compounds for the organics subcategory, because all facilities had the treatment-in-place for removal of organic compounds.

b. PSES Effluent Discharges to POTWs. Table IX.C–2 lists the estimated reductions in priority and non-conventional pollutants indirectly discharged to POTWs resulting from implementation of PSES. The Agency estimates that promulgated PSES regulations will reduce indirect facility discharge to POTWs by 1.9 million pounds per year. These figures are not adjusted for pollutant removals expected from POTWs, and thus do not reflect reductions in discharges to waters of the U.S. Estimated reductions in pollutants discharged indirectly to surface waters are provided on a subcategory basis in Tables 12–10 through 12–13 of the technical development document.

TABLE IX.C–2—REDUCTION IN DISCHARGES TO POTWS OF PRIORITY AND NON-CONVENTIONAL POLLUTANTS AFTER IMPLEMENTATION OF PSES REGULATIONS

Subcategory	Priority metal and organics compounds lbs/year	Non-priority metal and organic compounds lbs/year	Total metal and organic compounds lbs/year	Total lbs-equivalent/year
Metals Treatment and Recovery	61,897	419,667	481,564	37,539
Oils Treatment and Recovery	82,359	752,429	834,788	50,803
Organics Treatment	163,664	447,620	611,283	19,876
Total Removals for All Subcategories	307,920	1,619,716	1,925,543	108,218

X. Economic Analyses

A. Introduction

EPA's economic analysis for this regulation assesses the costs and a variety of impacts. The record for the final rule contains the detailed results of this analysis. This section reviews that analysis. A report titled ''Economic Analysis of Final Effluent Limitations Guidelines and Standards for the Centralized Waste Treatment Industry'' (hereinafter ''final EA'') summarizes the results of that assessment. The EA estimates the economic and financial costs of compliance with the final regulation on individual process lines, facilities and companies. The EA also considers impacts on new sources. Community impacts, foreign trade impacts, market impacts, and an ''environmental justice'' analysis are also presented there. The EA also includes a Regulatory Flexibility Analysis detailing the effects on small CWT businesses. The results of a cost-effectiveness analysis are in a report titled ''Cost-Effectiveness Analysis of Final Effluent Limitations Guidelines and Standards for the CWT Industry.'' EPA has used the same methodology for estimating compliance costs and impacts of the final rule as it used for the 1999 proposal except for adjustments to costs discussed under section IV.I above.

B. Annualized Compliance Cost Estimate

As discussed previously, EPA identified 223 CWT facilities, including 14 direct dischargers, 151 indirect dischargers, and 58 zero discharge facilities. EPA calculated the economic impact on each of the facilities based on the cost of compliance using the selected technology basis for the final limitations and standards. For direct dischargers, EPA calculated impacts for compliance with the selected BPT/BCT/BAT; for indirect dischargers, EPA calculated impacts for compliance with PSES. As detailed previously in Section VIII, EPA based the final limitations on metals option 4, oils option 9, and organics option 4 and the final standards on metals option 4, oils

option 8, and organics option 4. EPA conservatively assigned costs to a facility with processes in multiple subcategories for meeting the limits or standards in each subcategory although an alternative costing scheme was also applied.

The technologies that are the basis for today's final rule are estimated to have a total pre-tax annualized cost of $35.1 million (unlike the costs presented in Section IX.B, these costs are annualized to represent the yearly cost of compliance). Table X.B–1 presents the total annualized costs for BPT/BCT/BAT and PSES in 1997 dollars for the entire CWT industry. This table differentiates between pre-tax annualized costs and post-tax annualized costs. The pre-tax annualized costs are the engineering estimates of annualized control costs, but the post-tax costs more accurately reflect the costs businesses will incur. For that reason, post-tax costs are used in the economic impact analysis. Pre-tax costs, however, more accurately reflect the total cost to society of the rule and are used in the cost-effectiveness analysis and elsewhere.

TABLE X.B–1—TOTAL ANNUALIZED COSTS
($1997)

	Pre-tax costs ($ million)	Post-tax costs ($ million)
BPT/BCT/BAT Costs (Direct Dischargers)	4.31	2.68
PSES Costs (Indirect Dischargers)	30.8	17.1
Total Costs	35.1	19.8

C. Economic Description of the CWT Industry and Baseline Conditions

The 1999 proposal and Chapter 2 of the Final EA detail the current economic conditions in the industry and the data sources used in determining these conditions. This section updates the information presented at the time of the 1999 proposal.

EPA now estimates that there are 223 CWT facilities. EPA includes 211 CWT facilities in its economic baseline,[6] 207 facilities are commercial, accepting waste generated by other facilities and/or generators for treatment and/or recovery for a fee. Three facilities are non-commercial facilities that accept waste from off-site for treatment and/or recovery exclusively from facilities under the same ownership, and one is owned by the Federal government and is treated as noncommercial. Some facilities perform both commercial and non-commercial operations. For the purposes of this analysis, a facility's commercial status refers only to the operations subject to today's final rule and not other operations at that facility. That is, a facility that performs non-commercial CWT operations along with other non-CWT commercial operations would still be considered a non-commercial facility.

The 167 companies owning CWT facilities range from large, multi-facility companies to small companies that operate only a single facility. Company-level sales information is available or estimated for 208 facilities. Company level profit information is available for 144 facilities. One hundred and nine companies own these 144 facilities. EPA currently estimates that 82 companies owning CWT facilities (including zero discharge facilities) are small businesses (for the purposes of this analysis, EPA has defined small businesses as companies with less than $6 million in annual revenues—see Section X.M). Sixty-three small companies own two direct discharging facilities and 61 indirect discharging facilities.

D. Economic Impact and Closure Methodology

1. Overview of Economic Impact Methodology

There are no differences between the economic methodology used for the 1999 proposal and the current methodology. Standard economic and financial analysis methods are used to assess the economic effects of the proposed regulation. These methods incorporate an integrated view of CWT facilities, the companies that own these facilities, the markets the facilities serve, and the communities where they are located.

CWT facilities are divided into two groups: commercial (those that charge a fee for their services) and noncommercial (those that handle intra-company waste). Impacts on commercial CWT facilities are estimated based on the results of a market model that allows facilities to adjust operations in response to changes in operating costs. The market model predicts adjustments in market prices and quantities and facility-level changes in revenues and employment. (EPA also performed sensitivity analysis in which prices do not adjust.) After the markets and facilities have responded to the regulation, facilities are assumed to close CWT treatment operations (or processes) for which operating costs (including compliance costs) exceed operating revenues. Because non-commercial CWT facilities do not operate in the markets defined by the model, impacts on these facilities are estimated at the company level, assuming that the firm must absorb the full cost of compliance. For a detailed description of the economic methodology see the 1999 proposal (64 FR 2324) and Chapter 5 of the Final EA.

In the economic analysis, EPA examines impacts on commercial CWT facilities in terms of closures, but focuses on potential closures of CWT processes by examining the costs and revenues of each waste treatment or recovery operation with the regulation in effect. (This isolates the analysis to examine only CWT operations and not overall facility operations). If with-regulation costs of the operation exceed revenues, then the model predicts (assumes) that the operation shuts down. This is called a ''process closure.'' If all the CWT treatment processes at a facility are estimated to shut down, this is called a ''facility closure.'' This does not mean that if a CWT facility with other non-CWT operations experiences a facility closure that the entire facility shuts down; other operations at a facility are not included in the economic modeling, only CWT operations. Employment losses are calculated from process closures, facility closures, and from reductions in waste treated by process lines that do not close. In all cases, the reduction in employment is calculated as a percentage decrease of the facility's total CWT employment proportionate to the percentage reduction in waste treated (this does not account for any possible increases in employment due to the regulations).

EPA notes that its model for the 1999 proposal and the final rule, unlike the market model used for the 1995 proposal, does not assume that wastewater from processes or facilities that close will be transferred to another facility in the market. Although the model assumes the price increase caused by increased compliance costs forces the total quantity of waste treated in the market to decline (the amount of this decline is governed by the elasticity of demand for a market), some of the waste previously treated at a facility that closes will be treated at other facilities. By assuming that all changes in quantity occur at the highest-priced facilities and that waste is not sent to other facilities, EPA is assuming an all-or-nothing impact. The model may overstate impacts at those facilities that could

[6] Twelve zero dischargers were identified after proposal for which EPA does not have adequate data to perform modeling. They are therefore not included in the economic baseline.

accept waste from another facility that closes. Conversely, the model may understate impacts at those facilities that cannot raise their price as much as projected. (EPA solicited comments on this issue and on appropriate ways to model this transfer but received none, so no changes were made to the methodology.)

Changes in facility revenues and costs result in changes in the revenues and costs of the companies owning the facilities, and thus changes in company profits. Increased borrowing and changes in the assets owned by the companies, together with changes in profits, result in changes in overall company financial health. EPA evaluates company-level impacts by examining changes in company profit margins and returns-to-assets test. These results are presented separately for small businesses. For small businesses, EPA also evaluates the economic impacts using a cost-to-sales test, comparing company compliance costs to baseline sales (unadjusted for cost pass-through).

Finally, the communities where the CWT facilities are located may be affected. Obviously, if facilities cut back operations, employment and income may fall, sending ripple effects throughout the local community. On the other hand, there may be increased employment associated with operating the pollution controls associated with the regulation, resulting in increased community employment and income. Facility-level changes in employment are used to calculate total employment changes. At the same time, for the communities in which CWT facilities are located, water quality may be expected to improve.

2. Comments on Economic Methodology

During the SBAR Panel consideration of the 1999 proposal, the Small Business Administration (SBA) expressed concern that EPA's economic methodology understates impacts. In particular, SBA questioned the elasticity of demand assumption used by the Agency, which affects the extent to which facilities will be able to pass on cost increases to their customers. As discussed in the final EA and this notice, the elasticity of demand (which varies depending on the number of facilities in each market) is based on economic reasoning that the Agency determines to be sound and reflects the limited empirical evidence available in the literature. In response to SBA's comment (but prior to the 1999 proposal), EPA reexamined the literature and attempted to contact waste generators to obtain further information on their responsiveness to the price of CWT services. EPA identified several additional empirical studies that support the elasticity parameters used in the EA. The Agency has not been successful, however, in eliciting information from waste generators. In the 1999 proposal, EPA solicited comment on the elasticity parameter and requested data that EPA could use to calculate the parameter, but received neither. EPA is therefore not altering its choice of parameters. For a complete discussion of the elasticity parameters used in this analysis, see Appendix E of the proposal EA.

In Appendix E to the proposal EA, EPA presents a sensitivity analysis that assumes that CWT facilities are unable to pass costs to their customers. In this analysis, impacts on direct dischargers are unchanged, but impacts on indirect dischargers increase from 13 to 16 facility closures and from 16 to 29 process closures.

E. Costs and Economic Impacts of BPT

For BPT, EPA evaluates treatment options first by calculating pre-tax total annualized costs and total pollutant removals in pounds. The ratios of the costs to the removals for each option considered for the final rule are presented in Table X.E–1. (EPA is no longer considering two options considered in the 1999 proposal: metals option 2 and organics option 3. See 64 FR 2308 and 64 FR 2312.) In all cases throughout section X, estimated costs and impacts for facilities with operations in multiple operations are presented assuming that the facilities comply with the limits for each subcategory separately, rather than with the limits for the multiple wastestream subcategory. See section VIII.A.4)

EPA based the selected BPT options for the metals, oils, and organics subcategories on option 4, option 9, and option 4, respectively. As detailed in Section VIII.A.3, all direct dischargers in the organics subcategory employ the BPT technology basis. As such, other than monitoring costs, EPA assigned no compliance costs to these facilities nor did it estimate incremental pollutant removals.

TABLE X.E–1.—BPT COST ANALYSIS

Option	Pre-tax total annualized costs ($1997 million)	Conventional pollutant removals (million lbs)	Average cost reasonableness (1997 $/lb)
Metals Subcategory—9 Facilities			
4	$3.54	8.77	$0.40
3	14.8	9.33	1.59
Oils Subcategory—5 Facilities			
9[1]	0.542	0.865	0.63
Organics Subcategory—4 Facilities			
4	0.222	0	n/a

[1] Since all direct discharging oils facilities already have treatment-in-place equivalent to secondary gravity separation, EPA did not consider the Option 8 technology.

Table X.E–2 presents the economic impact results for the selected BPT options. Options in the Metals and Organics subcategories more stringent than promulgated BPT are evaluated in Sections X.F and X.G. Impacts are presented for process closures, facility closures, and employment losses. Process closures are a direct output of the market model. EPA concludes that a facility will close if all of the processes at a facility close.

TABLE X.E–2.—ECONOMIC IMPACTS OF BPT OPTIONS

Option	Post-tax total annualized costs ($1997 M)	Process closures	Facility closures	Total employment losses
Metals Subcategory—9 Facilities				
4	$2.19	1	1	39
Oils Subcategory—5 Facilities				
9[1]	0.348	2	0	8
Organics Subcategory—4 Facilities				
4	0.138	2	0	0

[1] Since all direct discharging oils facilities already have treatment-in-place equivalent to secondary gravity separation, EPA did not consider the Option 8 technology.

EPA projects that the selected BPT regulations will result in only one process closure and one facility closure in the metals subcategory; two process closures, but no facility closures, in the oils subcategory; and only 2 process closures, but no facility closures, in the organics subcategory. The summed job losses for the BPT options are 47. (There are no job losses associated with the organics subcategory even though there are two process closures because job losses are proportional to flow. The organics flow at the facilities with the process closures is so low compared to the facility flow that there are no proportional job losses.)

Many facilities in the CWT industry have operations in more than one subcategory. EPA therefore evaluated the impacts of a combined BPT option on all direct dischargers. The combined impacts of this option are presented in Table X.E–3.

TABLE X.E–3.—ECONOMIC IMPACTS OF COMBINED BPT OPTION

Option	Post-tax total annualized costs ($1997 M)	Process closures	Facility closures	Total employment losses
All Direct Dischargers—14 Facilities				
Combined	$2.68	3	2	47

EPA projects that the final BPT regulations will result in three process closures, two facility closures, and a total employment loss of 47 jobs. The totals for the individual subcategories shown in Table X.E–2 do not add to the totals shown in Table X.E–3 because a facility may have operations in more that one subcategory. For example, a closure is counted when all of the processes at a given facility close, and a process closure is counted when one, but not all, of the processes close. Therefore, for facilities with process closures in more than one subcategory, the analysis of the combined option can show a lower number of process closures and a higher number of facility closures.

F. Results of BCT Cost Test

In July 1986, EPA explained how it developed its methodology for setting effluent limitations based on BCT (51 FR 24974). EPA evaluates the reasonableness of BCT candidate technologies—those that remove more conventional pollutants than BPT—by applying a two-part cost test: a POTW test and an industry cost-effectiveness test.

EPA first calculates the cost per pound of conventional pollutant removed by industrial dischargers in upgrading from BPT to a BCT candidate technology, and then compares this cost to the cost per pound of conventional pollutants removed in upgrading POTWs to advanced secondary treatment. The upgrade cost to industry must be less than the POTW benchmark of $0.25 per pound (in 1976 dollars) (*i.e.* ''the POTW test''). In the industry cost-effectiveness test, the ratio of the incremental BPT to BCT cost divided by the BPT cost for the industry must be less than 1.29 (that is, the cost increase must be less than 29 percent).

Table X.F–1 presents the calculations for the BCT cost test for the metals subcategory. For option 3 (the only more stringent option considered for the metals subcategory in the final rule), the table presents costs and conventional pollutant removals and compares them to the BPT baseline, option 4. For a candidate BCT option to pass the POTW test, the ratio of costs to removals for that option must be less than $0.71 ($1997) per pound. Option 3's ratio is $20.11, well above the benchmark of $0.71, so it fails the POTW test. This option therefore does not pass the BCT cost test and it is not necessary to perform the industry cost-effectiveness test. Thus, BCT is set equal to BPT.

For the final CWT rule, EPA did not consider any technologies for the oils and organics subcategories that are more stringent than the selected BPT technology basis. As such, EPA did not perform a BCT cost test for these subcategories and set BCT equal to BPT.

TABLE X.F–1.—BCT COST TEST CALCULATIONS

[Metals Subcategory]

Option	Pre-tax total annualized costs ($1997 M)	Conventional pollutant removals (M lbs)	Ratio of costs to removals for BCT candidate ($/ lb)	Does the BCT candidate pass POTW test?
4 (BPT)	$3.54	8.77	n/a	n/a
3 (BCT Candidate)	14.8	9.33	$20.11	no

G. Costs and Economic Impacts of BAT Options

EPA also evaluated options more stringent than BPT in the metals subcategory for BAT (in the oils and organics subcategories, EPA set BPT equal to the most stringent option that it considered for the final rule). This is metals option 3. For a given technology to be the basis for BAT limitations it must be economically achievable. EPA is today adopting BAT limitations equivalent to BPT for all subcategories; economic impacts are, therefore, equivalent to those presented in Section X.E for the final BPT limits. Table X.G–1 presents the economic impact results for the options considered for BAT.

TABLE X.G–1.—ECONOMIC IMPACTS OF BAT OPTIONS

Option	Post-tax total annualized costs ($1997 M)	Process closures	Facility closures	Total employment losses
Metals Subcategory—8 Facilities				
4	$2.19	1	1	39
3	9.01	1	1	40
Oils Subcategory—5 Facilities				
9[1]	0.348	2	0	8
Organics Subcategory—4 Facilities				
3	0.263	2	0	0

[1] Since all direct discharging oils facilities already have treatment-in-place equivalent to secondary gravity separation, EPA did not consider the option 8 technology.

EPA projects (see Table X.E–3) that the selected BAT regulations will result in three process closures, two facility closures and 47 job losses. The projected closure impacts for the rejected metals option are equivalent to the impacts for the selected option, although there are slightly more employment losses for the rejected metals options. However, as discussed in Section VIII.C, EPA did not select this option for BAT.

H. Costs and Economic Impacts of PSES Options

In addition to evaluating impacts to direct dischargers for BPT/BCT/BAT, EPA evaluated the impacts to indirect dischargers for complying with PSES. For the metals and organics subcategory, EPA is selecting the same options for PSES that were selected for BPT/BAT: metals option 4 and organics option 4. For the oils subcategory, EPA selected oils option 8 for PSES. The impacts of the PSES options are presented in Table X.H–1. Impacts are presented for process closures, facility closures, and employment losses. Process closures are a direct output of the market model; facility closures are designated if all of the processes at a facility close. Employment losses are calculated from process closures, facility closures, and from reductions in waste treated by process lines that do not close. In all cases, the reduction in employment is calculated as a decrease of the facility's total CWT employment proportionate to the reduction in waste treated.

TABLE X.H–1.—IMPACTS OF PSES OPTIONS

Option	Post-tax total annualized costs ($1997 M)	Process closures	Facility closures	Total employment losses
Metals Subcategory—47 Facilities				
4	$6.25	6	0	152
3	26.8	9	1	289
Oils Subcategory—127 Facilities				
8	8.23	10	12	224

TABLE X.H–1.—IMPACTS OF PSES OPTIONS—Continued

Option	Post-tax total annualized costs ($1997 M)	Process closures	Facility closures	Total employment losses
9	11.9	15	12	233
Organics Subcategory—16 Facilities				
4	2.67	7	0	30

In the metals subcategory, EPA projects that Option 4, the selected PSES technology basis, will result in six process closures, no facility closures, and 152 job losses. For the oils subcategory, EPA projects that option 8, the selected PSES technology basis, results in 10 process closures, 12 facility closures, and 224 job losses. For the organics subcategory, EPA projects that Option 4 results in seven process closures and no facility closures, with 30 job losses.

Many facilities in the CWT industry have operations in more than one subcategory. EPA therefore evaluated the impacts of a combined PSES option on all indirect dischargers. This option consists of metals option 4, oils option 8, and organics option 4. The projected impacts of the combined option are presented in Table X.H–2. The impacts of the selected PSES options shown in Table X.H–1 do not add to the impacts shown in Table X.H–2 because a facility closure is counted if all of the processes at a given facility close while a process closure is counted if one, but not all, processes close. Therefore, in the combined options, the number of process closures can go down while facility closures go up if processes in different subcategories close. The employment losses also do not add up because of rounding.

TABLE X.H–2.—ECONOMIC IMPACTS OF COMBINED PSES OPTION

Option	Post-tax total annualized costs ($1997 M)	Process closures	Facility closures	Total employment losses
All Indirect Discharges—151 Facilities				
Combined	$17.1	15	15	414

I. Economic Impacts for New Sources

EPA is establishing NSPS limitations equivalent to the limitations that are established for BPT/BCT/BAT for both the organics and oils subcategories. These limitations are economically achievable because, in general, EPA concludes that new sources will be able to comply at costs that are similar to, or less than, the costs for existing sources. They may be able to comply at lower cost since new sources can apply control technologies more efficiently than sources that need to retrofit for those technologies. Therefore, NSPS limitations will not present a barrier to entry for new facilities in these subcategories.

For the metals subcategory, EPA is establishing NSPS limitations based on the option 3 technology. EPA's analysis shows that the start-up costs for the option 3 technology for new sources may be less than the start-up costs for the option 4 technology. Consequently, EPA has concluded that compliance with limitations based on this option would not constitute a barrier to entry for new direct discharging metals subcategory sources. EPA also investigated the extent of the market for recycling or reuse of the metals-rich sludge generated by option 3 to determine if a market exists for these materials (since promoting recycling was part of the justification for option 3). EPA has determined that there is a wide market for a number of metals that could be recycled through this process, though as discussed previously, EPA recognizes that there are some metal bearing wastestreams that may not be suitable for recycling because of the low concentrations of metals. Also, for some metals, such as aluminum, there are no current markets for recycling.

EPA is setting PSNS equal to PSES limitations for existing sources for the metals and organics subcategories. Given EPA's finding of economic achievability for PSES in those two subcategories, EPA also finds that the PSNS regulation will be economically achievable and will not constitute a barrier to entry for new sources.

For the oils subcategory, EPA is establishing pretreatment standards for new sources that are equal to NSPS for priority and non-conventional pollutants. EPA concluded there is no barrier to entry for new indirect discharging facilities in the oils subcategory because existing oils indirect dischargers are using the technology.

J. Firm Level Impacts

Complying with the selected effluent limitations guidelines and standards affects the revenues and profitability of firms owning CWT facilities. In Section 6.1.4 of the Final EA, the Agency examines two financial ratios to assess the magnitude of these impacts: firm profit margin (profit/revenues) and return on assets or ROA (profit/total assets). Baseline values are compared to post-regulation values that are determined by calculating changes in profits based on output from the market model. EPA does not have complete data for all firms, but the two measures decline for more than half of the firms for which EPA has data. EPA also examined these measures by size categories, including a category for small businesses. For most size categories, median profit margin and median ROA decline or stay approximately the same (although for some size categories the medians may increase). EPA has profit data on 56 small firms and asset data for 26 small

firms; profit margin declines for 33 of the 56 firms and ROA declines for 15 of the 26 firms. As discussed more fully in the EA, these results are dependent on the assumptions used in the market model and the market in which EPA placed the facilities.

K. Community Impacts

EPA estimated impacts on communities in which CWT facilities were located by estimating the overall change in employment in the community as a result of the CWT rule. EPA estimated the change in employment at each CWT facility associated with reductions in the quantity of waste treated at facilities incurring economic impacts. Then, EPA applied state-specific direct-effect employment multipliers to estimate the total change in employment. Most of the change in employment will occur in the community where the CWT facility is located. Thus, EPA estimated the change in community employment as a result of the rule by assigning all of the change in employment to the community. Table X.K–1 shows a distribution of the estimated changes in community employment resulting from the economic impacts of the regulation. Community employment losses range from zero to 213 full time equivalents. Even the largest reduction in employment represents only 0.7 percent of the baseline employment in that community. Thus, the Agency expects the negative employment impacts of the regulation to be extremely small. In fact, EPA estimates that most facilities that do not close or scale back their CWT operations will have to hire from one to three additional workers to comply with the regulation (although this is not taken into account in Table X.K–1). Taking these impacts into effect, almost all of these facilities will experience increases in employment due to the regulation. The overall impact of the regulation on community employment may, therefore, be either positive or negative.

TABLE X.K–1.—ESTIMATED COMMUNITY EMPLOYMENT IMPACTS OF THE CWT REGULATION [1]

Reductions in community employment as a result of process and facility closures	Number of communities
Greater than 50 full time equivalents	5
20 to 50	11
1 to 20	14
0 to 1	12
Zero	100

[1] Does not account for employment gains associated with compliance.

The Agency also examined the distribution of benefits across communities with different socioeconomic and ethnic characteristics. Pursuant to Executive Order 12898, EPA must, to the greatest extent practicable and permitted by law, make achieving environmental justice part of its mission. Environmental justice concerns arise when disadvantaged or minority communities experience disproportionately high and adverse human health or environmental impacts. CWT facilities are frequently located in industrial areas; as such, the communities frequently have higher minority populations and greater poverty than the rest of their state or the nation as a whole. Reductions in pollutant exposures to these populations would, benefit such communities, but they may bear a disproportionate share of the costs of attaining these reductions. Table X.K–2 characterizes the communities in which CWT facilities are located.

TABLE X.K–2.—SOCIOECONOMIC PROFILE OF COMMUNITIES IN WHICH CWT FACILITIES ARE LOCATED

Percentage	Number of communities
Percent of the Population that are Non-Caucasian (National Percentage=16.8%)	
Less than 10	32
10 to 20	17
20 to 30	35
30 to 50	39
over 50	23
Percent of the Population With Incomes Below Poverty Level (National Percentage=13.5)	
Less than 7	19
7 to 13	33
13 to 20	56
20 to 30	31
over 30	7

Using the most recent census data, in 1990, the nation as a whole had a population that was 16.8 percent non-Caucasian. Of the communities in which CWT facilities were located, on the other hand, 38 percent had populations that were at least 30 percent minority, and 54 percent of communities had populations whose minority percentage exceeded that of the state in which they were located by more than five percentage points. In 1990, 13.5 percent of the U.S. population had incomes below the poverty level, 22 percent of communities with CWT facilities had at least 20 percent of their residents in poverty, and 33 percent had percentages of the population in poverty that exceeded by at least 5 percentage points the percentage of the population in poverty for the states in which they were located. Thus, environmental justice is a concern for these communities. The costs of the rule fall disproportionately on facilities in minority and low-income communities. Benefits may also accrue to these communities as a result of this rule, but a large share of benefits are likely to accrue to communities downstream from the CWT or POTW, which may not be the same community.

L. Foreign Trade Impacts

The EA does not project any foreign trade impacts as a result of the effluent limitations guidelines and standards. Many of the affected CWT facilities treat waste that is considered hazardous under RCRA and international trade in CWT services for treatment of hazardous wastes is virtually nonexistent. Furthermore, there is very little, if any, international trade in treatment of non-hazardous CWT wastes.

M. Small Business Analysis

The Agency prepared a final regulatory flexibility analysis to assess the impacts on small businesses owning CWT facilities. No small governmental jurisdictions or small organizations own and/or operate CWT facilities. For purposes of this analysis, EPA defines small CWT businesses as those having sales less than $6 million—the Small Business Administration definition of a small business for SIC code 4953, Refuse Systems. This is the SIC code that most CWT facilities listed in their questionnaire responses (see final EA Chapter 3). Two small companies own facilities that discharge directly. There are 61 small companies that own facilities that discharge indirectly. (The total number of small companies includes applying weights to some of the facilities). EPA evaluated the impact on small CWT companies using a cost-to-sales test, which compares baseline sales to compliance costs (adjusted for inflation so that the costs and sales are expressed in the same year's dollars). This assessment does not account for any ability of the companies to pass any increase in operating costs through to their customers. EPA recognizes that for many industries, costs-to-sales ratios in excess of one percent may correspond to much higher ratios of cost to pre-compliance profits, and, thus, serve as a signal for additional analysis. EPA sought to identify those small business that would experience costs in excess of one percent of sales and those experiencing costs exceeding three

percent of sales. However, EPA does not believe that the cost-to-sales ratio is a particularly precise measure of economic impact for this industry.

The two small companies that own direct discharging facilities, both in the oils subcategory, have cost-to-sales ratios of over three percent. Results of the cost-to-sales test for the PSES options are presented in Table X.M–1 for the number of facilities with estimated costs exceeding one percent and three percent of sales.

TABLE X.M—1.—RESULTS OF COST-TO-SALES TEST FOR PSES OPTIONS FOR SMALL BUSINESSES

Option	# of small companies with cost/sales > 1%	# of small companies with cost/sales > 3%
Metals Subcategory—4 Small Businesses		
4	4	2
3	4	4
Oils Subcategory—57 Small Businesses		
8	47	25
9	53	36
Organics Subcategory—2 Small Businesses		
4	2	1

As can be seen from Table X.M–1, the bulk of the small businesses are in the oils subcategory. Oils option 8 has 47 firms (82 percent of the small businesses) with cost-to-sales ratios in excess of 1 percent and 25 firms (44 percent of the small businesses) with cost-to-sales ratios in excess of 3 percent (without adjustment for pass-through of costs). On the other hand, oils option 9 has 53 firms (93 percent of the small businesses) with cost-to-sales ratios in excess of 1 percent and 36 firms (63 percent of the small businesses) with cost-to-sales ratios in excess of 3 percent (without adjustment for pass-through of costs).

Many of the facilities owned by small businesses operate processes in more than one subcategory so, as with the economic impact analyses presented earlier in this section, cost-to-sales test results are presented for combined PSES options. In order to be consistent with the 1999 proposal, there are two combined options: one based on oils option 8 and one based on oils option 9. These results are presented in Table X.M–2.

TABLE X.M–2.—RESULTS OF COST-TO-SALES TEST FOR COMBINED PSES OPTIONS FOR SMALL BUSINESSES

Combined option	# of small companies with cost/sales > 1%	# of small companies with cost/sales > 3%
Indirect Dischargers—61 Small Businesses		
w/Oils Option 8	51	28
w/Oils Option 9	57	38

The PSES combined option with Oils Option 8 has 51 firms (84 percent of small businesses) with cost-to-sales ratios in excess of 1 percent and 28 firms (46 percent of small businesses) with cost-to-sales ratios in excess of 3 percent. On the other hand, the combined option with Oils Option 9 has 57 firms (93 percent of small businesses) with cost-to-sales ratios in excess of 1 percent and 38 firms (62 percent of small businesses) with cost-to-sales ratios in excess of 3 percent.

EPA convened a Small Business Advocacy Review (SBAR) Panel during the development of this rule and also considered several regulatory alternatives to provide relief for small businesses. These alternatives are summarized below, and are discussed in other sections of the preamble along with EPA's conclusions (See Sections IV.A–IV.E).

EPA examined several criteria for establishing an exclusion for small businesses such as the volume of wastewater flow, employment, or annual revenues. The objective was to minimize the impacts on small businesses, still achieve the environmental benefits, and stay responsive to the Clean Water Act. EPA is defining small CWT businesses according to the SBA size definition of $6 million in annual revenue, but considered other criteria that would be easier to implement in practice, such as wastewater flow. To target relief to small businesses, EPA examined the correlation between these criteria and the size definition.

Because most CWT facilities have similar numbers of employees regardless of their size (*i.e.,* revenue), EPA first eliminated employment as a basis for establishing a small business exclusion. While EPA also found no correlation between annual volume of wastewater and the size of a facility, EPA retained this criterion in the 1999 proposal due to the anticipated ease in implementing an exclusion based on this criterion. However, if an exclusion based on volume of wastewater had ultimately been selected, the regulation would have excluded both small and large businesses.

EPA evaluated three alternatives based on wastewater flow and size as

potential bases for limiting the scope of the regulation to: (i) Indirect dischargers with flows greater than 3.5 million gallons per year (MGY), or (ii and iii) indirect dischargers that manage non-hazardous wastes only with flows greater than either 3.5 MGY or 7.5 MGY. EPA also considered limiting the applicability of the proposed regulation to indirect dischargers not owned by small businesses without any specific reference to flow (referred to as ''no smalls'', below). The justification for EPA's consideration of these particular exclusion alternatives is included in the record in materials submitted to the SBAR Panel.

For each alternative, EPA estimated the projected economic impacts, both in absolute terms and in relative terms (that is, whether the impacts were higher, proportionately, for small businesses). The economic impacts that EPA considered for small companies include process closures, facility closures, employment losses, and the cost-to-sales test. Table X.M–3 shows the results of the facility-level analyses (if current facility receipts do not change) and the results of the analyses for the selected options for comparison purposes for all indirect dischargers. Table X.M–4 shows the results of the cost-to-sales test, which are company-level impacts for small companies that own indirect dischargers. Preliminary versions of these results were provided to the small entity representatives (SERs) who provided advice to the SBAR Panel.

TABLE X.M.–3.—IMPACTS OF PSES OPTIONS WITH LIMITED SCOPE

Option	Post-tax total annualized costs ($1997 M)	Process closures (small/large)	Facility closures (small/large)	Total employment losses
All Indirect Dischargers—151 Facilities				
Combined Option w/ Oils 8	$20.83	4/11	8/7	414
reduced monitoring	17.87	4/11	7/7	420
>3.5 MGY, non-hazardous	17.14	7/10	2/5	221
>3.5 MGY	14.89	5/9	0/1	80
>7.5 MGY, non-hazardous	15.49	7/10	2/5	213
''No smalls''	13.21	0/10	0/8	256

TABLE X.M–4.—RESULTS OF COST-TO-SALES TEST FOR SMALL BUSINESSES FOR PSES OPTIONS WITH LIMITED SCOPE

Option	Cost/sales > 1%	Cost/sales > 3%
Indirect Dischargers—61 Small Businesses		
Combined Option w/Oils Option 8	57	38
Reduced monitoring	35	14
>3.5 MGY, non-hazardous	30	19
>3.5 MGY	24	14
>7.5 MGY, non-hazardous	23	17
''No smalls''	0	0

These results are roughly consistent with the magnitude of impacts presented for the same options in the 1999 proposal (see 64 FR 2332) with the exception of the reduced monitoring option. At the time of the 1999 proposal, EPA estimated that the reduced monitoring option resulted in 5 small and 11 large process closures, 4 small and 7 large facility closures, and 286 job losses. Now, EPA estimates that the reduced monitoring option would result in 4 small and 11 large process closures, 7 small and 7 large facility closures, and 420 job losses.

Some SBAR Panel members and SERs argued that these results supported excluding small businesses from the regulation. As described in the Panel's final report, these Panel members and SERs believed that the ''lost'' pollutant reductions associated with excluding small businesses would not be environmentally significant. Based on analysis available at the time of the Panel, limiting the applicability to exclude all oils facilities owned by small businesses would have reduced removals by 12 percent. Excluding indirect dischargers with flows under 3.5 MGY would have reduced removals by 6 percent. They also suggested that these facilities provide an important ''safety valve'' for an affordable and effective treatment alternative for industrial facilities that would otherwise find it prohibitively expensive to comply with industry-specific national effluent guidelines and standards.

Other SERs opposed this approach. These SERs argued that excluding small businesses from the scope of this rule would adversely impact the image of the industry. One of these SERs preferred reduced monitoring and also suggested that small businesses might be granted additional time to comply with the new standards, rather than excluding those businesses within the scope of the rule.

EPA expressed concern that the absence of national effluent guidelines and standards for CWT facilities has been a major ''loophole'' in a national program to control industrial pollution, allowing wastes to be treated off-site less effectively than would be required of the same wastes if treated on-site. One of EPA's primary concerns with any of the alternatives that limit the scope of the rule is that the limited scope encourages such a loophole. If a segment of the industry is not subject to national regulation, these companies might quickly expand, leading to much greater discharges within a few years. This tendency would be limited by the flow or size cut-off itself unless more concentrated wastes are funneled through plants below the cut-off. In addition, as demonstrated by the survey responses and public comments, almost all CWT facilities have substantial amounts of unused capacity. Because

this industry is extremely competitive, by limiting the scope of the CWT rule, EPA could actually be encouraging ineffective treatment while discouraging effective treatment.

N. Cost-Effectiveness Analysis

EPA also conducted an analysis of the cost-effectiveness of the alternative treatment technology options that were considered. The report, ''Cost-Effectiveness Analysis of Final Effluent Limitations Guidelines and Standards for the CWT Industry'' (hereinafter, ''Cost-Effectiveness Report''), describes the methodology, data, and results; the report is included in the record of this rulemaking. The results of this cost-effectiveness analysis are expressed in terms of the costs (in 1981 dollars) per pound-equivalent removed, where pounds-equivalent removed for a particular pollutant is determined by multiplying the number of pounds of a pollutant removed by each option by a toxic weighting factor. The toxic weighting factors account for the differences in toxicity among pollutants and are derived using ambient water quality criteria. Cost effectiveness results are presented in 1981 dollars as a reporting convention. Cost-effectiveness is calculated as the ratio of pre-tax annualized costs of an option to the annual pounds-equivalent removed by that option, and can be expressed as the average or incremental cost-effectiveness for an option.

Average cost-effectiveness can be thought of as the ''increment'' between no regulation and the selected option for any given rule. For direct dischargers, the technologies used as the basis for BPT/BCT/BAT in all subcategories have an average cost-effectiveness ratio of $6.77/lb-equivalent. For indirect dischargers, the technologies used as the basis for PSES in all subcategories have an average cost-effectiveness ratio of $175/lb-equivalent. These results incorporate all subcategories with their selected options.

Incremental cost-effectiveness is the appropriate measure for comparing one regulatory option to another regulatory option for the same subcategory. Cost-effectiveness results by subcategory and option are presented for direct dischargers in Table X.N–1 and indirect dischargers in Table X.N–2. The options are listed in order of increasing removals.

TABLE X.N–1.—BPT/BCT/BAT COST-EFFECTIVENESS ANALYSIS

Option	Pre-tax total annualized costs ($1981 M)	Removals (lbs-eq)	Average cost effectiveness (1981 $/lb-eq)	Incremental cost effectiveness (1981 $/lb-eq)
Metals Subcategory—9 Facilities				
4	$2.15	384,416	$6.00	.....
3	9.00	401,426	22.00	$403
Oils Subcategory—5 Facilities				
9[a]	0.329	1,771	186	n/a
Organics Subcategory—4 Facilities				
4	0.135	0	.....	.....

[a] Since all direct discharging oils facilities already have treatment-in-place equivalent to secondary gravity separation, EPA did not consider the option 8 technology.

TABLE X.N–2.—PSES COST-EFFECTIVENESS ANALYSIS

Option	Pre-tax total annualized costs ($1981 M)	Removals (lbs-eq)	Average cost effectiveness (1981 $/lb-eq)	Incremental cost effectiveness (1981 $/lb-eq)
Metals Subcategory—42 Facilities				
4	$6.95	39,211	$176	.....
3	26.9	48,008	561	$2,323
Oils Subcategory—123 Facilities				
8	8.98	48,148	187	.....
9	12.8	50,792	252	1,442
Organics Subcategory—15 Facilities				
4	2.79	19,814	141	.....

XI. Water Quality Analysis and Environmental Benefits

EPA evaluated the environmental benefits of controlling the discharges of 104[7] priority and non-conventional pollutants from centralized waste treatment facilities to surface waters and POTWs in national analyses of direct and indirect discharges. Discharges of these pollutants into freshwater and estuarine ecosystems may alter aquatic habitats, adversely affect aquatic biota, and adversely impact human health through the consumption of

[7] EPA accounted for a total of 161 pollutant of concern analytes. However, ambient water quality criteria or toxicity profiles are established for only 104 analytes.

contaminated fish and drinking water. Furthermore, these pollutants may also interfere with POTW operations in terms of inhibition of activated sludge or biological treatment and contamination of sewage sludges, thereby limiting the method of disposal and thereby raising its costs. All of these pollutants have at least one toxic effect (human health carcinogen and/or systemic toxicant or aquatic toxicant). In addition, many of these pollutants bioaccumulate in aquatic organisms and persist in the environment.

EPA has updated its analysis to reflect changes to the National Ambient Water Quality Criteria made after the 1999 CWT proposal was issued. National Ambient Water Quality Criteria have been updated for 63 of the analytes modeled in the water quality benefits analysis. In some cases, water criteria for aquatic organisms were completely removed, while for others, criteria for human health were made more stringent.

The Agency did not evaluate the effects of conventional pollutants since the analysis focused on priority and non-conventional pollutants. However, the discharge of a conventional pollutant such as total suspended solids (TSS) can have adverse effects on the environment. For example, habitat degradation can result from increased suspended particulate matter that reduces light penetration, and thus primary productivity, or from accumulation of sludge particles that alter benthic spawning grounds and feeding habitats.

Of a total of 223 CWT facilities, for the purposes of the water quality and benefits analysis, EPA evaluated 12 direct dischargers and 101 indirect dischargers. Facilities not evaluated include zero dischargers (58) and those with insufficient data (2 direct and 50 indirect facilities) to conduct the water quality analysis. To estimate benefits from the improvements in water quality, in-stream concentration estimates are modeled and then compared to both aquatic life and human health ambient water quality criteria (AWQC) or toxic effect levels. The analyses were first performed on a subcategory-specific basis. The subcategory-specific analyses, however, consider only impacts of discharges from individual subcategories, and therefore, underestimate overall water quality impacts for facilities that treat wastes in more than one subcategory. At least 15 percent of facilities in the CWT industry accept wastes in multiple subcategories. In order to evaluate overall benefits of the final technologies, EPA also analyzed water quality and POTW impacts for multiple subcategory combinations.

EPA expects a variety of human health, environmental, and economic benefits to result from these projected reductions in effluent loadings (see ''Environmental Assessment of the Final Effluent Guidelines for the Centralized Waste Treatment Industry,'' (Environmental Assessment)). In particular, the assessment addresses the following benefit categories: (a) Human health benefits due to reductions in excess cancer risk; (b) human health benefits due to reductions in lead exposure; (c) human health benefits due to reductions in non-carcinogenic hazard (systemic); (d) ecological and recreational benefits due to improved water quality with respect to toxic pollutants; and (e) benefits to POTWs from reductions in interference, pass through, and biosolid contamination, and elimination of some of the efforts associated with establishing local pretreatment limits.

A. Reduced Human Health Cancer Risk

EPA expects that reduced loadings to surface waters associated with the final rule will reduce cancer incidences by approximately 0.03 per year with estimated monetized benefits of $0.076 to $0.412 million ($1997) per year. These estimated benefits are attributable to reducing the cancer risks associated with consuming contaminated fish tissue. EPA developed these benefit estimates by applying an existing estimate of the value of a statistical life to the estimated number of excess cancer cases avoided. The estimated range of the value of a statistical life used in this analysis is $2.3 million to 12.4 million ($1997).

B. Reduced Lead Health Risk

EPA solicited comment on, and updated its methodology used to estimate lead health risks due to ingestion of lead-contaminated fish tissues by recreational and subsistence anglers. For the proposed rule EPA used the 7Q10 flow (lowest seven day flow which reoccurs every ten years), although the harmonic mean flow would have been more appropriate to estimate the human health effects due to consumption of lead contaminated fish tissues. As a result, EPA's calculated benefit at the time of proposal for the reduction of lead discharges into the environment was overestimated.

For the final rule, EPA used the harmonic-mean flow to estimate human health effects due to consumption of lead contaminated fish tissue. Under the final treatment levels, the ingestion of lead-contaminated fish tissues by recreational and subsistence anglers would be reduced at 10 water bodies. Because elevated blood lead levels can cause intellectual impairment in exposed children 0 to 6 years of age, benefits to the at-risk child populations are quantified by estimating the reduced potential IQ point loss. Benefits to adults are quantified by estimating the reduced risk for cardiovascular diseases including hypertension, coronary heart disease, and strokes (the benefits of reduced heart disease and strokes include both fatal and non-fatal cases). The benefits are quantified and monetized using methodologies developed in the Retrospective Analysis of the Clean Air Act (Final Report to Congress on Benefits and Costs of the Clean Air Act, 1970 to 1990; EPA 410–R–97–002). EPA estimates that this final regulation will reduce cases of these adverse health effects; the total benefit for these reductions would range from approximately $0.488 million to $1.59 million.

C. Reduced Noncarcinogenic Human Health Hazard

Exposure to toxic substances poses risk of systemic and other effects to humans, including effects on the circulatory, respiratory or digestive systems, and neurological and developmental effects. This final rule is expected to generate human health benefits by reducing exposure to these substances, thus reducing the hazards of these associated effects. EPA expects that reduced loadings to surface waters would reduce the number of persons potentially exposed to non-cancer effects due to consumption of contaminated fish tissue by 1880 people. Presently EPA does not have methodology for monetizing these benefits.

D. Improved Ecological Conditions and Recreational Activity

EPA expects this final rule to generate environmental benefits by improving water quality. There are a wide range of benefits associated with the maintenance and improvement of water quality. These benefits include use values (*e.g.,* recreational fishing), ecological values (*e.g.,* preservation of habitat), and passive use values. For example, water pollution might affect the quality of the fish and wildlife habitat provided by water resources, thus affecting the species using these resources. This in turn might affect the quality and value of recreational experiences of users, such as anglers fishing in the effected streams. EPA has estimated the value of the recreational

fishing benefits and intrinsic benefits resulting from this final rule.

EPA estimates that the annual monetized recreational benefits to anglers associated with the expected changes in water quality range from $1.23 million to $3.49 million ($1997). EPA evaluates these recreational benefits, applying a model that considers the increase in value of a ''contaminant-free fishery'' to recreational anglers resulting from the elimination of all pollutant concentrations in excess of AWQC at 5 of the 43 receiving water locations. EPA's modeling projects that discharges from CWT facilities are responsible for 252 AWQC violations at 43 receiving water locations and that the rule would eliminate all violations at 5 of these locations. Note these results are derived from computer modeling only. The monetized value of impaired recreational fishing opportunity is estimated by first calculating the baseline value of the receiving stream using a value per-person-day of recreational fishing, and the number of person-days fished on the receiving stream. The value of improving water quality in this fishery, based on the increase in value to anglers of achieving contaminant-free fishing, is then calculated. However, adding these benefits to the cancer and lead toxicity reduction benefits calculated above may result in double counting. Presumably reduced incidence of adverse health effects is one of the factors anglers considered when valuing a ''contaminant free fishery.''

In addition, EPA estimates that the annual monetized intrinsic benefits to the general public, as a result of the same improvements in water quality, range from at least $0.62 million to $1.75 million ($1997). These intrinsic benefits are estimated as half of the recreational benefits and may be either underestimated or overestimated.

E. Improved POTW Operations

EPA considers two potential sources of benefits to POTWs from this final regulation: (1) Reductions in the likelihood of interference, pass through, and biosolid contamination problems; and (2) reductions in costs potentially incurred by POTWs in analyzing toxic pollutants and determining whether to, and the appropriate level at which to, set local limits. Although the benefits from reducing these effects at POTWs might be substantial, EPA is unable to quantify them.

First, regarding potential interference, pass through and biosolid contamination, this final rule is expected to help reduce these problems by reducing pollutant loadings in the industry's effluent and reducing shock releases. Anecdotal evidence from POTW operators and sampling results indicate that such effects can occur. EPA also expects the final rule to improve the biosolid quality of 3900 metric tons, permitting the use of less expensive disposal mechanisms. The estimated monetized benefits for improving biosolid quality range from $0.14 million to $0.85.

Finally, reducing the pollutant load to local POTWs may eliminate some of the efforts associated with establishing local pollutant limits. Local limits are sometimes required to protect against pass through and interference, and to protect worker health and safety. Several POTWs indicated that establishment of more effective national pretreatment standards will reduce the time and effort required to establish local limits.

F. Other Benefits Not Quantified

The above benefit analyses focus mainly on identified compounds with quantifiable toxic or carcinogenic effects. This potentially leads to an underestimation of benefits, since some pollutant characterizations are not explicitly considered. While the analysis does include a general estimate for non-use benefits, it is possible that some potential effects of reductions in certain pollutants were not fully captured in the monetized estimates. For example, the analyses do not include the benefits associated with reducing the particulate load (measured as TSS), or the oxygen demand (measured as BOD_5 and COD) of the effluents. TSS loads can degrade ecological habitat by reducing light penetration and primary productivity, and from accumulation of solid particles that alter benthic spawning grounds and feeding habitats. BOD_5 and COD loads can deplete oxygen levels, which can produce mortality or other adverse effects in fish, as well as reduce biological diversity.

G. Summary of Benefits

EPA estimates that the annual monetized benefits resulting from this final rule are in the range from $2.56 million to $8.09 million ($1997). Table XI.G–1 summarizes these benefits, by category. The range reflects the uncertainty in evaluating the effects of this final rule and in placing a dollar value on these effects. As indicated in Table XI.G–1, these monetized benefits ranges do not explicitly reflect some potential benefit categories, including aspects of improved ecological conditions from improvements in water quality; and improved POTW operations.

At the same time, there may be a certain amount of double counting in the benefits categories that have been monetized, for example, between the health and recreational benefits. Therefore the reported benefits may understate or overestimate the total benefits of this final rule.

TABLE XI.G–1.—POTENTIAL ECONOMIC BENEFITS

Benefit category	Millions of 1997 dollars per year
Reduced Cancer Risk	0.076–0.412
Reduced Lead Health Risk	0.49–1.59
Reduced Non-Carcinogenic Hazard.	Unquantified
Improved Recreation Value ...	1.23–3.49
Improved Intrinsic Value (including ecological conditions).	0.62–1.75*
Reduced Biosolid Contamination at POTW.	0.14–0.85
Potentially Improved POTW Operation (inhibition).	Unquantified
Total Monetized Benefits	2.56–8.09

*May not fully capture all ecological effects.

XII. Non-Water Quality Environmental Impacts

The elimination or reduction of one form of pollution may create or aggravate other environmental problems. Therefore, Sections 304(b) and 306 of the Act require EPA to consider non-water quality environmental impacts of effluent limitations guidelines and standards. Accordingly, EPA has considered the effect of these regulations on air pollution, waste treatment residual generation, and energy consumption.

A. Air Pollution

CWT facilities generate wastewater that contain significant concentrations of organic compounds, some of which are also on the list of Hazardous Air Pollutants (HAP) in title 3 of the Clean Air Act Amendments (CAAA) of 1990. These wastewaters often pass through a series of collection and treatment units that are open to the atmosphere and allow wastewater containing organic compounds to contact ambient air. Atmospheric exposure of the organic-containing wastewater may result in significant volatilization of both volatile organic compounds (VOC), which contribute to the formation of ambient ozone, and HAP from the wastewater.

As discussed in 1999 proposal, EPA considered including air stripping in the technology basis for today's limitations and standards, but rejected it because it

would not have resulted in significantly different limitations. Because this rule would not allow any less stringent control of VOCs than is currently in place at most CWT facilities, EPA does not project any net increase in air emissions from volatilization of organic pollutants due to today's final action. As such, no adverse air impacts are expected to occur as a result of today's regulations.

Although this rule does not require the use of air stripping with emissions control to control the emission of volatile pollutants, EPA encourages all facilities which accept waste containing volatile pollutants to incorporate air stripping with overhead recovery or destruction into their wastewater treatment systems. Additionally, EPA also notes that CWT sources of hazardous air pollutants are subject to maximum achievable control technology (MACT) as promulgated for off-site waste and recovery operations on July 1, 1996 (61 FR 34140) at 40 CFR Part 63.

Finally, EPA notes that the increased energy requirements discussed below may result in increased emissions of combustion byproducts associated with energy production. Given the relatively small projected increases in energy use, however, EPA does not anticipate that this effect would be signficant.

B. Solid Waste

Solid waste will be generated due to a number of the treatment technologies selected as the basis for today's rule. These wastes include sludge from biological treatment systems, chemical precipitation and clarification systems, and gravity separation and dissolved air flotation systems. EPA estimated costs for off-site disposal in Subtitle C and D landfills of the solid wastes generated due to the implementation of the technologies discussed above. These costs were included in the economic evaluation of the selected technologies.

The precipitation and subsequent separation selected as the technology basis for the metals subcategory will produce a metal-rich filter cake which requires disposal. EPA estimates that metals subcategory facilities will generate annually 3.7 million gallons of filter cake. Dissolved air flotation and additional gravity separation steps selected as the technology basis [8] for the oils subcategory will also produce a metal-rich filter press cake that requires disposal. EPA estimates that oils subcategory facilities will generate approximately 23 million gallons of filter press cake annually. Finally, the biological treatment system selected as the technology basis for the organics subcategory will also produce a sludge that requires disposal. EPA estimates that 4.3 million gallons of sludge will be generated annually by the organics subcategory facilities.

EPA has concluded that the disposal of these filter cakes and/or sludges will not have an adverse effect on the environment or result in the release of pollutants in the filter cake to other media. EPA made this conclusion for two reasons. First, EPA estimates that the additional solid wastes disposed in landfills as a result of this regulation will be less than 0.19% of the annual tonnage of waste currently disposed in landfills. Second, the disposal of these wastes into controlled Subtitle C and D landfills is strictly regulated by the RCRA program.

C. Energy Requirements

EPA estimates that the attainment of BPT, BCT, BAT, and PSES will increase energy consumption by a small increment over present industry use. With the exception of the oils subcategory, the projected increase in energy consumption is primarily due to the incorporation of components such as power pumps, mixers, blowers, and controls. For the metals subcategory, EPA projects an increased energy usage of 3.5 million kilowatt hours per year and, for the organics subcategory, an increased energy usage of 0.5 million-kilowatt hours per year. For the oils subcategory, however, the main energy requirement in today's rule is for the operation of dissolved air flotation units. Dissolved air flotation units require air sparging to help separate the wastestream. For the oils subcategory, EPA projects an increased energy usage of 3.4 million kilowatt hours per year. Overall, an increase of 7.5 million kilowatt-hours per year would be required for today's regulation which equates to 4210 barrels of oil per day. In 1996, the United States consumed 18.3 million barrels of oil per day.

XIII. Regulatory Implementation

The purpose of this section is to provide assistance and direction to permit writers, control authorities, and CWT facilities to aid in their implementation of this regulation. This section also discusses the relationship of upset and bypass provisions and variances and modifications to the final limitations and standards.

A. Implementation of the Limitations and Standards

1. Introduction

Effluent limitations and pretreatment standards act as a primary mechanism to control the discharges of pollutants to waters of the United States. These limitations and standards are applied to individual facilities through NPDES permits and local limits developed for POTWs issued by the EPA or authorized States under Section 402 of the Act and local pretreatment programs under Section 307 of the Act.

In specific cases, the NPDES permitting authority or local POTW may elect to establish technology-based permit limits or local limits for pollutants not covered by this regulation. In addition, if State water quality standards or other provisions of State or Federal law require limits on pollutants not covered by this regulation (or require more stringent limits or standards on covered pollutants to achieve compliance), the permitting authority must apply those limitations or standards.

2. Compliance Dates

New and reissued Federal and State NPDES permits to direct dischargers must include the effluent limitations promulgated today. Existing indirect dischargers must comply with today's pretreatment standards no later than December 22, 2003. New direct and indirect discharging sources must comply with applicable limitations and standards on the date the new sources begin operations. As a further point of clarification, new direct and indirect sources are those that began construction of CWT operations after August 28, 2000.

3. Applicability

EPA provided detailed information on the applicability of this rule to various operations in Section V. EPA also provided examples of regulated and non-regulated CWT operations in Table V.A–1. Also see 40 CFR 437.1. Permit writers and pretreatment authorities should closely examine all CWT operations to determine if they should be subject to provisions of this rule.

4. Subcategorization Determination

Each CWT facility subject to this rule will need to make an initial determination of which subcategories are applicable. Multiple subcategory facilities will need to choose to comply with each of the applicable subcategory limitations or standards separately (directly following treatment of each subcategory's waste) or to certify

[8] The technology basis for indirect discharges in the oils subcategory does not include additional gravity separation steps. See Section VIII.E.

equivalent treatment and comply with one of the four sets of limitations or standards in the multiple wastestream subcategory. The following sections provide guidance on a facility's subcategorization determination as well as implementation of the rule for multiple subcategory facilities. In addition, this section provides a procedure that should assist CWT facilities in determining into which category particular waste receipts might fall.

EPA determined that the paperwork and analyses currently performed at CWT facilities, as part of their waste acceptance procedures, provide CWT facilities with sufficient information for them to determine into which of the subcategories their treated waste would fall. EPA based its recommended subcategorization determination procedure on information generally obtained during these waste acceptance and confirmation procedures. In EPA's view, permit writers and local pretreatment authorities should not (because they need not) require additional monitoring or paperwork solely for the purpose of subcategory determinations, unless the CWT facility's waste acceptance procedures are inadequate. EPA concluded that if CWT facilities follow EPA's recommendations, they should easily classify their wastes. Permit writers and local authorities, in these circumstances, would only need to satisfy themselves that the facility made a good-faith effort to determine the category of wastes treated. In most cases, as detailed below, EPA determined that the subcategory determination can be made on the type of waste receipt, e.g., metal-bearing sludge, used oil, or landfill leachate. Certainly, in EPA's estimation, all CWT facilities should, at a minimum, collect adequate information from the generator on the type of waste received at the CWT facility because this is the minimum information required by CWT facilities to treat off-site wastes effectively.

To determine an existing facility's subcategory classification(s), the facility should review data for a period of one year on its incoming wastes (that is, at the point where the shipment is received at the facility). The facility should first use Table XIII.A–1 below to classify each of its waste receipts into a subcategory for that one-year period.

TABLE XIII.A–1—WASTE RECEIPT CLASSIFICATION

Metals Subcategory:
Spent electroplating baths and/or sludges
Metal finishing rinse water and sludges
Chromate wastes
Air pollution control blow down water and sludges
Spent anodizing solutions
Incineration wastewaters
Waste liquid mercury
Cyanide-containing wastes
Waste acids and bases with or without metals
Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
Vibratory deburring wastewater
Alkaline and acid solutions used to clean metal parts or equipment
Oils Subcategory:
Used oils
Oil-water emulsions or mixtures
Lubricants
Coolants
Contaminated groundwater clean-up from petroleum sources
Used petroleum products
Oil spill clean-up
Bilge water
Rinse/wash waters from petroleum sources
Interceptor wastes
Off-specification fuels
Underground storage remediation waste
Tank clean-out from petroleum or oily sources
Non-contact used glycols
Aqueous and oil mixtures from parts cleaning operations
Wastewater from oil bearing paint washes
Organics Subcategory:
Landfill leachate
Contaminated groundwater clean-up from non-petroleum sources
Solvent-bearing wastes
Off-specification organic product
Still bottoms
Byproduct waste glycol
Wastewater from paint washes
Wastewater from adhesives and/or epoxies formulation
Wastewater from organic chemical product operations
Tank clean-out from organic, non-petroleum sources

If the CWT facility receives the wastes listed above, the subcategory determination may be made solely from this information. If, however, the wastes are unknown or not listed above, EPA recommends that the facility use the following hierarchy to determine how to characterize the wastes it is treating, so as to identify the appropriate regulatory subcategory.

(1) If the waste receipt contains oil and grease at or in excess of 100 mg/L, the waste receipt should be classified in the oils subcategory;

(2) If the waste receipt contains oil and grease <100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste receipt should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste receipt contains oil and grease < 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste receipt should be classified in the organics subcategory.

Once a facility's subcategory determination has been made, in EPA's view, the facility would not need to repeat this annual determination process unnecessarily. However, if a CWT facility alters its operation to accept wastes from another subcategory (or to no longer accept waste from a subcategory), the facility should notify the appropriate permit writer or pretreatment authority and the subcategory determination should be re-visited. EPA notes that current permit regulations require notification to the permitting authority when significant changes occur. EPA also recommends that the subcategory determination be reevaluated whenever the permit is reissued, though this would not necessarily require complete characterization of a subsequent year's waste receipts if there were no indication that the make-up of the facility's receipts had significantly changed.

For new CWT facilities, the facility should estimate the percentage of waste receipts expected in each subcategory. Alternatively, the facility could compare the treatment technologies being installed to the selected treatment technologies for each subcategory. After the initial year of operation, the permit writer or pretreatment authority should reassess the facility's subcategory determination and follow the procedure outlined for existing facilities.

5. Implementation for Facilities in Multiple CWT Subcategories

EPA estimates that many facilities in the CWT industry accept wastes in two or more of the individual subcategories adopted for regulation here. In other words, the facilities actively accept a variety of waste types. This situation is different from the case in which metal-bearing wastestreams may include low-level organic pollutants or that oily wastes may include low-level metal pollutants due to the origin of the wastestream accepted for treatment.

As promulgated today, multiple subcategory facilities may comply with this rule in one of two ways: (1)

Facilities may elect to comply with the limitations or standards for each applicable subcategory directly following treatment (before commingling with different subcategory wastes); or (2) facilities may certify equivalent treatment and comply with one of the four sets of limitations or standards for the multiple wastestream subcategory. Each of these options is discussed further below.

a. Comply with Limitations or Standards for Subcategory A, B, and/or C. In implementing this rule for multiple subcategory facilities in this manner, the permit writer or pretreatment control authority needs to ensure that the CWT facility has an optimal waste management program. First, the permit writer or control authority should verify that the CWT facility is identifying and segregating wastestreams appropriately since segregation of similar wastestreams is the first step in obtaining optimal mass removals of pollutants from industrial wastes. Next, the permit writer or control authority should verify that the CWT facility is employing treatment technologies designed to treat all off-site waste receipts effectively. Finally, the permit writer or control authority should establish compliance monitoring for each applicable subcategory directly following treatment of the each subcategory's waste stream. As a further point of clarification, the permit writer or control authority should not allow CWT facilities to commingle wastestreams from different subcategories prior to monitoring for compliance with each subcategory's limitations or standards.

b. Comply with Limitations or Standards for Subcategory D. First, facilities which desire this option would submit an initial request to their permit writer or local control authority certifying that their treatment train includes all applicable equivalent treatment systems. This initial certification would include, at a minimum, the applicable subcategories (*i.e.,* metals, oils, organics), a listing of and descriptions of the treatment technologies and operating conditions used to treat wastes in each subcategory, and the justification for making an equivalent treatment determination (see § 437.40 of the final rule). For example, a direct discharging facility which accepts metals subcategory and oils subcategory wastewaters could show that their treatment train includes two-stage oil/water separation, two-stage chemical precipitation, and dissolved air flotation operated in a similar manner to that costed by EPA. Since these are the treatment technologies selected as the basis for this rule, the equivalent treatment determination could be established. However, EPA is not defining ''equivalent treatment'' as specific treatment technologies or the technology bases, but rather as a ''wastewater treatment system that is demonstrated in literature, treatability tests, or self-monitoring data to remove a similar level of the appropriate pollutants as the applicable treatment technology selected as the basis for the applicable regulations''.[9] EPA is leaving the decision as to whether a particular treatment train is ''equivalent treatment'' to the permit writer's or local control authority's best professional judgment. However, the requesting facility is responsible for providing the permit writer or local control authority with enough information and/or data to make the equivalent treatment determination. This initial certification statement must be signed by the responsible corporate officer as defined in 40 CFR 403.12(1) or 40 CFR 122.22. If the permit writer or local control authority determines that equivalent treatment is demonstrated, then the permit writers of local control authority will issue discharge requirements based on one of the four subsets of limitations or standards promulgated for the multiple wastestream subcategory.

Next, the facility shall submit an annual certification statement which indicates that the treatment technologies are being utilized in the manner set forth in their original certification or a justification to allow modification of the practices listed in its initial certification (see § 437.41 of the final rule). If the information contained in the initial certification statement is still applicable, a facility shall simply state that in a letter to the permitting authority or local control authority, and the letter shall constitute the periodic statement. However, if the facility has modified its treatment system in any way, it shall submit the revised information in a manner similar to the initial certification. Once again, the permit writer or local control authority would be expected to use BEJ/BPJ in reviewing any modifications.

Finally, the facility shall be required to maintain on-site compliance paperwork. The on-site compliance paperwork should include information from the initial and periodic certifications, but must also include: (1) The supporting documentation for any modifications that have been made to the treatment system; (2) a method for demonstrating that the treatment system is well operated and maintained; and (3) a discussion of the rationale for choosing the method of demonstration. Proper operation and maintenance of a system includes a qualified person to operate the system, use of correct treatment chemicals in appropriate quantities, and operation of the system within the stated design parameters. For example, a facility may operate dissolved air flotation. The method for demonstrating the dissolved air flotation system is well operated can be as simple as maintaining records on the temperature and pH, the chemicals added (including quantity), the duration of treatment, recycle ratio, and physical characteristics of the wastewater before and after dissolved air flotation. Alternatively, the facility could monitor for selected parameters for the purpose of demonstrating effective treatment. This could include any pollutant or a combination of pollutants.

Control authorities, at any time after entering into an individual control mechanism, or permitting authorities, or any time after issuing, reissuing, or modifying the NPDES permit, could inspect the CWT facility to confirm that the listed practices are being employed, that the treatment system is well operated and maintained, and that the necessary paperwork provides sufficient justification for any modifications.

6. Implementation for Metals Subcategory Facilities With Cyanide Subset

Whenever a CWT facility accepts a waste receipt that contains more than 136 mg/L of total cyanide, the CWT facility must monitor for cyanide when the wastewater exits the cyanide destruction process rather than after mixing with other process wastewater. Alternatively, the facility may monitor for compliance after mixing if the cyanide limitations are adjusted using the ''building block approach'' or ''combined wastestream formula,'' assuming the cyanide limitations do not fall below the minimum analytical detection limit.

7. Implementation for CWT Facilities Subject to Multiple Effluent Limitations Guidelines or Pretreatment Standards

For determination of effluent limits where there are multiple categories, the effluent guidelines are applied using a flow-weighted combination of the appropriate guideline for each category (*i.e.,* ''the building block approach''). Where a facility treats a CWT wastestream and process wastewater from other non-CWT industrial operations, the effluent guidelines

[9] The pollutant removals for each treatment technology selected as the basis are listed in Tables 7.6 through 7.9 in the TDD.

would be applied by using a flow-weighted combination of the BPT/BAT limitations for the CWT and the other non-CWT industrial operation to derive the appropriate limitations. Similarly, for indirect dischargers, under these circumstances, the pretreatment standards would be applied using the ''combined wastestream formula'' as defined in 40 CFR 403.6(e). The only exceptions to this are for facilities also subject to effluent guidelines for Landfills (40 CFR 445) and effluent limitations guidelines and pretreatment standards for Transportation Equipment Cleaning (40 CFR 442). The interaction between these categories and the CWT rule are detailed in Section V. J and V.I, respectively.

8. Internal Monitoring Requirements

Working in conjunction with the effluent guidelines and pretreatment standards are the monitoring conditions set out in the NPDES or POTW discharge permit. An integral part of monitoring conditions is the point at which a facility must demonstrate compliance. The point at which a sample is collected can have a dramatic effect on the monitoring results for that facility. Therefore, as detailed elsewhere in the implementation section, it may be necessary to require internal monitoring points in order to assure compliance. Authority to address internal wastestreams is provided in 40 CFR 122.44(i)(1)(iii), 122.45(h), and 40 CFR 403.6(e)(2) and (4). Permit writers or local control authorities may establish additional internal monitoring points to the extent consistent with EPA's regulations.

B. Upset and Bypass Provisions

A ''bypass'' is an intentional diversion of wastestreams from any portion of a treatment facility. An ''upset'' is an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. EPA's regulations concerning bypasses and upsets for direct dischargers are set forth at 40 CFR 122.41(m) and (n) and for indirect dischargers at 40 CFR 403.16 and 403.17.

C. Variances and Modifications

Upon the promulgation of these regulations, all new and reissued Federal and State NPDES permits issued to direct dischargers in the CWT Industry must include the effluent limitations. In addition, the indirect dischargers must comply with the pretreatment standards within three years of issuance.

1. Fundamentally Different Factors (FDF) Variances

The CWA requires application of the effluent limitations established pursuant to Section 301 or the pretreatment standards of section 307 to all direct and indirect dischargers. However, the statute provides for the modification of these national requirements in a limited number of circumstances. Moreover, the Agency has established administrative mechanisms to provide an opportunity for relief from the application of national effluent limitations guidelines and pretreatment standards for categories of existing sources for priority, conventional, and non-conventional pollutants.

EPA will develop effluent limitations or standards different from the otherwise applicable requirements if an individual existing discharging facility is fundamentally different with respect to factors considered in establishing the limitations or standards applicable to the individual facility. Such a modification is known as a ''fundamentally different factors'' (FDF) variance.

Early on, EPA, by regulation, provided for FDF modifications from BPT effluent limitations, BAT limitations for priority and non-conventional pollutants, and BCT limitations for conventional pollutants for direct dischargers. For indirect dischargers, EPA provided for FDF modifications from pretreatment standards for existing facilities. FDF variances for priority pollutants were challenged judicially and ultimately sustained by the Supreme Court (*Chemical Manufacturers Ass'n* v. *NRDC,* 479 U.S. 116 (1985)).

Subsequently, in the Water Quality Act of 1987, Congress added new Section 301(n) of the Act explicitly to authorize modification of the otherwise applicable BAT effluent limitations or national effluent pretreatment standards for existing sources if a facility is fundamentally different with respect to the factors specified in Section 304 (other than costs) from those considered by EPA in establishing the effluent limitations or pretreatment standards. Section 301(n) also defined the conditions under which EPA may establish alternative requirements. Under Section 301(n), an application for approval of FDF variance must be based solely on (1) information submitted during the rulemaking raising the factors that are fundamentally different, or (2) information the applicant did not have an opportunity to submit. The alternate limitation or standard must be no less stringent than justified by the difference, and not result in markedly more adverse non-water quality environmental impacts than the national limitation or standard.

EPA regulations at 40 CFR 125 Subpart D, authorizing the Regional Administrators to establish alternative limitations and standards, further detail the substantive criteria used to evaluate FDF variance requests for existing direct dischargers.

Thus, 40 CFR 125.31(d) identifies six factors (for example, volume of process wastewater, age, and size of a discharger's facility) that may be considered in determining if a facility is fundamentally different. The Agency must determine whether, on the basis of one or more of these factors, the facility in question is fundamentally different from the facilities and factors considered by the EPA in developing the nationally applicable effluent guidelines. The regulation also lists four other factors (for example, infeasibility of installation within the time allowed or a discharger's ability to pay) that may not provide a basis for an FDF variance. In addition, under 40 CFR 125.31(b)(3), a request for limitations less stringent than the national limitation may be approved only if compliance with the national limitations would result in either (a) a removal cost wholly out of proportion to the removal cost considered during development of the national limitations, or (b) a non-water quality environmental impact (including energy requirements) fundamentally more adverse than the impact considered during development of the national limits. EPA regulations provide for an FDF variance for existing indirect dischargers at 40 CFR 403.13. The conditions for approval of a request to modify applicable pretreatment standards and factors considered are the same as those for direct dischargers.

The legislative history of Section 301(n) underscores the necessity for the FDF variance applicant to establish eligibility for the variance. EPA's regulations at 40 CFR 125.32(b)(1) are explicit in imposing this burden upon the applicant. The applicant must show that the factors relating to the discharge controlled by the applicant's permit which are claimed to be fundamentally different are, in fact, fundamentally different from those factors considered by the EPA in establishing the applicable guidelines. The pretreatment regulations incorporate a similar requirement at 40 CFR 403.13(h)(9).

An FDF variance is not available to a new source subject to NSPS or PSNS.

2. Water Quality Variances

Section 301(g) of the CWA authorizes a variance from BAT effluent guidelines for certain non-conventional pollutants due to localized environmental factors. These pollutants include ammonia, chlorine, color, iron, and total phenols.

3. Permit Modifications

Even after EPA (or an authorized State) has issued a final permit to a direct discharger, the permit may still be modified under certain conditions. (When a permit modification is under consideration, however, all other permit conditions remain in effect.) A permit modification may be triggered in several circumstances. These could include a regulatory inspection or information submitted by the permittee that reveals the need for modification. Any interested person may request a permit modification. There are two classifications of modifications: major and minor. From a procedural standpoint, they differ primarily with respect to the public notice requirements. Major modifications require public notice while minor modifications do not. Virtually any modification that results in less stringent conditions is treated as a major modification, with provisions for public notice and comment. Conditions that would necessitate a major modification of a permit are described in 40 CFR 122.62. Minor modifications are generally non-substantive changes. The conditions for minor modification are described in 40 CFR 122.63.

XIV. Related Acts of Congress, Executive Orders, and Agency Initiatives

A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 [58 **Federal Register** 51735, (October 4, 1993)], the Agency must determine whether a regulatory action is ''significant'' and therefore subject to Office of Management and Budget (OMB) review and the requirements of the Executive Order. The Order defines ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined that this rule is a ''significant regulatory action.'' Consequently, EPA submitted this action to OMB for review. Changes made in response to OMB suggestions or recommendations will be documented in the public record.

B. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 U.S.C. 601 et seq.

1. Background

The RFA generally requires an agency to prepare a regulatory flexibility analysis for any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the Agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations and small governmental jurisdictions.

For purposes of assessing the impact of today's rule on small entities, small entity is defined as (1) a small business with gross revenue under $6 million (based on Small Business Administration size standards); (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

In accordance with section 603 of the RFA, EPA prepared an initial regulatory flexibility analysis (IRFA) for the proposed rule and convened a Small Business Advocacy Review (SBAR) Panel to obtain advice and recommendations of representatives of affected small entities in accordance with section 609(b) of the RFA. See 64 FR 2298–2300, 2332–33 (January 13, 1999). A detailed discussion of the SBAR Panel's advice and recommendations can be found in the Panel Report which is available in the docket for this rule (DCN 21.5.1). The 1999 proposal provides a summary of the Panel's recommendation. See 64 FR 2298–2300.

2. Summary of Final Regulatory Flexibility Analysis

As required by section 604 of the RFA, EPA also prepared a final regulatory flexibility analysis (FRFA) for today's rule. The FRFA addresses the issues raised by public comments on the IRFA, which was part of the proposal of this rule. The FRFA is available for review in the docket (in Section 8 of the Final EA) and is summarized below.

a. Need for and Objectives of the Regulation. A detailed discussion of the need for the regulation is presented in Section V of the 1999 preamble (64 FR 2293–2295). A summary may also be found in Section 9.1.2 of the Final EA. A detailed discussion of the objectives and legal basis for the rule is presented in Sections I and II of this preamble and Chapter 1 of the final development document. Very briefly, the Clean Water Act requires EPA to establish effluent limitations guidelines and standards to control pollutant discharges to the nation's waters. The CWT industry is not currently subject to national standards that provide for an adequate level of control.

b. Significant Comments on the IRFA. The significant comments on the IRFA all addressed the following regulatory alternatives: exemptions for small businesses, exemptions based on flow cutoffs, reduced monitoring frequency for small businesses, and the use of an indicator parameter for compliance monitoring. These alternatives are discussed more fully in Section 8.3.6 of the EA and Section IV of this preamble.

Most commenters who discussed the small business exemptions, the flow cutoffs, and the reduced monitoring alternatives were opposed to them. Many commenters argued that size and flow were not necessarily related to the environmental impact of the facility. Others asserted that company revenue was a difficult basis for implementing an exemption. Other commenters noted that exempted facilities would have lower operating costs; they could, therefore, capture more market share which would lead to more untreated wastes going to a POTW. With respect to reduced monitoring, commenters stated that permit writers and control authorities should continue to establish monitoring frequencies on a case-by-case basis, taking into account the probable impact of the discharge to surface waters or a POTW, compliance history of the facility, and other relevant factors.

Many commenters responded on the subject of indicator parameters, with essentially an equivalent number opposing and favoring the use of an

indicator parameter for compliance monitoring for indirect discharging oils subcategory facilities. Commenters that did not support the use of oil and grease (either SGT–HEM or HEM) as indicator parameters raised a number of technical concerns. Commenters that supported their use cited the decreased analytical costs and the wide range of organic compounds that can be measured with these analyses.

EPA shared the concerns of some of these commenters. In the final rule, EPA is not adopting any of these alternatives, but is taking steps to minimize the impacts on small businesses (see XIV.B.2.e). See Section IV of this preamble for more information on the comments, EPA's responses to those comments, and EPA's justification for final decisions on these options. EPA's detailed responses to comments, and the comments themselves, are contained in the Comment Response Document in response categories SBREFA, Small Business, and Indicator Parameters.

c. Description and Estimation of Number of Small Entities to Which the Regulation Will Apply. The small entities subject to this rule are small businesses. There are no nonprofit organizations or small governmental operations that operate CWT facilities. For purposes of assessing the impacts of today's rule on small businesses, EPA relied on the SBA size standard for SIC code 4953, ''Refuse Systems,'' and applied that standard to companies owning CWT facilities. For this SIC code, SBA defines a small business as one receiving less than $6 million/year, averaged over the most recent three fiscal years.

The CWT industry is composed of an estimated 167 companies (as discussed in Section 3, this number is scaled up to reflect the total number of CWT companies). Small companies make up approximately half of all companies in the CWT industry (an estimated 82 of 167). All of these small companies, except for one, operate single CWT facilities. One company in the analysis operates two facilities. Sixty-three small companies own discharging facilities (61 own indirect dischargers and 2 own direct dischargers) that are subject to the requirements of this rule. Fifty-nine of these small companies are in the oil treatment/recovery business. The number of employees at each of these companies ranges from 2 to 115, with a median of 18. Fifty-three out of the 63 companies have costs greater than one percent of sales; 30 out of the 63 companies have costs greater than three percent of sales. Section X.M provides more detail on the impacts to small businesses.

d. Description of the Reporting, Recordkeeping, and Other Compliance Requirements. For almost all of the small businesses subject to the final CWT rule, this regulation does not contain any specific new requirements for monitoring, recordkeeping, or reporting. Regulations for the existing NPDES and national pretreatment programs already contain minimum requirements; and permit writers and control authorities establish the monitoring regime for individual facilities. Consequently, for almost all of the CWT facilities owned by small businesses, there are similarly no new professional skills required to meet any new requirements.

However, for CWT facilities that accept waste in more than one CWT subcategory that elect to comply with the multiple wastestream subcategory limitations or standards, the final rule does include new requirements for monitoring, recordkeeping, and reporting. These requirements and the multiple wastestream subcategory are described in Sections IV.F and XIII.A.5 of the final preamble. See also § 437.41. EPA concluded that CWT facilities already have the professional skills to meet these new requirements. Based on the information in EPA's database, only two CWT facilities owned by small businesses may be subject to these new requirements.

e. Steps Taken to Minimize Significant Impacts on Small Entities. EPA went to some length to explore and analyze a variety of regulatory alternatives to minimize impacts on small businesses. Today's notice includes extensive discussions of the alternatives, EPA's analysis of those alternatives, and the rationale for EPA's decisions. EPA selected the least expensive option that was considered for the final rule as the technology basis for the standards and limitations for existing sources. Furthermore, EPA selected oils option 8 as the technology basis for PSES in the oils subcategory (which contains most of the small businesses affected by the final rule), in part, based on the incremental economic impact to small businesses. For EPA's option selection rationale, see Section VIII. Most of the other regulatory alternatives incorporated exemptions for groups of facilities. EPA rejected those options for multiple reasons, including implementation difficulty and concerns about environmental impacts. For a detailed discussion of EPA's rationale for rejection of these options, see Sections IV.A–IV.E.

3. Compliance Guide

As required by section 212 of SBREFA, EPA is also preparing a small entity compliance guide to help small businesses comply with this rule. To request a copy, use any of the contacts shown in **FOR FURTHER INFORMATION CONTACT** section of this preamble, above. EPA expects that the guide will be available in January 2001.

C. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), P.L. 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any one year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective, or least burdensome alternative if the Administrator publishes the final rule with an explanation of why that alternative was adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed, under section 203 of the UMRA, a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

EPA has determined that this rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local and tribal governments, in the aggregate, or the private sector in any one year. EPA has estimated total annualized costs of

the final rule as $35.1 million ($1997). Thus, today's rule is not subject to the requirements of sections 202 and 205 of UMRA.

EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments. No small governments are subject to this rule. The final rule, at most, imposes only minimal administrative requirements on small local governments that are administering approved pretreament programs. The final rule does not uniquely affect small governments because small and large governments are affected in the same way. Thus, today's rule is not subject to the requirements of section 203 of the UMRA.

D. Paperwork Reduction Act

In accordance with the Paperwork Reduction Act of 1980 (PRA), 44 U.S.C. 3501 *et seq.*, EPA must submit an information collection request covering information collection requirements in proposed rules to the Office of Management and Budget (OMB) for review and approval. There are no new information collection reporting requirements for facilities that comply with the limits for the metals-bearing, oily waste, and/or organics waste subcategories separately. The information collection reporting requirements and the burden estimates for these subcategories are contained in the ''National Pollutant Discharge Elimination System (NPDES)/ Compliance Assessment/Certification Information'' ICR (No. 1427.05; OMB Approval No. 2040–0110) and in the ''National Pretreatment Program (40 CFR Part 403)'' ICR (No. 0002.081; OMB Approval No. 2040–0009).

EPA established a fourth multiple wastestream subcategory to simplify implementation and reduce burden for facilities treating wastes covered by more than one subcategory. EPA notes that no facility is required to use this subcategory and its requirements unless the facility chooses to. The new information reporting requirements under this subcategory, described at § 437.41, include submission of an initial certification statement and annual certification statements thereafter, and maintenance of on-site compliance paperwork. These requirements are the same as those previously approved by OMB for facilities in the pesticide formulating, packaging, and repackaging category that choose to comply with the pollution prevention alternative. OMB is in the process of approving the extension of these requirements to multiple wastestream facilities in the CWT category, as part of the revisions to the ICRs listed above.

An Agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR Chapter 15. The OMB control numbers for the information collection requirements in this rule will be listed in an amendment(s) to 40 CFR part 9 in a subsequent **Federal Register** document(s) after OMB approves the ICRs.

E. National Technology Transfer and Advancement Act

As noted in the proposed rule, section 12(d) of the National Technology Transfer and Advancement Act (NTTAA), Pub L. 104–113, section 12(d) (15 U.S.C. 272 note), directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.,* materials specifications, test methods, sampling procedures, business practices) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs EPA to provide Congress, through the Office of Management and Budget (OMB), explanations when the Agency decides not to use available and applicable voluntary consensus standards.

This rulemaking involves technical standards. EPA performed a search of the technical literature to identify any applicable analytical test methods from industry, academia, voluntary consensus standard bodies and other parties that could be used to measure the analytes in today's rulemaking. EPA's search revealed that there are consensus test procedures for many of the analytes in today's rule already specified in the tables at 40 CFR 136.3. Even prior to enactment of the NTTAA, EPA has traditionally included any applicable consensus test methods in its regulations. Consistent with the requirements of the CWA, those applicable consensus test methods are incorporated by reference in the tables at 40 CFR Part 136.3. The consensus test methods in these tables include American Society for Testing Materials (ASTM) and ''Standard Methods.''

Today's rule requires dischargers to monitor for up to 17 metals, 16 organics, BOD_5, total cyanide, Oil and Grease (HEM), and TSS. Examples of pollutants with consensus methods already in place include the metals, total cyanide, BOD_5, TSS, and some organic pollutants such as fluoranthene and 2,4,6-trichlorophenol.

In addition, EPA noted in the 1999 proposed rule that EPA was developing additional data for certain additional pollutants not included in the Tables at 40 CFR 136.3. EPA asked commenters to identify any potentially applicable voluntary consensus standards for those pollutants. No commenters identified any such standards. Therefore, EPA has amended existing EPA test procedures included in 40 CFR 136.3 to cover the additional pollutants in today's rule.

F. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

The Executive Order ''Protection of Children from Environmental Health Risks and Safety Risks'' (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be ''economically significant'' as defined under Executive Order 12866, and (2) concerns an environmental health risk or safety risk that the Agency has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency.

This rule is not subject to E.O. 13045 because it is not an economically significant rule as defined under Executive Order 12866. Further, EPA does not believe this rule concerns an environmental or safety risk that EPA has reason to believe may have a disproportionate effect on children. This rule sets technology based limits according to the requirements of the Clean Water Act. However, EPA did evaluate children's health effects (specifically, impaired IQ) in its analysis of environmental benefits of this rule (see Section XI.B). EPA estimates that this rule will reduce the number of children that might otherwise experience reduced IQ.

G. The Edible Oil Regulatory Reform Act

The Edible Oil Regulatory Reform Act, Public Law 104–55, requires most Federal agencies to differentiate between, and establish separate classes for (1) animal fats and oils and greases, fish and marine mammal oils, and oils of vegetable origin, and (2) other greases and oils, including petroleum, when issuing or enforcing any regulation or establishing any interpretation or guideline relating to the transportation,

storage, discharge, release, emission, or disposal of a fat, oil, or grease.

The Agency believes that vegetable oils and animal fats pose similar types of threats to the environment as petroleum oils when spilled to the environment (62 FR 54508 Oct. 20, 1997).

The deleterious environmental effects of spills of petroleum and non-petroleum oils, including animal fats and vegetable oils, are produced through physical contact and destruction of food sources (via smothering or coating) as well as toxic contamination (62 FR 54511). However, the permitted discharge of CWT wastewater containing residual and dilute quantities of petroleum and non-petroleum oils is significantly different from an uncontrolled spill of pure petroleum or non-petroleum oil products.

CWT facilities that would be subject to the rule do not typically accept wastes with appreciable amounts of animal fats and oils, *etc.* The exception are grease trap wastes. Today's rule will not apply to that portion of wastewater treated at CWT facilities that represents grease trap wastes.

H. Executive Order 13084: Consultation and Coordination With Indian Tribal Governments

Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments, or EPA consults with those governments. If EPA complies by consulting, Executive Order 13084 requires EPA to provide to the Office of Management and Budget, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected officials and other representatives of Indian tribal governments ''to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.''

Today's rule does not significantly or uniquely affect the communities of Indian tribal governments. EPA has not identified any facilities covered by today's rule that are owned and/or operated by Indian tribal governments. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this rule.

I. Executive Order 13132 (Federalism)

Executive Order 13132, entitled ''Federalism'' (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.''

This final rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. The rule establishes effluent limitations and pretreatment standards imposing requirements that apply to CWT facilities when they discharge wastewater or introduce wastewater to a POTW. EPA has determined that there are no CWT facilities owned and operated by State or local governments that are subject to today's rule so the rule will not impose any treatment technology costs on State or local governments. Further, the rule will only affect State and local governments incidentally in their capacity as implementers of CWA permitting programs. Therefore, the final rule, at most, imposes only minimal administrative costs on States that have authorized NPDES programs and on local governments that are administering approved pretreatment programs. (These States and localities must incorporate the new limitations and standards in new and reissued NPDES permits or local pretreatment orders or permits). Thus, Executive Order 13132 does not apply to this rule.

Even though section 6 of Executive Order 13132 does not apply to this rule, EPA did consult with representatives of State and local governments in developing this rule. The concerns raised during those consultations and EPA's response to their concerns are reflected in the Response to Comments section and elsewhere in the administrative record.

J. Submission to Congress and the General Accounting Office

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register.** This action is not a ''major rule'' as defined by 5 U.S.C. 804(2). This rule will be effective January 22, 2001.

Appendix 1 to the Preamble—Definitions, Acronyms, and Abbreviations

ADMINISTRATOR—The Administrator of the U.S. Environmental Protection Agency.

AGENCY—The U.S. Environmental Protection Agency.

AVERAGE MONTHLY DISCHARGE LIMITATION—The highest allowable average of ''daily discharges'' over a calendar month, calculated as the sum of all ''daily discharges'' measured during the calendar month divided by the number of ''daily discharges'' measured during the month.

BAT—The best available technology economically achievable, applicable to effluent limitations to be achieved by March 31, 1984, for industrial discharges to surface waters, as defined by Sec. 304(b)(2)(B) of the CWA.

BCT—The best conventional pollutant control technology, applicable to discharges of conventional pollutants from existing industrial point sources, as defined by Sec. 304(b)(4) of the CWA.

BPT—The best practicable control technology currently available, applicable to effluent limitations to be achieved by July 1, 1977, for industrial discharges to surface waters, as defined by Sec. 304(b)(1) of the CWA.

CENTRALIZED WASTE TREATMENT FACILITY—Any facility that treats (for disposal, recycling, or recovery of materials) or recycles any hazardous or non-hazardous industrial waste, hazardous or non-hazardous industrial wastewater, and/or used material from off-site. ''CWT facility'' includes both a facility that treats waste received from off-site exclusively, and a facility that treats wastes generated on-site as well as waste received from off-site. For example, an organic chemical manufacturing plant may, in certain circumstances, be a CWT facility if it treats industrial wastes received from offsite as well as industrial waste generated at the

organic chemical manufacturing plant. CWT facilities include re-refiners and may be owned by the federal government.

CENTRALIZED WASTE TREATMENT WASTEWATER—Any wastewater generated as a result of CWT activities. CWT wastewater sources may include, but are not limited to: liquid waste receipts, solubilization water, used oil emulsion-breaking wastewater, tanker truck/drum/roll-off box washes, equipment washes, air pollution control scrubber blow-down, laboratory-derived wastewater, on-site landfill wastewaters, and contaminated storm water.

CLEAN WATER ACT (CWA)—The Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. Section 1251 *et seq.*), as amended.

CLEAN WATER ACT (CWA) SECTION 308 QUESTIONNAIRE—A questionnaire sent to facilities under the authority of Section 308 of the CWA, which requests information to be used in the development of national effluent guidelines and standards.

COMMERCIAL FACILITY—A CWT facility that accepts off-site generated wastes, wastewaters, or used material from other facilities not under the same ownership as this facility. Commercial operations are usually made available for a fee or other remuneration.

CONTAMINATED STORM WATER—Storm water which comes in direct contact with off-site waste, the waste handling and treatment areas, or other centralized waste treatment wastewater.

CONVENTIONAL POLLUTANTS—Constituents of wastewater as determined by Sec. 304(a)(4) of the CWA, including, but not limited to, pollutants classified as biochemical oxygen demand, total suspended solids, oil and grease, fecal coliform, and pH.

CWT—Centralized Waste Treatment

DAILY DISCHARGE—The discharge of a pollutant measured during any calendar day or any 24-hour period that reasonably represents a calendar day.

DETAILED MONITORING QUESTIONNAIRE (DMQ)—Questionnaires sent to collect daily monitoring data from 20 selected CWT facilities based on responses to the Section 308 Questionnaire.

DIRECT DISCHARGER—A facility that discharges or may discharge treated or untreated wastewaters into waters of the United States.

EXISTING SOURCE—Any facility from which there is or may be a discharge of pollutants, the construction of which is commenced before the publication of the proposed regulations prescribing a standard of performance under Sec. 306 of the CWA.

FACILITY—All contiguous property owned, operated, leased, or under the control of the same person or entity

FUEL BLENDING—The process of combining waste, wastewater, or used material for the purpose of regenerating a fuel for reuse.

HAZARDOUS WASTE—Any waste, including wastewater, defined as hazardous under RCRA.

HIGH TEMPERATURE METALS RECOVERY (HTMR)—A metals recovery process in which solid forms of metal containing materials are processed with a heat-based pyrometallurgical technology to produce metal products.

INDIRECT DISCHARGER—A facility that discharges or may discharge wastewaters into a publicly-owned treatment works.

INTERCOMPANY—Facilities that treat and/or recycle/recover waste, wastewater, and/or used material generated by off-site facilities not under the same corporate ownership. These facilities are also referred to as ''commercial'' CWT facilities.

INTRACOMPANY TRANSFER—Facilities that treat and/or recycle/recover waste, wastewater, and/or used material generated by off-site facilities under the same corporate ownership. These facilities are also referred to as ''non-commercial'' CWT facilities.

LTA (Long-Term Average)—For purposes of the effluent guidelines, average pollutant levels achieved over a period of time by a facility, subcategory, or technology option. LTAs were used in developing the limitations and standards in today's proposed regulation.

MARINE-GENERATED WASTE—Any waste, wastewater, and/or used material generated as part of the normal maintenance and operation of a ship, boat, or barge operating on inland, coastal, or open waters, or while berthed.

METAL-BEARING WASTES—Wastes and/or used materials from manufacturing or processing facilities or other commercial operations that contain significant quantities of metal pollutants, but not significant quantities of oil and grease (generally less than 100 mg/L), from manufacturing or processing facilities or other commercial operations. Examples of these wastes are as follows: spent electroplating baths and sludges, metal finishing rinse water and sludges, chromate wastes, air pollution control blow down water and sludges, spent anodizing solutions, incineration air pollution control wastewaters, waste liquid mercury, cyanide containing wastes greater than 136 mg/L, and waste acids and bases with or without metals.

MINIMUM LEVEL—the lowest level at which the entire analytical system must give a recognizable signal and an acceptable calibration point for the analyte.

MIXED COMMERCIAL/NON-COMMERCIAL FACILITY—Facilities that treat and/or recycle/recover waste, wastewater, and/or used material generated by off-site facilities both under the same corporate ownership and different corporate ownership.

MULTIPLE WASTESTREAM CWT FACILITY—A CWT facility that accepts waste in more than one CWT subcategory (metals, oils, or organics) and combines any portion of these different subcategory wastes at any point prior to the compliance discharge sampling location.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT—A permit to discharge wastewater into waters of the United States issued under the National Pollutant Discharge Elimination system, authorized by Section 402 of the CWA.

NEW SOURCE—Any facility from which there is or may be a discharge of pollutants, the construction of which is commenced after the promulgation of regulations prescribing a standard of performance under section 306 of the Act and 403.3(k).

NON-COMMERCIAL FACILITY—Facilities that accept waste from off-site for treatment and/or recovery from generating facilities under the same corporate ownership as the CWT facility.

NON-CONTAMINATED STORMWATER—Stormwater that does not come into direct contact with the waste, the waste handling and treatment areas, or other centralized waste treatment wastewater.

NON-CONVENTIONAL POLLUTANTS—Pollutants that are neither conventional pollutants nor priority pollutants listed at 40 CFR Section 401.

NON-DETECT VALUE—The analyte is below the level of detection that can be reliably measured by the analytical method. This is also known, in statistical terms, as left-censoring.

NON-WATER QUALITY ENVIRONMENTAL IMPACT—Deleterious aspects of control and treatment technologies applicable to point source category wastes, including, but not limited to air pollution, noise, radiation, sludge and solid waste generation, and energy used.

NSPS—New Sources Performance Standards, applicable to industrial facilities whose construction is begun after the publication of the proposed regulations, as defined by Sec. 306 of the CWA.

OCPSF—Organic chemicals, plastics, and synthetic fibers manufacturing point source category. (40 CFR Part 414).

OFF SITE—Outside the boundaries of a facility.

OILY ABSORBENT RECYCLING—The process of recycling oil soaked or contaminated disposable rags, paper, or pads for the purpose of regenerating a fuel for reuse.

OILY WASTES—Wastes and/or used materials that contain oil and grease (generally at or in excess of 100 mg/L) from manufacturing or processing facilities or other commercial operations. Examples of these wastes are as follows: used oils, oil-water emulsions or mixtures, lubricants, coolants, contaminated groundwater clean-up from petroleum sources, used petroleum products, oil spill clean-up, bilge water, rinse/wash waters from petroleum sources, interceptor wastes, off-specification fuels, underground storage tank remediation waste, and tank clean out from petroleum or oily sources.

ON SITE—Within the boundaries of a facility. A facility may encompass land areas that are bisected by public thoroughfares but are under the control of a common owner.

ORGANIC WASTES—Wastes and/or used materials that contain organic pollutants, but not a significant quantity of oil and grease (generally less than 100 mg/L) from manufacturing or processing facilities or other commercial operations. Examples of these wastes are as follows: landfill leachate, contaminated groundwater clean-up from non-petroleum sources, solvent-bearing wastes, off-specification organic product, still bottoms, waste byproduct glycols, wastewater from paint washes, wastewater

from adhesives and/or epoxies formulation, wastewater from chemical product operations, and tank clean-out from organic, non-petroleum sources.

OUTFALL—The mouth of conduit drains and other conduits from which a facility effluent discharges into receiving waters.

OUT–OF–SCOPE—Out-of-scope facilities are facilities that only perform centralized waste treatment activities that EPA has not determined to be subject to provisions of this guideline or facilities that do not accept off-site waste for treatment.

PIPELINE—Pipeline means an open or closed conduit used for the conveyance of material. A conduit includes a channel, pipe, tube, trench, ditch, or fixed delivery system.

PASS THROUGH—A pollutant is determined to ''pass through'' a POTW when the national average percentage removed by efficiently operated POTWs is less than the average percentage removed by the industry's direct dischargers that are using well-defined, well-operated BAT technology.

POINT SOURCE—Any discernable, confined, and discrete conveyances from which pollutants are or may be discharged.

POLLUTANTS OF CONCERN (POCs)—Pollutants commonly found in centralized waste treatment wastewaters. For the purposes of this guideline, a POC is a pollutant that is detected at or above a treatable level in influent wastewater samples from centralized waste treatment facilities. Additionally, a CWT POC must be present in at least ten percent of the influent wastewater samples.

PRIORITY POLLUTANT—One hundred twenty-six compounds that are a subset of the 65 toxic pollutants and classes of pollutants outlined in Section 307 of the CWA. The priority pollutants are specified in the NRDC settlement agreement (Natural Resources Defense Council et al. v. Train, 8 E.R.C. 2120 [D.D.C. 1976], modified 12 E.R.C. 1833 [D.D.C. 1979]).

PRODUCT STEWARDSHIP—For purposes of this final rule, product stewardship means a manufacturer's treatment or recovery of its own unused products, shipping and storage containers with product residues, off-specification products, and does not include spent or used materials from use of its products.

PSES—Pretreatment standards for existing sources of indirect discharges, under Sec. 307(b) of the CWA.

PSNS—Pretreatment standards for new sources of indirect discharges, under Sec. 307(b) of the CWA.

PUBLICLY OWNED TREATMENT WORKS (POTW)—Any device or system, owned by a state or municipality, used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature that is owned by a state or municipality. This includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment (40 CFR 122.2).

RCRA—The Resource Conservation and Recovery Act of 1976 (RCRA) (42 U.S.C. Section 6901 *et seq.*), which regulates the generation, treatment, storage, disposal, or recycling of solid and hazardous wastes.

RE-REFINING—Distillation, hydrotreating, and/or other treatment employing acid, caustic, solvent, clay and/or chemicals of used oil in order to produce high quality base stock for lubricants or other petroleum products.

RECOVERY—The recycling or processing of a waste, wastewater, or used material such that the material, or a portion thereof, may be reused or converted to a raw material, intermediate, or product.

SIC—Standard Industrial Classification (SIC)—A numerical categorization system used by the U.S. Department of Commerce to catalogue economic activity. SIC codes refer to the products, or group of products, produced or distributed, or to services rendered by an operating establishment. SIC codes are used to group establishments by the economic activities in which they are engaged. SIC codes often denote a facility's primary, secondary, tertiary, etc. economic activities.

SMALL BUSINESS—Businesses with annual sales revenues less than $6 million. This is the Small Business Administration definition of small business for SIC code 4953, Refuse Systems (13 CFR Ch.1, § 121.601) which is being used to characterize the CWT industry.

SOLIDIFICATION—The addition of sorbents to convert liquid or semi-liquid waste to a solid by means of adsorption, absorption or both. The process is usually accompanied by stabilization.

SOLVENT RECOVERY—Fuel blending operations and the recycling of spent solvents through separation of solvent mixtures in distillation columns. Solvent recovery may require an additional, pretreatment step prior to distillation.

STABILIZATION—A waste process that decreases the mobility of waste constituents by means of a chemical reaction. For the purpose of this rule, chemical precipitation is not a technique for stabilization.

SUBCHAPTER N—Refers to Subchapter N of Chapter I of Title 40 of the Federal Regulations. This includes, but is not limited to, the industrial effluent limitation guidelines and standards included in 40 CFR Parts 405 through 471.

TREATMENT—Any method, technique, or process designed to change the physical, chemical or biological character or composition of any metal-bearing, oily, or organic waste so as to neutralize such wastes, to render such wastes amenable to discharge or to recover energy or recover metal, oil, or organic content from the wastes.

USED OIL FILTER RECYCLING—The process of crushing and draining of used oil filters of entrained oil and/or shredding and separation of used oil filters.

VARIABILITY FACTOR—Used in calculating a limitation (or standard) to allow for reasonable variation in pollutant concentrations when processed through extensive and well-designed treatment systems. Variability factors assure that normal fluctuations in a facility's treatment are accounted for in the limitations. By accounting for these reasonable excursions above the long-term average, EPA's use of variability factors results in limitations that are generally well above the actual long-term averages.

WASTE—Includes aqueous, non-aqueous, and solid waste, wastewater, and/or used material.

WASTE RECEIPT—Wastes, wastewater, or used material received for treatment and/or recovery. Waste receipts can be liquids or solids.

ZERO OR ALTERNATIVE DISCHARGE—No discharge of pollutants to waters of the United States or to a POTW. Also included in this definition is disposal of pollutants by way of evaporation, deep-well injection, off-site transfer, and land application.

List of Subjects

40 CFR Part 136

Environmental protection, Reporting and recordkeeping requirements, Water pollution control.

40 CFR Part 437

Environmental protection, Waste treatment and disposal, Water pollution control.

Dated: August 28, 2000.

Carol M. Browner,

Administrator.

For the reasons set out in the preamble, title 40, chapter 1 of the Code of Federal Regulations is amended as follows:

PART 136—TEST PROCEDURES FOR THE ANALYSIS OF POLLUTANTS

1. The authority citation for Part 136 continues to read as follows:

Authority: Secs. 301, 304(h), 307, and 501(a) Pub. L. 95–217, 91 Stat. 1566, *et seq.* (33 U.S.C. 1251, *et seq.*).

Appendix A—[Amended]

2. Appendix A to Part 136 is amended by revising Attachment 1 of Method 625 to read as follows:

Appendix A To Part 136—Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater

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Method 625—Base/Neutrals and Acids

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Attachment 1 to Method 625

Introduction

To support measurement of several semivolatile pollutants, EPA has developed this attachment to EPA Method 625.[1] The modifications listed in this attachment are approved only for monitoring wastestreams from the Centralized Waste Treatment Point Source Category (40 CFR Part 437) and the Landfills Point Source Category (40 CFR Part 445). EPA Method 625 (the Method) involves sample extraction with methylene chloride followed by analysis of the extract using either packed or capillary column gas

[1] EPA Method 625: Base/Neutrals and Acids, 40 CFR Part 136, Appendix A.

chromatography/mass spectrometry (GC/MS). This attachment addresses the addition of the semivolatile pollutants listed in Tables 1 and 2, to all applicable standard, stock, and spiking solutions utilized for the determination of semivolatile organic compounds by EPA Method 625.

1.0 EPA METHOD 625 MODIFICATION SUMMARY

The additional semivolatile organic compounds listed in Tables 1 and 2 are added to all applicable calibration, spiking, and other solutions utilized in the determination of base/neutral and acid compounds by EPA Method 625. The instrument is to be calibrated with these compounds, using a capillary column, and all procedures and quality control tests stated in the Method must be performed.

2.0 SECTION MODIFICATIONS

Note: All section and figure numbers in this Attachment reference section and figure numbers in EPA Method 625 unless noted otherwise. Sections not listed here remain unchanged.

Section 6.7 The stock standard solutions described in this section are modified such that the analytes in Tables 1 and 2 of this attachment are required in addition to those specified in the Method.

Section 7.2 The calibration standards described in this section are modified to include the analytes in Tables 1 and 2 of this attachment.

Section 8.2 The precision and accuracy requirements are modified to include the analytes listed in Tables 1 and 2 of this attachment. Additional performance criteria are supplied in Table 5 of this attachment.

Section 8.3 The matrix spike is modified to include the analytes listed in Tables 1 and 2 of this attachment.

Section 8.4 The QC check standard is modified to include the analytes listed in Tables 1 and 2 of this attachment. Additional performance criteria are supplied in Table 5 of this attachment.

Section 16.0 Additional method performance information is supplied with this attachment.

TABLE 1.—BASE/NEUTRAL EXTRACTABLES

Parameter	CAS No.
acetophenone [1]	98–86–2
alpha-terpineol [3]	98–55–5
aniline [2]	62–53–3
carbazole [1]	86–74–8
o-cresol [1]	95–48–7
n-decane [1]	124–18–5
2,3-dichloroaniline [1]	608–27–5
n-octadecane [1]	593–45–3
pyridine [2]	110–86–1

CAS = Chemical Abstracts Registry.

[1] Analysis of this pollutant is approved only for the Centralized Waste Treatment industry.

[2] Analysis of this pollutant is approved only for the Centralized Waste Treatment and Landfills industries.

[3] Analysis of this pollutant is approved only for the Landfills industry.

TABLE 2.—ACID EXTRACTABLES

Parameter	CAS No.
p-cresol [1]	106–44–5

CAS = Chemical Abstracts Registry.

[1] Analysis of this pollutant is approved only for the Centralized Waste Treatment and Landfills industries.

TABLE 3.—CHROMATOGRAPHIC CONDITIONS,[1] METHOD DETECTION LIMITS (MDLS), AND CHARACTERISTIC M/Z'S FOR BASE/NEUTRAL EXTRACTABLES

Analyte	Retention time (min) [2]	MDL (µg/L)	Characteristic m/z's		
			Electron impact		
			Primary	Secondary	Secondary
pyridine [3]	4.93	4.6	79	52	51
N-Nitro sodimethylamine	4.95	.....	42	74	44
aniline [3]	10.82	3.3	93	66	65
Bis(2-chloroethyl)ether	10.94	.....	93	63	95
n-decane [4]	11.11	5.0	57	.....	.....
1,3-Dichlorobenzene	11.47	.....	146	148	113
1,4-Dichlorobenzene	11.62	.....	146	148	113
1,2-Dichlorobenzene	12.17	.....	146	148	113
o-creso [1]	12.48	4.7	108	107	79
Bis(2-chloro- isopropyl)ether	12.51	.....	45	77	79
acetophenone [4]	12.88	3.4	105	77	51
N-Nitrosodi-n-propylamine	12.97	.....	130	42	101
Hexachloroethane	13.08	.....	117	201	199
Nitrobenzene	13.40	.....	77	123	65
Isophorone	14.11	.....	82	95	138
Bis (2-chloro ethoxy)methane	14.82	.....	93	95	123
1,2,4-Trichlorobenzene	15.37	.....	180	182	145
alpha-terpineol	15.55	5.0	59	.....	.....
Naphthalene	15.56	.....	128	129	127
Hexachlorobutadiene	16.12	.....	225	223	227
Hexachlorocyclopentadiene	18.47	.....	237	235	272
2,3-dichloroaniline [4]	18.82	2.5	161	163	90
2-Chloronaphthalene	19.35	.....	162	164	127
Dimethyl phthalate	20.48	.....	163	194	164
Acenaphthylene	20.69	.....	152	151	153
2,6-Dinitrotoluene	20.73	.....	165	89	121
Acenaphthene	21.30	.....	154	153	152
2,4-Dinitrotoluene	22.00	.....	165	63	182
Diethylphthalate	22.74	.....	149	177	150
4-Chlorophenyl phenyl ether	22.90	.....	204	206	141
Fluorene	22.92	.....	166	165	167
N-Nitro sodiphenylamine	23.35	.....	169	168	167
4-Bromophenyl phenyl ether	24.44	.....	248	250	141
Hexachlorobenzene	24.93	.....	284	142	249
n-octadecane [4]	25.39	2.0	57	.....	.....

TABLE 3.—CHROMATOGRAPHIC CONDITIONS,[1] METHOD DETECTION LIMITS (MDLS), AND CHARACTERISTIC M/Z'S FOR BASE/NEUTRAL EXTRACTABLES—Continued

Analyte	Retention time (min)[2]	MDL (µg/L)	Characteristic m/z's		
			Electron impact		
			Primary	Secondary	Secondary
Phenanthrene	25.98	.....	178	179	176
Anthracene	26.12	.....	178	179	176
Carbazole[4]	26.66	4.0	167	.....	.....
Dibutyl phthalate	27.84	.....	149	150	104
Fluoranthene	29.82	.....	202	101	100
Benzidine	30.26	.....	184	92	185
Pyrene	30.56	.....	202	101	100
Butyl benzyl phthalate	32.63	.....	149	91	206
3,3'-Dichlorobenzidine	34.28	.....	252	254	126
Benzo(a)anthracene	34.33	.....	228	229	226
Bis(2-ethyl hexyl)phthalate	34.36	.....	149	167	279
Chrysene	34.44	.....	228	226	229
Di-n-octyl-phthalate	36.17	.....	149	.....	.....
Benzo(b)fluoranthene	37.90	.....	252	253	125
Benzo(k)fluoranthene	37.97	.....	252	253	125
Benzo(a)pyrene	39.17	.....	252	253	125
Dibenzo(a,h) anthracene	44.91	.....	278	139	279
Indeno(1,2,3-c,d)pyrene	45.01	.....	276	138	277
Benzo(ghi)perylene	46.56	.....	276	138	277

[1] The data presented in this table were obtained under the following conditions:

Column—30 ±5 meters × 0.25 ±.02 mm i.d., 94% methyl, 5% phenyl, 1% vinyl, bonded phase fused silica capillary column (DB–5).
Temperature program—Five minutes at 30 °C; 30–280 °C at 8 °C per minute; isothermal at 280 °C until benzo(ghi)perylene elutes.
Gas velocity—30±5 cm/sec at 30 °C.

[2] Retention times are from Method 1625, Revision C, using a capillary column, and are intended to be consistent for all analytes in Tables 4 and 5 of this attachment.
[3] Analysis of this pollutant is approved only for the Centralized Waste Treatment and Landfills industries.
[4] Analysis of this pollutant is approved only for the Centralized Waste Treatment industry.

TABLE 4.—CHROMATOGRAPHIC CONDITIONS,[1] METHOD DETECTION LIMITS (MDLS), AND CHARACTERISTIC M/Z'S FOR ACID EXTRACTABLES

Analyte	Retention time[2] (min)	MDL (µg/L)	Characteristic m/z's		
			Electron impact		
			Primary	Secondary	Secondary
Phenol	10.76	.....	94	65	66
2-Chlorophenol	11.08	.....	128	64	130
p-cresol[3]	12.92	7.8	108	107	77
2-Nitrophenol	14.38	.....	139	65	109
2,4-Dimethylphenol	14.54	.....	122	107	121
2,4-Dichlorophenol	15.12	.....	162	164	98
4-Chloro-3-methylphenol	16.83	.....	142	107	144
2,4,6-Trichlorophenol	18.80	.....	196	198	200
2,4-Dinitrophenol	21.51	.....	184	63	154
4-Nitrophenol	21.77	.....	65	139	109
2-Methyl-4,6-dinitrophenol	22.83	.....	198	182	77
Pentachlorophenol	25.52	.....	266	264	268

[1] The data presented in this table were obtained under the following conditions:
Column—30 +/−5 meters × 0.25 +/−.02 mm i.d., 94% methyl, 5% phenyl, 1% vinyl silicone bonded phase fused silica capillary column (DB–5).
Temperature program—Five minutes at 30 °C; 30–280 °C at 8 °C per minute; isothermal at 280 °C until benzo(ghi)perylene elutes.
Gas velocity—30+/−5 cm/sec at 30 °C
[2] Retention times are from EPA Method 1625, Revision C, using a capillary column, and are intended to be consistent for all analytes in Tables 3 and 4 of this attachment.
[3] Analysis of this pollutant is approved only for the Centralized Waste Treatment and Landfills industries.

TABLE 5.—QC ACCEPTANCE CRITERIA

Analyte	Test conclusion (µg/L)	Limits for s (µg/L)	Range for X (µg/L)	Range for P, P_s(%)
acetophenone[1]	100	51	23–254	61–144
alpha-terpineol	100	47	46–163	58–156
aniline[2]	100	71	15–278	46–134

TABLE 5.—QC ACCEPTANCE CRITERIA—Continued

Analyte	Test conclusion (µg/L)	Limits for s (µg/L)	Range for X (µg/L)	Range for P, P_s(%)
carbazole [1]	100	17	79–111	73–131
o-cresol [1]	100	23	30–146	55–126
p-cresol [2]	100	22	11–617	76–107
n-decane [1]	100	70	D–651	D-ns
2,3-dichloroaniline [1]	100	13	40–160	68–134
n-octadecane [1]	100	10	52–147	65–123
pyridine [2]	100	ns	7–392	33–158

s = Standard deviation for four recovery measurements, in µg/L (Section 8.2)
X = Average recovery for four recovery measurements in µg/L (Section 8.2)
P,Ps = Percent recovery measured (Section 8.3, Section 8.4)
D = Detected; result must be greater than zero.
ns = no specification; limit is outside the range that can be measured reliably.
[1] Analysis of this pollutant is approved only for the Centralized Waste Treatment industry.
[2] Analysis of this pollutant is approved only for the Centralized Waste Treatment and Landfills industries.

3. Appendix A to Part 136 is amended by revising Attachment 1 of Method 1625 to read as follows:

* * * * *

Method 1625—Revision B—Semivolatile Organic Compounds by Isotope Dilution GC/MS

* * * * *

Attachment 1 to Method 1625

Introduction

To support measurement of several semivolatile pollutants, EPA has developed this attachment to EPA Method 1625B.[1] The modifications listed in this attachment are approved only for monitoring wastestreams from the Centralized Waste Treatment Point Source Category (40 CFR Part 437) and the Landfills Point Source Category (40 CFR Part 445). EPA Method 1625B (the Method) employs sample extraction with methylene chloride followed by analysis of the extract using capillary column gas chromatography-mass spectrometry (GC/MS). This attachment addresses the addition of the semivolatile pollutants listed in Tables 1 and 2 to all applicable standard, stock, and spiking solutions utilized for the determination of semivolatile organic compounds by EPA Method 1625B.

1.0 EPA METHOD 1625 REVISION B MODIFICATION SUMMARY

The additional semivolatile organic compounds listed in Tables 1 and 2 are added to all applicable calibration, spiking, and other solutions utilized in the determination of semivolatile compounds by EPA Method 1625. The instrument is to be calibrated with these compounds, and all procedures and quality control tests described in the Method must be performed.

2.0 SECTION MODIFICATIONS

Note: All section and figure numbers in this Attachment reference section and figure numbers in EPA Method 1625 Revision B unless noted otherwise. Sections not listed here remain unchanged.

Section 6.7 The stock standard solutions described in this section are modified such that the analytes in Tables 1 and 2 of this attachment are required in addition to those specified in the Method.

Section 6.8 The labeled compound spiking solution in this section is modified to include the labeled compounds listed in Tables 5 and 6 of this attachment.

Section 6.9 The secondary standard is modified to include the additional analytes listed in Tables 1 and 2 of this attachment.

Section 6.12 The solutions for obtaining authentic mass spectra are to include all additional analytes listed in Tables 1 and 2 of this attachment.

Section 6.13 The calibration solutions are modified to include the analytes listed in Tables 1 and 2 and the labeled compounds listed in Tables 5 and 6 of this attachment.

Section 6.14 The precision and recovery standard is modified to include the analytes listed in Tables 1 and 2 and the labeled compounds listed in Tables 5 and 6 of this attachment.

Section 6.15 The solutions containing the additional analytes listed in Tables 1 and 2 of this attachment are to be analyzed for stability.

Section 7.2.1 This section is modified to include the analytes listed in Tables 1 and 2 and the labeled compounds listed in Tables 5 and 6 of this attachment.

Section 7.4.5 This section is modified to include the analytes listed in Tables 1 and 2 and the labeled compounds listed in Tables 5 and 6 in the calibration.

Section 8.2 The initial precision and recovery (IPR) requirements are modified to include the analytes listed in Tables 1 and 2 and the labeled compounds listed in Tables 5 and 6 of this attachment. Additional IPR performance criteria are supplied in Table 7 of this attachment.

Section 8.3 The labeled compounds listed in Tables 3 and 4 of this attachment are to be included in the method performance tests. Additional method performance criteria are supplied in Table 7 of this attachment.

Section 8.5.2 The acceptance criteria for blanks includes the analytes listed in Tables 1 and 2 of this attachment.

Section 10.1.2 The labeled compound solution must include the labeled compounds listed in Tables 5 and 6 of this attachment.

Section 10.1.3 The precision and recovery standard must include the analytes listed in Tables 1 and 2 and the labeled compounds listed in Tables 5 and 6 of this attachment.

Section 12.5 Additional QC requirements for calibration verification are supplied in Table 7 of this attachment.

Section 12.7 Additional QC requirements for ongoing precision and recovery are supplied in Table 7 of this attachment.

TABLE 1.—BASE/NEUTRAL EXTRACTABLE COMPOUNDS

Compound	Pollutant	
	CAS Registry	EPA–EGD
acetophenone [1]	98–86–2	758

[1] EPA Method 1625 Revision B, Semivolatile Organic Compounds by Isotope Dilution GC/MS, 40 CFR Part 136, Appendix A.

TABLE 1.—BASE/NEUTRAL EXTRACTABLE COMPOUNDS—Continued

Compound	Pollutant	
	CAS Registry	EPA–EGD
aniline [2]	62–53–3	757
-2,3-dichloroaniline [1]	608–27–5	578
-o-cresol [1]	95–48–7	771
pyridine [2]	110–86–1	1330

CAS = Chemical Abstracts Registry.
EGD = Effluent Guidelines Division.
[1] Analysis of this pollutant is approved only for the Centralized Waste Treatment industry.
[2] Analysis of this pollutant is approved only for the Centralized Waste Treatment and Landfills industries.

TABLE 2.—ACID EXTRACTABLE COMPOUNDS

Compound	Pollutant	
	CAS Registry	EPA–EGD
p-cresol [1]	106–44–5	1744

CAS = Chemical Abstracts Registry.
EGD = Effluent Guidelines Division.
[1] Analysis of this pollutant is approved only for the Centralized Waste Treatment and Landfills industries.

TABLE 3.—GAS CHROMATOGRAPHY [1] OF BASE/NEUTRAL EXTRACTABLE COMPOUNDS

EGD No.	Compound	Retention time [2]			Minimum level [3] (μg/L)
		Mean (sec)	EGD Ref	Relative	
758	acetophenone [4]	818	658	1.003–1.005	10
757	aniline [5]	694	657	0.994–1.023	10
578	2,3-dichloroaniline [4]	1160	164	1.003–1.007	10
771	o-cresol [4]	814	671	1.005–1.009	10
1330	pyridine [5]	378	1230	1.005–1.011	10

EGD = Effluent Guidelines Division.
[1] The data presented in this table were obtained under the chromatographic conditions given in the footnote to Table 3 of EPA Method 1625B.
[2] Retention times are approximate and are intended to be consistent with the retention times for the analytes in EPA Method 1625B.
[3] See the definition in footnote 2 to Table 3 of EPA Method 1625B.
[4] Analysis of this pollutant is approved only for the Centralized Waste Treatment industry.
[5] Analysis of this pollutant is approved only for the Centralized Waste Treatment and Landfills industries.

TABLE 4.—GAS CHROMATOGRAPHY [1] OF ACID EXTRACTABLE COMPOUNDS

EGD No.	Compound	Retention time [2]			Minimum level (μ/L) [3]
		Mean (sec)	EGD Ref	Relative	
1744	p-cresol [4]	834	1644	1.004–1.008	20

EGD = Effluent Guidelines Division.
[1] The data presented in this table were obtained under the chromatographic conditions given in the footnote to Table 4 of EPA Method 1625B.
[2] Retention times are approximate and are intended to be consistent with the retention times for the analytes in EPA Method 1625B.
[3] See the definition in footnote 2 to Table 4 of EPA Method 1625B.
[4] Analysis of this pollutant is approved only for the Centralized Waste Treatment and Landfills industries.

TABLE 5.—BASE/NEUTRAL EXTRACTABLE COMPOUND CHARACTERISTIC m/z'S

Compound	Labeled Analog	Primary m/z [1]
acetophenone [2]	d_5	105/110
aniline [3]	d_7	93/100
o-cresol [2]	d_7	108/116
2,3-dichloroaniline [2]	n/a	161
pyridine [3]	d_5	79/84

m/z = mass to charge ratio.
[1] Native/labeled.
[2] Analysis of this pollutant is approved only for the Centralized Waste Treatment industry.
[3] Analysis of this pollutant is approved only for the Centralized Waste Treatment and Landfills industries.

TABLE 6.—ACID EXTRACTABLE COMPOUND CHARACTERISTIC M/Z'S

Compound	Labeled Analog	Primary m/z [1]
p-cresol [2]	d_7	108/116

m/z = mass to charge ratio.
[1] Native/labeled.
[2] Analysis of this pollutant is approved only for the Centralized Waste Treatment and Landfills industries.

TABLE 7.—ACCEPTANCE CRITERIA FOR PERFORMANCE TESTS

EGD No.	Compound	Acceptance criteria			Calibration verification sec. 12.5 µg/mL)	On-going accuracy sec. 12.7 R (µg/L)
		Initial precision and accuracy section 8.2 (µg/L)		Labeled compound recovery sec. 8.3 and 14.2 P (percent)		
		s (µg/L)	X			
758	acetophenone [1]	34	44–167	.....	85–115	45–162
658	acetophenone-d_5 [1]	51	23–254	45–162	85–115	22–264
757	aniline [2]	32	30–171	.....	85–115	33–154
657	aniline-d_7 [2]	71	15–278	33–154	85–115	12–344
771	o-cresol [1]	40	31–226	.....	85–115	35–196
671	o-cresol-d_7 [1]	23	30–146	35–196	85–115	31–142
1744	p-cresol [2]	59	54–140	.....	85–115	37–203
1644	p-cresol-d_7 [2]	22	11–618	37–203	85–115	16–415
578	2,3-dichloroaniline [1]	13	40–160	.....	85–115	44–144
1330	pyridine [2]	28	10–421	.....	83–117	18–238
1230	pyridine-d_5 [2]	ns	7–392	19–238	85–115	4–621

s = Standard deviation of four recovery measurements.
X = Average recovery for four recovery measurements.
EGD = Effluent Guidelines Division.
ns = no specification; limit is outside the range that can be measured reliably.
[1] Analysis of this pollutant is approved only for the Centralized Waste Treatment industry.
[2] Analysis of this pollutant is approved only for the Centralized Waste Treatment and Landfills industries.

4. Part 437 is added to read as follows:

PART 437—THE CENTRALIZED WASTE TREATMENT POINT SOURCE CATEGORY

Sec.

Authority: Secs 301, 304, 306, 307, 308, 402, and 501 of the Clean Water Act, as amended; 33 U.S.C. 1311, 1314, 1316, 1317, 1318, 1342, and 1361.

§ 437.1 General applicability.

(a) Except as provided in paragraphs (b), (c), or (d) of this section, this part applies to that portion of wastewater discharges from a centralized waste treatment (CWT) facility that results from any of the following activities:

(1) Treatment and recovery of hazardous or non-hazardous industrial

metal-bearing wastes, oily wastes and organic-bearing wastes received from off-site; and

(2) The treatment of CWT wastewater.

(b) This part does not apply to the following discharges of wastewater from a CWT facility:

(1) Wastewater from the treatment of wastes that are generated on-site when the wastes generated on-site are otherwise subject to another part of subchapter N.

(2) Wastewater from the treatment of wastes that are generated off-site if the discharger: a) demonstrates that the off-site wastes are generated at a facility that is subject to the same provisions in 40 CFR subchapter N as non-CWT wastes generated at the CWT facility or b) demonstrates that the off-site wastes are of similar nature and the treatment of such wastes are compatible with the treatment of non-CWT wastes generated and treated at the CWT.

(3) Wastewater from the treatment of wastes received from off-site via conduit (*e.g.,* pipelines, channels, ditches, trenches, etc.) from the facility that generates the wastes unless the resulting wastewaters are commingled with other wastewaters subject to this provision. A facility that acts as a waste collection or consolidation center is not a facility that generates wastes.

(4) Wastewater from product stewardship activities, the treatment of sanitary wastes and wastes of domestic origin including chemical toilet wastes, septage, and restaurant wastes or thermal drying of POTW biosolids. Product stewardship activities for purposes of this provision are limited to the following activities at a manufacturing facility: acceptance for treatment or recovery of its unused products, shipping and storage containers with product residues and off-spec products.

(5) Wastewater from solids recovery operations so long as the wastes recovered are from non-industrial sources, and recovery of the wastes does not generate a wastewater or leach appreciable metal or organic chemicals or petroleum-based oil and grease into the water. Examples of solids recovery operations to which this subpart would not apply include, but are not limited to, the recycling of aluminum cans, glass and plastic bottles.

(6) Wastewater from scrap metal processing or auto salvage operations.

(7) Wastewater from transfer stations or municipal recycling centers.

(8) Wastewater from the treatment of, or recovery of material from, animal or vegetable fats/oils from grease traps or interceptors generated by facilities engaged in food service activities.

(9) Wastewater from the treatment of, or recovery of material from, off-site wastes generated by facilities engaged only in food processing.

(10) Wastewater from facilities that are subject to 40 CFR part 442. Wastewater resulting from the treatment of off-site wastewater generated in cleaning transportation equipment (or on-site wastewater generated in cleaning equipment) along with other off-site wastes (subject to this part) not generated in cleaning transportation equipment is, however, subject to this part.

(11) Wastewater resulting from solvent recovery operations if the solvent recovery operations involve the separation of solvent mixtures by distillation.

(12) Wastewater from facilities that are engaged exclusively in centralized silver recovery from used photographic or x-ray materials activities. The discharge resulting from centralized silver recovery from used photographic or x-ray materials that is treated at a CWT facility along with other off-site wastestreams (subject to this part) is subject to this part.

(13) Wastewater from facilities that accept off-site wastes only for treatability studies, research and development, or chemical or physical analysis. The wastewater resulting from treatability studies, research and development, or chemical or physical analysis that is treated at a CWT facility along with other off-site wastestreams (subject to this part) is subject to this part.

(c) This part also does not apply to the following activities:

(1) ''Dry'' fuel blending operations, ''dry'' waste solidification/stabilization operations, ''dry'' used oil filter or oily absorbents recycling operations, or ''dry'' high temperature metals recovery operations. However, this part does apply to wastewater discharges from a CWT resulting from any of these operations that do produce wastewater.

(2) The discharge of marine generated wastes including wash water from equipment and tank cleaning, ballast water, bilge water, and other wastes generated (while operating on inland, coastal, or open waters or while berthed) as part of routine ship maintenance and operation as long as they are treated and discharged at the ship servicing facility where it is off-loaded. The discharges resulting from the treatment of marine generated wastes that are off-loaded and subsequently sent to a centralized waste treatment facility at a separate location are, however, subject to this part.

(3) Discharge of wastewater from land treatment units or land application operations.

(4) Discharge of wastewater from facilities that are engaged exclusively in landfilling activities and/or the treatment of landfill wastewaters (whether generated on or off-site). The discharge resulting from the treatment of landfill wastewater, whether generated on-site or off-site, treated at CWT facilities along with other off-site waste is, however, subject to this part.

(5) Discharge of wastewater from facilities that are engaged exclusively in incineration activities. The discharge resulting from the treatment of off-site wastewater generated in the incineration of industrial waste that is treated at a CWT facility along with other off-site wastestreams (subject to this part) is subject to this part.

(d) Notwithstanding paragraph (a) of this section, the provisions of this part are not applicable to any metals treatment and recovery wastewater discharges which are subject to the secondary metals provisions of 40 CFR part 421, the Nonferrous Metals Manufacturing Point Source Category. These secondary metals subcategories are Subpart C (Secondary Aluminum Smelting Subcategory), Subpart F (Secondary Copper Subcategory), Subpart L (Secondary Silver Subcategory), Subpart M (Secondary Lead Subcategory), Subpart P (Primary and Secondary Germanium and Gallium Subcategory), Subpart Q (Secondary Indium Subcategory), Subpart R (Secondary Mercury Subcategory), Subpart T (Secondary Molybdenum and Vanadium Subcategory), Subpart V (Secondary Nickel Subcategory), Subpart X (Secondary Precious Metals Subcategory), Subpart Z (Secondary Tantalum Subcategory), Subpart AA (Secondary Tin Subcategory), Subpart AB (Primary and Secondary Titanium Subcategory), Subpart AC (Secondary Tungsten and Cobalt Subcategory), and Subpart AD (secondary Uranium Subcategory).

§ 437.2 General definitions.

As used in this part:

(a) The general definitions and abbreviations in 40 CFR part 401 apply to this part.

(b) *Alternative effluent limitations or pretreatment standards* mean effluent limitations determined on a case-by-case basis under section 402(a)(1) of the CWA or pretreatment standards developed as local limits by the control authority under 40 CFR § 403.6(c) that apply to the discharge of wastewater subject to this provision. The permit writer (or control authority) will

calculate these limitations or standards using a ''building block'' approach or the ''combined wastestream formula.'' Under this approach, the permit writer (or control authority) will develop flow-weighted effluent limitations or standards for the treated combined wastestream by applying the limitations or standards in 40 CFR subchapter N that would otherwise apply to a particular wastestream received from off-site if the wastestream were treated and discharged from the facility at which it was generated.

(c) *Centralized waste treatment (CWT) facility* means any facility that treats (for disposal, recycling or recovery of material) any hazardous or non-hazardous industrial wastes, hazardous or non-hazardous industrial wastewater, and/or used material received from off-site. ''CWT facility'' includes both a facility that treats waste received exclusively from off-site and a facility that treats wastes generated on-site as well as waste received from off-site. For example, an organic chemical manufacturing plant may, in certain circumstances, be a CWT facility if it treats industrial wastes received from offsite as well as industrial waste generated at the organic chemical manufacturing plant. CWT facilities may also include re-refiners and may be owned by the federal government.

(d) *Centralized waste treatment wastewater* means any wastewater generated as a result of CWT activities. CWT wastewater sources may include, but are not limited to: liquid waste receipts, solubilization water, used oil emulsion-breaking wastewater, tanker truck/drum/roll-off box washes, equipment washes, air pollution control scrubber blow-down, laboratory-derived wastewater, on-site landfill wastewaters, and contaminated storm water.

(e) *Contaminated storm water* means storm water which comes in direct contact with CWT wastes, the waste handling and treatment areas, or other centralized waste treatment wastewater as defined in paragraph (d) of this section.

(f) *Discharger* means a facility that discharges wastewater directly to waters of the United States or introduces wastewater to a publicly-owned treatment works.

(g) *Dry* means not producing a wastewater.

(h) *Equivalent treatment* means a wastewater treatment system that achieves comparable pollutant removals to the applicable treatment technology selected as the basis for the limitations and pretreatment standards. Comparable removals may be demonstrated through literature, treatability tests, or self-monitoring data.

(i) *Fuel blending* means the process of combining waste, wastewater, or used material for the purpose of regenerating a fuel for reuse. However, fuel blending may be loosely applied to any process where recovered hydrocarbons are combined as a fuel product where some pretreatment operations generate wastewater.

(j) *High temperature metals recovery* means a metals recovery process in which solid forms of metal-containing materials are processed with a heat-based pyrometallurgical technology to produce a metal product.

(k) *Marine generated waste* means any waste, wastewater, and/or used material generated as part of the normal maintenance and operation of a ship, boat, or barge operating on inland, coastal, or open waters, or while berthed.

(l) *Metal-bearing wastes* means wastes and/or used materials from manufacturing or processing facilities or other commercial operations that contain significant quantities of metal pollutants, but not significant quantities of oil and grease (generally less than 100 mg/L). Examples of these wastes are spent electroplating baths and sludges, metal-finishing rinse water and sludges, chromate wastes, blow-down water and sludges from air pollution control, spent anodizing solutions, incineration air pollution control wastewaters, waste liquid mercury, cyanide containing wastes greater than 136 mg/L, and waste acids and bases with or without metals.

(m) *Multiple wastestream CWT facility* means a CWT facility which accepts waste in more than one CWT subcategory (metals, oils, or organics) and combines any portion of these different subcategory wastes at any point prior to the compliance discharge sampling location.

(n) *Off-site* means outside the boundaries of a facility.

(o) *Oily absorbent recycling* means the process of recycling oil-soaked or contaminated disposable rags, paper, or pads for the purpose of regenerating a fuel for reuse.

(p) *Oily wastes* means wastes and/or used materials that contain oil and grease (generally at or in excess of 100 mg/L) from manufacturing or processing facilities or other commercial operations. Examples of these wastes are used oils, oil-water emulsions or mixtures, lubricants, coolants, contaminated groundwater clean-up from petroleum sources, used petroleum products, oil spill clean-up, bilge water, rinse/wash waters from petroleum sources, interceptor wastes, off-specification fuels, underground storage tank remediation waste, and tank clean out from petroleum or oily sources.

(q) *On-site* means within the boundaries of a facility. A facility may encompass land areas that are bisected by public thoroughfares but are under the control of a common owner.

(r) *Organic wastes* means wastes and/or used materials that contain organic pollutants, but not a significant quantity of oil and grease (generally less than 100 mg/L) from manufacturing or processing facilities or other commercial operations. Examples of these wastes are landfill leachate, contaminated groundwater clean-up from non-petroleum sources, solvent-bearing wastes, off-specification organic product, still bottoms, byproduct glycols, wastewater from paint washes, wastewater from adhesives and/or epoxies, wastewater from chemical product operations, and tank clean-out from organic, non-petroleum sources.

(s) The following regulated parameters are listed with approved methods of analysis in Table 1B at 40 CFR 136.3, and are defined as follows:

(1) *Antimony* means total antimony.

(2) *Arsenic* means total arsenic.

(3) *Barium* means total barium.

(4) BOD_5 means 5-day biochemical oxygen demand.

(5) *Cadmium* means total cadmium.

(6) *Chromium* means total chromium.

(7) *Cobalt* means total cobalt.

(8) *Copper* means total copper.

(9) *Cyanide* means total cyanide.

(10) *Lead* means total lead.

(11) *Mercury* means total mercury.

(12) *Molybdenum* means total molybdenum.

(13) *Nickel* means total nickel.

(14) *O&G* means total recoverable oil and grease (n-hexane extractable material).

(15) *Selenium* means total selenium.

(16) *Silver* means total silver.

(17) *Tin* means total tin.

(18) *Titanium* means total titanium.

(19) *TSS* means total suspended solids.

(20) *Vanadium* means total vanadium.

(21) *Zinc* means total zinc.

(t) The following regulated parameters are listed with approved methods of analysis in Table 1C at 40 CFR 136.3:

(1) Bis(2-ethylhexyl) phthalate.

(2) Butylbenzyl phthalate.

(3) Fluoranthene.

(4) Phenol.

(5) 2,4,6-trichlorophenol.

(u) The following regulated parameters are listed with approved methods of analysis (Methods 625 and 1625) at 40 CFR 136.3, Appendix A:

(1) Acetone.

(2) Acetophenone.

(3) Aniline.
(4) 2-Butanone.
(5) Carbazole.
(6) o-Cresol.
(7) p-Cresol.
(8) n-Decane.
(9) 2,3-dichloroaniline.
(10) n-Octadecane.
(11) Pyridine.

(v) *Pipeline* means an open or closed conduit used for the conveyance of material. A pipeline includes a channel, pipe, tube, trench, or ditch, or fixed delivery system.

(w) *Product stewardship* means a manufacturer's treatment or recovery of its own unused products, shipping and storage containers with product residues, off-specification products, and does not include spent or used materials from use of its products.

(x) *Re-refining* means the processing of used oil using distillation, hydrotreating, and/or other treatment employing acid, caustic, solvent, clay and/or chemicals in order to produce high quality base stock for lubricants or other petroleum products.

(y) *Recovery* means the recycling or processing of a waste, wastewater or used material such that the material, or a portion thereof, may be reused or converted to a raw material, intermediate, or product. Recovery does not include the re-use of treated or untreated wastewater in place of potable or pure water in industrial processes such as the use of secondary POTW effluents as non-contact cooling water, storm water in place of process water, or the re-use of spent chemicals in place of virgin treatment chemicals.

(z) *Solidification* means the addition of sorbents to convert liquid or semi-liquid waste to a solid by means of adsorption, absorption or both. The process is usually accompanied by stabilization.

(aa) *Solvent recovery* includes fuel blending operations and the recycling of spent solvents through separation of solvent mixtures in distillation columns. Solvent recovery may require an additional, pretreatment step prior to distillation.

(bb) *Stabilization* means a waste process that decreases the mobility of waste constituents by means of a chemical reaction. For the purpose of this rule, chemical precipitation is not a technique for stabilization.

(cc) *Treatment* means any method, technique, or process designed to change the physical, chemical or biological character or composition of any metal-bearing, oily, or organic wastes to neutralize such wastes; to render such wastes amenable to discharge; or to recover energy or recover metal, oil, or organic content from the wastes. Treatment does not include (a) the re-use of treated or untreated wastewater in place of potable or pure water in industrial processes such as the use of secondary POTW effluents as non-contact cooling water or storm water in place of process water or (b) the re-use of treated or untreated spent chemicals (such as pickle liquor) as treatment chemicals.

(dd) *Non-contaminated storm water* means storm water which does not come in direct contact with CWT wastes, the waste handling and treatment areas, or other CWT wastewater that is defined in paragraph (d) of this section.

(ee) *Used oil filter recycling* means crushing and draining of used oil filters of entrained oil and/or shredding and separation of used oil filters.

(ff) *Waste* includes aqueous, non-aqueous, and solid waste, wastewater, and/or used material.

§ 437.3 General pretreatment standards.

Any source subject to this part that introduces process wastewater pollutants into a publicly owned treatment works (POTW) must comply with 40 CFR part 403.

§ 437.4 Monitoring requirements.

(a) Permit compliance monitoring is required for each regulated parameter.

(b) Any CWT facility that discharges wastewater resulting from the treatment of metal-bearing waste, oily waste, or organic-bearing waste must monitor as follows:

(1) Facilities subject to more than one subpart of this part must monitor for compliance for each subpart after treatment and before mixing of the waste with wastes of any other subpart. Alternatively, a multiple wastestream subcategory facility may certify that it provides equivalent treatment as defined in § 437.2(h) for the applicable waste and monitor for compliance with the applicable set of multiple wastestream subcategory limitations after mixing.

(2) Facilities subject to one or more subpart of this part must monitor for compliance with the applicable subpart after treatment and before mixing of the waste with wastes of any other subpart, uncontaminated storm water, or wastewater subject to another effluent limitation or standard in Subchapter N. If, however, the facility can demonstrate to the receiving POTW or permitting authority the capability of achieving the effluent limitation or standard for each subpart after treatment and before mixing with other wastestreams, the facility may monitor for compliance after mixing. In the case of a facility which elects to comply with the applicable set of multiple wastestream subcategory limitations or standards, it is only subject to one subpart.

(3) When a CWT facility treats any waste receipt that contains cyanide at a concentration higher than 136 mg/L, the CWT facility must monitor for cyanide after cyanide treatment and before dilution with other wastestreams. If, however, the facility can demonstrate to the receiving POTW or permitting authority the capability of achieving the cyanide limitation or standard after cyanide treatment and before mixing with other wastestreams, the facility may monitor for compliance after mixing.

Subpart A—Metals Treatment and Recovery

§ 437.10 Applicability.

(a) Except as provided in § 437.1(b), (c), or (d) or in paragraph (b) of this section, this subpart applies to that portion of the discharge of wastewater from a CWT facility that results from the treatment of, or recovery of metals from, both metal-bearing wastes received from off-site and other CWT wastewater associated with the treatment of, or recovery of metal-bearing wastes.

(b) In order to ensure appropriate treatment rather than dilution of dissimilar wastes, an NPDES permit writer or control authority may require a new source or an existing facility subject to this subpart to achieve alternative effluent limitations and standards as defined in § 437.2(b) in the following circumstances:

(1) The facility receives, on a continuing basis, flows of process wastewater from five or fewer facilities subject to 40 CFR Subchapter N limitations and standards; and

(2) The process wastewater flows received for treatment at the facility have relatively consistent pollutant profiles.

§ 437.11 Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).

(a) Except as provided in 40 CFR 125.30 through 125.32 or 437.10(b), any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BPT:

BPT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Conventional Parameters		
O&G	205	50.2
pH	([2])	([2])
TSS	60.0	31.0
Metal Parameters		
Antimony	0.249	0.206
Arsenic	0.162	0.104
Cadmium	0.474	0.0962
Chromium	15.5	3.07
Cobalt	0.192	0.124
Copper	4.14	1.06
Lead	1.32	0.283
Mercury	0.00234	0.000739
Nickel	3.95	1.45
Selenium	1.64	0.408
Silver	0.120	0.0351
Tin	0.409	0.120
Titanium	0.0947	0.0618
Vanadium	0.218	0.0662
Zinc	2.87	0.641

[1] mg/L (ppm).
[2] Within the range 6 to 9.

(b) The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

IN-PLANT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Cyanide	500	178

[1] mg/L (ppm).

§ 437.12 Effluent limitations attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30 through 125.32 or 437.10(b), any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BCT: Limitations for oil and grease, pH, and TSS are the same as the corresponding limitation specified in § 437.11(a).

§ 437.13 Effluent limitations attainable by the application of the best available technology economically achievable (BAT).

(a) Except as provided in 40 CFR 125.30 through 125.32 or 437.10(b), any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BAT: Limitations for antimony, arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, silver, tin, titanium, vanadium, and zinc are the same as the corresponding limitation specified in § 437.11(a).

(b) In-plant standards for cyanide are the same as the limitations specified in § 437.11(b).

§ 437.14 New source performance standards (NSPS).

(a) Except as provided in § 437.10(b), any new source subject to this subpart must achieve the following performance standards:

PERFORMANCE STANDARDS

Regulated parameter	Maximum daily [1]	Maximum monthly avg. [1]
Contentional Parameters		
O&G	205	50.2
pH	([2])	([2])
TSS	29.6	11.3
Metal Parameters		
Antimony	0.111	0.0312
Arsenic	0.0993	0.0199
Cadmium	0.782	0.163
Chromium	0.167	0.0522
Cobalt	0.182	0.0703
Copper	0.659	0.216
Lead	1.32	0.283
Mercury	0.000641	0.000246
Nickel	0.794	0.309
Selenium	0.176	0.0698
Silver	0.0318	0.0122
Tin	0.0955	0.0367
Titanium	0.0159	0.00612
Vanadium	0.0628	0.0518
Zinc	0.657	0.252

[1] mg/L (ppm).
[2] Within the range 6 to 9.

(b) In-plant standards for cyanide are the same as the limitations specified in § 437.11(b).

§ 437.15 Pretreatment standards for existing sources (PSES).

(a) Except as provided in 40 CFR 403.7, 403.13 or 437.10(b), and no later than December 22, 2003, any existing source subject to this subpart must achieve the following pretreatment standards: Standards for antimony, arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, silver, tin, titanium, vanadium, and zinc are the same as the corresponding limitation specified in § 437.11(a).

(b) In-plant standards for cyanide are the same as the limitations specified in § 437.11(b).

§ 437.16 Pretreatment standards for new sources (PSNS).

(a) Except as provided in 40 CFR 403.7 or 437.10(b), any new source subject to this subpart must achieve the following pretreatment standards: Standards for antimony, arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, silver, tin, titanium, vanadium, and zinc are the same as the corresponding limitation specified in § 437.11(a)

(b) In-plant standards for cyanide are the same as the limitations specified in § 437.11(b).

Subpart B—Oils Treatment and Recovery

§ 437.20 Applicability.

(a) Except as provided in § 437.1(b), (c), or (d) or in paragraph (b) of this section, this subpart applies to that portion of the discharge of wastewater from a CWT facility that results from the treatment or recovery of oil from both oily wastes received from off-site and other CWT wastewater associated with the treatment of, or recovery of oily wastes.

(b) In order to ensure appropriate treatment rather than dilution of dissimilar wastes, an NPDES permit writer or control authority may require a new source or an existing source subject to this subpart to achieve alternative effluent limitations and standards, as defined in § 437.2(b), in the following circumstances:

(1) The facility receives, on a continuing basis, flows of process wastewater from five or fewer facilities subject to 40 CFR Subchapter N limitations and standards; and

(2) The process wastewater flows received for treatment at the facility have relatively consistent pollutant profiles.

§ 437.21 Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32 or 437.20(b), any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BPT:

BPT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Conventional Parameters		
O&G	127	38.0
pH	([2])	([2])
TSS	74.1	30.6
Metal Parameters		
Antimony	0.237	0.141
Arsenic	2.95	1.33
Barium	0.427	0.281
Cadmium	0.0172	0.0102
Chromium	0.746	0.323
Cobalt	56.4	18.8
Copper	0.500	0.242
Lead	0.350	0.160

BPT LIMITATIONS—Continued

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Mercury	0.0172	0.00647
Molybdenum	3.50	2.09
Tin	0.335	0.165
Titanium	0.0510	0.0299
Zinc	8.26	4.50
Organic Parameters		
Bis(2-ethylhexyl) phthalate	0.215	0.101
Butylbenzyl phthalate	0.188	0.0887
Carbazole	0.598	0.276
n-Decane	0.948	0.437
Fluoranthene	0.0537	0.0268
n-Octadecane	0.589	0.302

[1] mg/L (ppm).
[2] Within the range 6 to 9.

§ 437.22 Effluent limitations attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30 through 125.32 or 437.20(b), any existing point source subject to this subpart must achieve the following effluent limitations attainable by the application of BCT: Limitations for O&G, pH, and TSS are the same as the corresponding limitation specified in § 437.21.

§ 437.23 Effluent limitations attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30 through 125.32 or 437.20(b), any existing point source subject to this subpart must achieve the following effluent limitations by the application of BAT: Limitations for antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, tin, titanium, zinc, butylbenzyl phthalate, carbazole, n-decane, bis(2-ethylhexyl) phthalate, fluoranthene, and n-octadecane are the same as the corresponding limitation specified in § 437.21.

§ 437.24 New source performance standards (NSPS).

Except as provided in § 437.20(b), any new source subject to this subpart must achieve the following performance standards: Standards for oil and grease, pH, TSS, antimony, arsenic, barium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, tin, titanium, zinc, butylbenzyl phthalate, carbazole, n-decane, bis(2-ethylhexyl) phthalate, fluoranthene, and n-octadecane are the same as the corresponding limitation specified in § 437.21.

§ 437.25 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7, 403.13 or § 437.20(b), and no later than December 22, 2003, any existing source subject to this subpart must achieve the following pretreatment standards:

PRETREATMENT STANDARDS (PSES)

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Metal Parameters		
Antimony	0.237	0.141
Barium	0.427	0.281
Chromium	0.947	0.487
Cobalt	56.4	18.8
Copper	0.405	0.301
Lead	0.222	0.172
Molybdenum	3.50	2.09
Tin	0.249	0.146
Zinc	6.95	4.46
Organic Parameters		
Bis(2-ethylhexyl) phthalate	0.267	0.158
Carbazole	0.392	0.233
n-Decane	5.79	3.31
Fluoranthene	0.787	0.393
n-Octadecane	1.22	0.925

[1] mg/L (ppm).

§ 437.26 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 or § 437.20(b), any new source subject to this subpart must achieve the following pretreatment standards: Standards for antimony, barium, chromium, cobalt, copper, lead, molybdenum, tin, zinc, carbazole, n-decane, bis(2-ethylhexyl) phthalate, fluoranthene, and n-octadecane are the same as the corresponding limitation specified in § 437.21.

Subpart C—Organics Treatment and Recovery

§ 437.30 Applicability.

(a) Except as provided in § 437.1(b), (c), or (d) or in paragraph (b) of this section, this subpart applies to that portion of the discharge of wastewater from a CWT facility that results from the treatment of, or recovery of organic material from, both organic wastes received from off-site and other CWT wastewater associated with the treatment of, or recovery of organic wastes.

(b) In order to ensure appropriate treatment rather than dilution of dissimilar wastes, an NPDES permit writer or control authority may require a new source or an existing facility subject to § 437.30 to achieve alternative effluent limitations and standards as defined in § 437.2 (h) in the following circumstances:

(1) The facility receives, on a continuing basis, flows of process wastewater from five or fewer facilities subject to 40 CFR Subchapter N limitations and standards; and

(2) The process wastewater flows received for treatment at the facility have relatively consistent pollutant profiles.

§ 437.31 Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32 or § 437.30(b), any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BPT:

BPT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Conventional Parameters		
BOD_5	163	53.0
pH	(2)	(2)
TSS	216	61.3
Metal Parameters		
Antimony	0.928	0.679
Copper	0.865	0.757
Molybdenum	1.01	0.965
Zinc	0.497	0.420
Organic Parameters		
Acetone	30.2	7.97
Acetophenone	0.114	0.0562
Aniline	0.0333	0.0164
2–Butanone	4.81	1.85
o-Cresol	1.92	0.561
p-Cresol	0.698	0.205
2,3–Dichloroaniline	0.0731	0.0361
Phenol	3.65	1.08
Pyridine	0.370	0.182
2,4,6–Trichlorophenol	0.155	0.106

[1] mg/L (ppm).
[2] Within the range 6 to 9.

§ 437.32 Effluent limitations attainable by the application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30 through 125.32 or § 437.30(b), any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BCT: Limitations for BOD_5, pH, and TSS are the same as the corresponding limitation specified in § 437.31.

§ 437.33 Effluent limitations attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30 through 125.32 or § 437.30(b), any existing point source subject to this subpart must achieve limitations representing the application of BAT: Limitations for antimony, copper, molybdenum, zinc, acetone, acetophenone, aniline, 2-butanone, o-cresol, p-cresol, 2,3-dichloroaniline, phenol, pyridine, and 2,4,6-trichlorophenol are the same as the corresponding limitation specified in § 437.31.

§ 437.34 New source performance standards (NSPS).

Except as provided in § 437.30(b), any new source subject to this subpart must achieve the following new source performance standards: Standards for BOD_5, pH, TSS, antimony, copper, molybdenum, zinc, acetone, acetophenone, aniline, 2-butanone, o-cresol, p-cresol, 2,3-dichloroaniline, phenol, pyridine, and 2,4,6-trichlorophenol are the same as the corresponding limitation specified in § 437.31.

§ 437.35 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7, 403.13 or § 437.30(b), and no later than December 22, 2003, any existing source subject to this subpart must achieve the following pretreatment standards: Standards for molybdenum, 2,3-dichloroaniline, o-cresol, p-cresol, 2,4,6-trichlorophenol are the same as the corresponding limitation specified in § 437.31.

§ 437.36 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7 or § 437.30(b), any new source subject to this subpart must achieve the following pretreatment standards: Standards for molybdenum, 2,3-dichloroaniline, o-cresol, p-cresol, 2,4,6-trichlorophenol are the same as the corresponding limitation specified in § 437.31.

Subpart D—Multiple Wastestreams

§ 437.40 Applicability.

(a) Except as provided in § 437.1(b), (c), or (d) or in paragraph (b) of this section, facilities that treat wastes subject to more than one of the previous Subparts must comply with either provisions of this subpart or the applicable provisions of Subpart A, B, or C. The provisions of this subpart are applicable to that portion of wastewater discharges from a centralized waste treatment facility that results from mixing any combination of treated or untreated waste otherwise subject to Subpart A, Subpart B, or Subpart C of this part only if a facility requests the permit writer or control authority to develop Subpart D limitations (or standards) and establishes that it provides equivalent treatment as defined in § 437.2(h).

(b) In order to ensure appropriate treatment rather than dilution of dissimilar wastes, an NPDES permit writer or control authority may require a new or existing facility subject to paragraph (a) of this section to achieve alternative effluent limitations or standards as defined in § 437.2 (b) in the following circumstances:

(1) The facility receives, on a continuing basis, flows of process wastewater from five or fewer facilities subject to 40 CFR Subchapter N limitations and standards; and

(2) The process wastewater flows received for treatment at the facility have relatively consistent pollutant profiles.

§ 437.41 Special definitions.

(a) Initial Certification Statement for this subpart means a written submission to the appropriate permitting authority (either the local control authority (the POTW) or NPDES permit writer) that is signed by the responsible corporate officer as defined in 40 CFR 403.12(l) or 40 CFR 122.22. The statement must:

(1) List and describe the subcategories of wastes accepted for treatment at the facility;

(2) List and describe the treatment systems in-place at the facility and conditions under which the treatment systems are operated for the subcategories of wastes accepted for treatment at the facility;

(3) Include information and supporting data establishing that these treatment systems will achieve equivalent treatment.

(b) Periodic Certification Statement for this subpart means a written submission to the appropriate permitting authority (the local control authority (the POTW) or NPDES permit writer) which certifies that the facility is operating its treatment systems to provide equivalent treatment as set forth in the initial certification. In the event that the facility has modified its treatment systems, the facility should submit a description of the modified systems and information and supporting data to establish that the modified system will achieve equivalent treatment. The periodic certification statement must be signed by the responsible corporate officer as defined in 40 CFR 403.12(l) or 40 CFR 122.22.

(c) On-site Compliance Paperwork for this subpart means data or information retained in the offices of the facility which supports the initial and periodic certification statements. This Paperwork must:

(1) List and describe the subcategory wastes being accepted for treatment at the facility;

(2) List and describe the treatment systems in-place at the facility, modifications to the treatment systems and the conditions under which the systems are operated for the subcategories of wastes accepted for treatment at the facility;

(3) Provide information and supporting data establishing that these treatment systems will achieve equivalent treatment;

(4) Describe the procedures it follows to ensure that its treatment systems are well-operated and maintained; and

(5) Explain why the procedures it has adopted will ensure its treatment systems are well-operated and maintained.

§ 437.42 Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).

(a) Except as provided in 40 CFR 125.30 through 125.32 or § 437.40(b), any existing facility subject to this subpart which combines treated or untreated wastes from subparts A, B, or C of this part may be subject to Multiple Wastestream Subcategory effluent limitations representing the application of BPT set forth in paragraphs (b), (c), (d), or (e) of this section if the discharger agrees to the following conditions in its NPDES permit:

(1) The discharger will meet the applicable Multiple Wastestream Subcategory limitations set forth in (b), (c), (d) or (e);

(2) The discharger will notify its NPDES permit writer at the time of renewal or modification of its permit, of its desire to be subject to the Multiple Waste Subcategory by submitting to the NPDES permit writer an initial certification statement as described in § 437.41(a);

(3) The discharger will submit to its NPDES permitting authority a periodic certification statement as described in § 437.41(b) once a year; and

(4) The discharger will maintain at the office of the facility and make available for inspection the on-site compliance paperwork as described in § 437.41(c).

(b) Combined waste receipts from subparts A, B, and C of this part. (1) As provided in § 437.42(a), any existing point source subject to this paragraph must achieve the following effluent

limitations representing the application of BPT:

BPT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg. [1]
Conventional Parameters		
BOD_5	163	53.0
O&G	127	38.0
pH	([2])	([2])
TSS	74.1	30.6
Metal Parameters		
Antimony	0.237	0.141
Arsenic	0.162	0.104
Barium	0.427	0.281
Cadmium	0.0172	0.0102
Chromium	0.746	0.323
Cobalt	0.192	0.124
Copper	0.500	0.242
Lead	0.350	0.160
Mercury	0.00234	0.000739
Molybdenum	1.01	0.965
Nickel	3.95	1.45
Selenium	1.64	0.408
Silver	0.120	0.0351
Tin	0.409	0.120
Titanium	0.0510	0.0299
Vanadium	0.218	0.0662
Zinc	0.497	0.420
Organic Parameters		
Acetone	30.2	7.97
Acetophenone	0.114	0.0562
Aniline	0.0333	0.0164
Bis(2-ethylhexyl) phthalate	0.215	0.101
2-Butanone	4.81	1.85
Butylbenzyl phthalate	0.188	0.0887
Carbazole	0.598	0.276
o-Cresol	1.92	0.561
p-Cresol	0.698	0.205
n-Decane	0.948	0.437
2,3-Dichloroaniline	0.0731	0.0361
Fluoranthene	0.0537	0.0268
n-Octadecane	0.589	0.302
Phenol	3.65	1.08
Pyridine	0.370	0.182
2,4,6-Trichlorophenol	0.155	0.106

[1] mg/L (ppm).
[2] OSC Within the range 6 to 9.

(2) The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

IN-PLANT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg. [1]
Cyanide	500	178

[1] mg/L (ppm).

(c) Combined waste receipts from subparts A and B of this part. (1) As provided in § 437.42(a), any existing point source subject to this paragraph must achieve the following effluent limitations representing the application of BPT:

BPT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg. [1]
Conventional Parameters		
O&G	127	38.0
pH	([2])	([2])
TSS	74.1	30.6
Metal Parameters		
Antimony	0.237	0.141
Arsenic	0.162	0.104
Barium	0.427	0.281
Cadmium	0.0172	0.0102
Chromium	0.746	0.323
Cobalt	0.192	0.124
Copper	0.500	0.242
Lead	0.350	0.160
Mercury	0.00234	0.000739
Molybdenum	3.50	2.09
Nickel	3.95	1.45
Selenium	1.64	0.408
Silver	0.120	0.0351
Tin	0.409	0.120
Titanium	0.0510	0.0299
Vanadium	0.218	0.0662
Zinc	2.87	0.641
Organic Parameters		
Bis(2-ethylhexyl) phthalate	0.215	0.101
Butylbenzyl phthalate	0.188	0.0887
Carbazole	0.598	0.276
n-Decane	0.948	0.437
Fluoranthene	0.0537	0.0268
n-Octadecane	0.589	0.302

[1] mg/L (ppm).
[2] Within the range 6 to 9.

(2) The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

IN-PLANT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg. [1]
Cyanide	500	178

[1] mg/L (ppm).

(d) Combined waste receipts from subparts A and C of this part. (1) As provided in § 437.42(a), any existing point source subject to this paragraph must achieve the following effluent limitations representing the application of BPT:

BPT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg. [1]
Conventional Parameters		
BOD_5	163	3.0
O&G	205	50.2
pH	([2])	([2])
TSS	60.0	31.0
Metal Parameters		
Antimony	0.249	0.206
Arsenic	0.162	0.104
Cadmium	0.474	0.0962
Chromium	15.5	3.07
Cobalt	0.192	0.124
Copper	0.865	0.757
Lead	1.32	0.283
Mercury	0.00234	0.000739
Molybdenum	1.01	0.965
Nickel	3.95	1.45
Selenium	1.64	0.408
Silver	0.120	0.0351
Tin	0.409	0.120
Titanium	0.0947	0.0618
Vanadium	0.218	0.0662
Zinc	0.497	0.420
Organic Parameters		
Acetone	30.2	7.97
Acetophenone	0.114	0.0562
Aniline	0.0333	0.0164
2-Butanone	4.81	1.85
o-Cresol	1.92	0.561
p-Cresol	0.698	0.205
2,3-Dichloroaniline	0.0731	0.0361
Phenol	3.65	1.08
Pyridine	0.370	0.182
2,4,6-Trichlorophenol	0.155	0.106

[1] mg/L (ppm).
[2] Within the range 6 to 9.

(2) The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

IN-PLANT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg. [1]
Cyanide	500	178

[1] mg/L)ppm).

(e) Combined waste receipts from subparts B and C of this part. As provided in § 437.42(a), any existing point source subject to this paragraph must achieve the following effluent limitations representing the application of BPT:

BPT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg. [1]
Conventional Parameters		
BOD_5	163	53.0
O&G	127	38.0
pH	([2])	([2])
TSS	74.1	30.6
Metal Parameters		
Antimony	0.237	0.141
Arsenic	2.95	1.33
Barium	0.427	0.281
Cadmium	0.0172	0.0102
Chromium	0.746	0.323
Cobalt	56.4	18.8
Copper	0.500	0.242
Lead	0.350	0.160
Mercury	0.0172	0.00647
Molybdenum	1.01	0.965
Tin	0.335	0.165
Titanium	0.0510	0.0299
Zinc	0.497	0.420
Organic Parameters		
Acetone	30.2	7.97
Acetophenone	0.114	0.0562
Aniline	0.0333	0.0164
Bis(2-ethylhexyl) phthalate	0.215	0.101
2–Butanone	4.81	1.85
Butylbenzyl phthalate	0.188	0.0887
Carbazole	0.598	0.276
o-Cresol	1.92	0.561
p-Cresol	0.698	0.205
n-Decane	0.948	0.437
2,3–Dichloroaniline	0.0731	0.0361
Fluoranthene	0.0537	0.0268
n-Octadecane	0.589	0.302
Phenol	3.65	1.08
Pyridine	0.370	0.182
2,4,6–Trichlorophenol	0.155	0.106

[1] mg/L (ppm).
[2] Within the range 6 to 9.

§ 437.43 Effluent limitations attainable by the application of the best conventional pollutant control technology (BCT).

(a) Except as provided in 40 CFR 125.30 through 125.32 or 437.40(b), any existing facility subject to this subpart which combines treated or untreated wastes from subparts A, B, or C of this part may be subject to Multiple Wastestream Subcategory effluent limitations representing the application of BCT set forth in paragraphs (b), (c), (d), or (e) of this section if the discharger agrees to the following conditions in its NPDES permit:

(1) The discharger will meet the applicable Multiple Wastestream Subcategory limitations set forth in paragraphs (b), (c), (d) or (e) of this section;

(2) The discharger will notify its NPDES permit writer at the time of renewal or modification of its permit, of its desire to be subject to the Multiple Waste Subcategory by submitting to the NPDES permit writer an initial certification statement as described in § 437.41(a);

(3) The discharger will submit to its NPDES permitting authority a periodic certification statement as described in § 437.41(b) once a year; and

(4) The discharger will maintain at the office of the facility and make available for inspection the on-site compliance paperwork as described in § 437.41(c).

(b) Combined waste receipts from subparts A, B and C of this part: Limitations for BOD_5, O&G, pH, and TSS are the same as the corresponding limitation specified in § 437.42(b).

(c) Combined waste receipts from subparts A and B of this part: Limitations for O&G, pH, and TSS are the same as the corresponding limitation specified in § 437.42(c).

(d) Combined waste receipts from subparts A and C of this part: Limitations for BOD_5, O&G, pH, and TSS are the same as the corresponding limitation specified in § 437.42(d).

(e) Combined waste receipts from subparts B and C of this part: Limitations for BOD_5, O&G, pH, and TSS are the same as the corresponding limitation specified in § 437.42(e).

§ 437.44 Effluent limitations attainable by the application of the best available technology economically achievable (BAT).

(a) Except as provided in 40 CFR 125.30 through 125.32 or 437.40(b), any existing facility subject to this subpart which combines treated or untreated wastes from subparts A, B, or C of this part may be subject to Multiple Wastestream Subcategory effluent limitations representing the application of BAT set forth in paragraphs (b), (c), (d), or (e) of this section if the discharger agrees to the following conditions in its NPDES permit:

(1) The discharger will meet the applicable Multiple Wastestream Subcategory limitations set forth in paragraphs (b), (c), (d) or (e) of this section;

(2) The discharger will notify its NPDES permit writer at the time of renewal or modification of its permit, of its desire to be subject to the Multiple Waste Subcategory by submitting to the NPDES permit writer an initial certification statement as described in § 437.41(a);

(3) The discharger will submit to its NPDES permitting authority a periodic certification statement as described in § 437.41(b) once a year; and

(4) The discharger will maintain at the office of the facility and make available for inspection the on-site compliance paperwork as described in § 437.41(c).

(b) Combined waste receipts from subparts A, B and C of this part. (1) Limitations for the following parameters are the same as the corresponding limitation specified in § 437.42(b)(1):

Organic parameters	Metal parameters
Acetone	Antimony.
Acetophenone	Arsenic.
Aniline	Barium.
bis (2-ethylhexyl) phthalate.	Cadmium.
2-Butanone	Chromium.
Butylbenzyl phthalate	Cobalt.
Carbazole	Copper.
o-Cresol	Lead.
p-Cresol	Mercury.
n-Decane	Molybdenum.
2,3-dichloroaniline	Nickel.
Fluoranthene	Selenium.
n-Octadecane	Silver.
Phenol	Tin.
Pyridine	Titanium.
2,4,6-trichlorophenol	Vanadium.
	Zinc.

(2) The in-plant limitations that apply to metal-bearing wastewater containing cyanide are the same as the corresponding limitations specified in § 437.42(b)(2).

(c) Combined waste receipts from subparts A and B of this part. (1) Limitations for the following parameters are the same as the corresponding limitation specified in § 437.42(c)(1):

Organic parameters	Metal parameters
Bis (2-ethylhexyl) phthalate.	Antimony.
Butylbenzyl phthalate	Arsenic.
Carbazole	Barium.
n-Decane	Cadmium.
Fluoranthene	Chromium.
n-Octadecane	Cobalt.
	Copper.
	Lead.
	Mercury.
	Molybdenum.
	Nickel.
	Selenium.
	Silver.
	Tin.
	Titanium.
	Vanadium.
	Zinc.

(2) The in-plant limitations that apply to metal-bearing wastewater containing cyanide are the same as the corresponding limitations specified in § 437.42(c)(2).

(d) Combined waste receipts from subparts A and C of this part. (1) Limitations for the following parameters

are the same as the corresponding limitation specified in § 437.42(d)(1):

Organic parameters	Metal parameters
Acetone	Antimony.
Acetophenone	Arsenic.
Aniline	Cadmium.
2-Butanone	Chromium.
o-Cresol	Cobalt.
p-Cresol	Copper.
Phenol	Lead.
Pyridine	Mercury.
2,4,6-trichlorophenol	Molybdenum.
	Nickel.
	Selenium.
	Silver.
	Tin.
	Titanium.
	Vanadium.
	Zinc.

(2) The in-plant limitations that apply to metal-bearing wastewater containing cyanide are the same as the corresponding limitations specified in § 437.42(e)(2).

(e) Combined waste receipts from subparts B and C of this part. Limitations for the following parameters are the same as the corresponding limitation specified in § 437.42(e):

Organic parameters	Metal parameters
Acetone	Antimony.
Acetophenone	Arsenic.
Aniline	Barium.
Bis(2-ethylhexyl) phthalate.	Cadmium.
2-Butanone	Chromium.
Butylbenzyl phthalate	Cobalt.
Carbazole	Copper.
o-Cresol	Lead.
p-Cresol	Mercury.
n-Decane	Molybdenum.
2,3-dichloroaniline	Tin.
Fluoranthene	Titanium.
n-Octadecane	Zinc.
Phenol	
Pyridine	
2,4,6-trichlorophenol	

§ 437.45 New source performance standards (NSPS).

(a) Except as provided in § 437.40(b), any new source subject to this subpart which combines treated or untreated wastes from subparts A, B, or C of this part may be subject to Multiple Wastestream Subcategory effluent limitations representing the application of NSPS set forth in paragraphs (b), (c), (d), or (e) of this section if the discharger agrees to the following conditions in its NPDES permit:

(1) The discharger will meet the applicable Multiple Wastestream Subcategory limitations set forth in paragraphs (b), (c), (d) or (e) of this section;

(2) The discharger will notify its NPDES permit writer at the time of submitting its application for permit, of its desire to be subject to the Multiple Waste Subcategory by submitting to the NPDES permit writer an initial certification statement as described in § 437.41(a);

(3) The discharger will submit to its NPDES permitting authority a periodic certification statement as described in § 437.41(b) once a year; and

(4) The discharger will maintain at the office of the facility and make available for inspection the on-site compliance paperwork as described in § 437.41(c).

(b) Combined waste receipts from subparts A, B and C of this part. (1) As provided in § 437.45(a), any new source subject to this paragraph must achieve the following performance standards:

PERFORMANCE STANDARDS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Conventional Parameters		
BOD_5	163	53.0
O&G	127	38.0
pH	([2])	([2])
TSS	29.6	11.3
Metal Parameters		
Antimony	0.111	0.0312
Arsenic	0.0993	0.0199
Barium	0.427	0.281
Cadmium	0.0172	0.0102
Chromium	0.167	0.0522
Cobalt	0.182	0.0703
Copper	0.659	0.216
Lead	0.350	0.160
Mercury	0.000641	0.000246
Molybdenum	1.01	0.965
Nickel	0.794	0.309
Selenium	0.176	0.0698
Silver	0.0318	0.0122
Tin	0.0955	0.0367
Titanium	0.0159	0.00612
Vanadium	0.0628	0.0518
Zinc	0.657	0.252
Organic Parameters		
Acetone	30.2	7.97
Acetophenone	0.114	0.0562
Aniline	0.0333	0.0164
Bis(2-ethylhexyl) phthalate	0.215	0.101
2-Butanone	4.81	1.85
Butylbenzyl phthalate	0.188	0.0887
Carbazole	0.598	0.276
o-Cresol	1.92	0.561
p-Cresol	0.698	0.205
n-Decane	0.948	0.437
2,3-Dichloroaniline	0.0731	0.0361
Fluoranthene	0.0537	0.0268
n-Octadecane	0.589	0.302
Phenol	3.65	1.08
Pyridine	0.370	0.182
2,4,6-Trichlorophenol	0.155	0.106

[1] mg/L (ppm).
[2] Within the range 6 to 9.

(2) The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

IN-PLANT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Cyanide	500	178

[1] mg/L (ppm).

(c) Combined waste receipts from subparts A and B of this part. (1) As provided in § 437.45(a), any new source subject to this paragraph must achieve the following standards:

PERFORMANCE STANDARDS

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
Conventional Parameters		
O&G	127	38.0
pH	([2])	([2])
TSS	29.6	11.3
Metal Parameters		
Antimony	0.111	0.0312
Arsenic	0.0993	0.0199
Barium	0.427	0.281
Cadmium	0.0172	0.0102
Chromium	0.167	0.0522
Cobalt	0.182	0.0703
Copper	0.659	0.216
Lead	0.350	0.160
Mercury	0.000641	0.000246
Molybdenum	3.50	2.09
Nickel	0.794	0.309
Selenium	0.176	0.0698
Silver	0.0318	0.0122
Tin	0.0955	0.0367
Titanium	0.0159	0.00612
Vanadium	0.0628	0.0518
Zinc	0.657	0.252
Organic Parameters		
Bis(2-ethylhexyl) phthalate	0.215	0.101
Butylbenzyl phthalate	0.188	0.0887
Carbazole	0.598	0.276
n-Decane	0.948	0.437
Fluoranthene	0.0537	0.0268

PERFORMANCE STANDARDS—Continued

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
n-Octadecane	0.589	0.302

[1] mg/L (ppm).
[2] Within the range 6 to 9.

(2) The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

IN-PLANT LIMITATIONS

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
Cyanide	500	178

[1] 1 mg/L (ppm).

(d) Combined waste receipts from subparts A and C of this part. (1) As provided in § 437.45(a), any new source subject to this paragraph must achieve the following performance standards:

PERFORMANCE STANDARDS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Conventional Parameters		
BOD_5	163	53.0
O&G	205	50.2
pH	([2])	([2])
TSS	29.6	11.3
Metal Parameters		
Antimony ...	0.111	0.0312
Arsenic	0.0993	0.0199
Cadmium ..	0.782	0.163
Chromium	0.167	0.0522
Cobalt	0.182	0.0703
Copper	0.659	0.216
Lead	1.32	0.283
Mercury	0.000641	0.000246
Molybdenum ...	1.01	0.965
Nickel	0.794	0.309
Selenium ...	0.176	0.0698
Silver	0.0318	0.0122
Tin	0.0955	0.0367
Titanium	0.0159	0.00612
Vanadium ..	0.0628	0.0518
Zinc	0.657	0.252
Organic Parameters		
Acetone	30.2	7.97
Acetophenone	0.114	0.0562
Aniline	0.0333	0.0164
2-Butanone	4.81	1.85
o-Cresol	1.92	0.561
p-Cresol	0.698	0.205
2,3-Dichloroaniline	0.0731	0.0361
Phenol	3.65	1.08
Pyridine	0.370	0.182

PERFORMANCE STANDARDS—Continued

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
2,4,6-Trichlorophenol ...	0.155	0.106

[1] mg/L (ppm).
[2] Within the range 6 to 9.

(2) The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

IN-PLANT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Cyanide	500	178

[1] mg/L (ppm).

(e) Combined waste receipts from subparts B and C of this part. As provided in § 437.45(a), any new source subject to this paragraph must achieve the following performance standards:

PERFORMANCE STANDARDS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Conventional Parameters		
BOD_5	163	53.0
O&G	127	38.0
pH	([2])	([2])
TSS	74.1	30.6
Metal Parameters		
Antimony	0.237	0.141
Arsenic	2.95	1.33
Barium	0.427	0.281
Cadmium	0.0172	0.0102
Chromium	0.746	0.323
Cobalt	56.4	18.8
Copper	0.500	0.242
Lead	0.350	0.160
Mercury	0.0172	0.00647
Molybdenum	1.01	0.965
Tin	0.335	0.165
Titanium	0.0510	0.0299
Zinc	0.497	0.420
Organic Parameters		
Acetone	30.2	7.97
Acetophenone	0.114	0.0562
Aniline	0.0333	0.0164
Bis(2-ethylhexyl) phthalate ...	0.215	0.101
2-Butanone ...	4.81	1.85
Butylbenzyl phthalate ...	0.188	0.0887
Carbazole	0.598	0.276
o-Cresol	1.92	0.561
p-Cresol	0.698	0.205
n-Decane	0.948	0.437

PERFORMANCE STANDARDS—Continued

Regulated parameter	Maximum daily [1]	Maximum monthly avg. [1]
2,3-Dichloroaniline	0.0731	0.0361
Fluoranthene	0.0537	0.0268
n-Octadecane	0.589	0.302
Phenol	3.65	1.08
Pyridine	0.370	0.182
2,4,6-Trichlorophenol	0.155	0.106

[1] mg/L (ppm).
[2] Within the range 6 to 9.

§ 437.46 Pretreatment standards for existing sources (PSES)

(a) Except as provided in 40 CFR 403.7, 403.13 or 437.40(b), any new source subject to this subpart which combines treated or untreated wastes from subparts A, B, or C of this part may be subject to Multiple Wastestream Subcategory pretreatment standards representing the application of PSES set forth in paragraphs (b), (c), (d), or (e) of this section if the discharger agrees to the following conditions in its permit:

(1) The discharger will meet the applicable Multiple Wastestream Subcategory standards set forth in paragraphs (b), (c), (d) or (e) of this section;

(2) The discharger will notify its local control authority of its desire to be subject to the Multiple Waste Subcategory by submitting to the local control authority an initial certification statement as described in § 437.41(a);

(3) The discharger will submit to its local control authority a periodic certification statement as described in § 437.41(b) once a year; and

(4) The discharger will maintain at the office of the facility and make available for inspection the on-site compliance paperwork as described in § 437.41(c).

(b) Combined waste receipts from subparts A, B and C of this part. (1) As provided in § 437.46(a), and no later than [Insert date—three years after publication], any existing source subject to this paragraph must achieve the following pretreatment standards:

PRETREATMENT STANDARDS (PSES)

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Metal Parameters		
Antimony	0.237	0.141
Arsenic	0.162	0.104
Barium	0.427	0.281
Cadmium	0.474	0.0962

PRETREATMENT STANDARDS (PSES)—Continued

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Chromium	0.947	0.487
Cobalt	0.192	0.124
Copper	0.405	0.301
Lead	0.222	0.172
Mercury	0.00234	0.000739
Molybdenum	1.01	0.965
Nickel	3.95	1.45
Selenium	1.64	0.408
Silver	0.120	0.0351
Tin	0.409	0.120
Titanium	0.0947	0.0618
Vanadium	0.218	0.0662
Zinc	2.87	0.641
Organic Parameters		
Bis(2-ethylhexyl) phthalate	0.267	0.158
Carbazole	0.392	0.233
o-Cresol	1.92	0.561
p-Cresol	0.698	0.205
n-Decane	5.79	3.31
2,3-Dichloroaniline	0.0731	0.0361
Fluoranthene	0.787	0.393
n-Octadecane	1.22	0.925
2,4,6-Trichlorophenol	0.155	0.106

[1] mg/L (ppm).

(2) The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

IN-PLANT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Cyanide	500	178

[1] mg/L (ppm).

(c) Combined waste receipts from subparts A and B of this part. (1) As provided in § 437.46(a), and no later than December 22, 2003, any existing source subject to this paragraph must achieve the following pretreatment standards:

PRETREATMENT STANDARDS (PSES)

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
Metal Parameters		
Antimony	0.237	0.141
Arsenic	0.162	0.104
Barium	0.427	0.281
Cadmium	0.474	0.0962
Chromium	0.947	0.487
Cobalt	0.192	0.124
Copper	0.405	0.301

PRETREATMENT STANDARDS (PSES)—Continued

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
Lead	0.222	0.172
Mercury	0.00234	0.000739
Molybdenum	3.50	2.09
Nickel	3.95	1.45
Selenium	1.64	0.408
Silver	0.120	0.0351
Tin	0.409	0.120
Titanium	0.0947	0.0618
Vanadium	0.218	0.0662
Zinc	2.87	0.641
Organic Parameters		
Bis(2-ethylhexyl) phthalate	0.267	0.158
Carbazole	0.392	0.233
n-Decane	5.79	3.31
Fluoranthene	0.787	0.393
n-Octadecane	1.22	0.925

[1] mg/L (ppm).

(2) The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

IN-PLANT LIMITATIONS

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
Cyanide	500	178

[1] mg/L (ppm).

(d) Combined waste receipts from subparts A and C of this part. (1) As provided in § 437.46(a), and no later than December 22, 2003, any existing source subject to this paragraph must achieve the following pretreatment standards:

PRETREATMENT STANDARDS (PSES)

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Metal Parameters		
Antimony	0.249	0.206
Arsenic	0.162	0.104
Cadmium	0.474	0.0962
Chromium	15.5	3.07
Cobalt	0.192	0.124
Copper	4.14	1.06
Lead	1.32	0.283
Mercury	0.00234	0.000739
Molybdenum	1.01	0.965
Nickel	3.95	1.45
Selenium	1.64	0.408
Silver	0.120	0.0351
Tin	0.409	0.120
Titanium	0.0947	0.0618
Vanadium	0.218	0.0662
Zinc	2.87	0.641

PRETREATMENT STANDARDS (PSES)—Continued

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Organic Parameters		
o-Cresol	1.92	0.561
p-Cresol	0.698	0.205
2,3-Dichloroaniline	0.0731	0.0361
2,4,6-Trichlorophenol	0.155	0.106

[1] mg/L (ppm).

(2) The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

IN-PLANT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Cyanide	500	178

[1] mg/L (ppm).

(e) Combined waste receipts from subparts B and C of this part. As provided in § 437.46(a), and no later than December 22, 2003, any existing source subject to this paragraph must achieve the following pretreatment standards:

PRETREATMENT STANDARDS (PSES)

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Metal Parameters		
Antimony	0.237	0.141
Barium	0.427	0.281
Chromium	0.947	0.487
Cobalt	56.4	18.8
Copper	0.405	0.301
Lead	0.222	0.172
Molybdenum	1.01	0.965
Tin	0.249	0.146
Zinc	6.95	4.46
Organic Parameters		
Bis (2-ethylhexyl) phthalate	0.267	0.158
Carbazole	0.392	0.233
o-Cresol	1.92	0.561
p-Cresol	0.698	0.205
n-Decane	5.79	3.31
2,3-Dichloroaniline	0.0731	0.0361
Fluoranthene	0.787	0.393
n-Octadecane	1.22	0.925
2,4,6-Trichlorophenol	0.155	0.106

[1] mg/L (ppm).

§ 437.47 Pretreatment standards for new sources (PSNS).

(a) Except as provided in 40 CFR 403.7 or 437.40(b), any new source subject to this subpart which combines treated or untreated wastes from subparts A, B, or C of this part may be subject to Multiple Wastestream Subcategory pretreatment standards representing the application of PSNS set forth in paragraphs (b), (c), (d), or (e) of this section if the discharger agrees to the following conditions in its permit:

(1) The discharger will meet the applicable Multiple Wastestream Subcategory standards set forth in paragraphs (b), (c), (d) or (e) of this section;

(2) The discharger will notify its local control authority at the time of submitting its application for an individual control mechanism or pretreatment agreement of its desire to be subject to Multiple Waste Subcategory by submitting to the local control authority an initial certification statement as described in § 437.41(a);

(3) The discharger will submit to its local control authority a periodic certification statements as described in § 437.41(b) once a year; and

(4) The discharger will maintain at the office of the facility and make available for inspection the on-site compliance paperwork as described in § 437.41(c).

(b) Combined waste receipts from subparts A, B and C of this part. (1) As provided in § 437.47(a), any new source subject to this paragraph must achieve the following pretreatment standards:

PRETREATMENT STANDARDS (PSNS)

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Metal Parameters		
Antimony	0.237	0.141
Arsenic	0.162	0.104
Barium	0.427	0.281
Cadmium	0.474	0.0962
Chromium	0.746	0.323
Cobalt	0.192	0.124
Copper	0.500	0.242
Lead	0.350	0.160
Mercury	0.00234	0.000739
Molybdenum	1.01	0.965
Nickel	3.95	1.45
Selenium	1.64	0.408
Silver	0.120	0.0351
Tin	0.409	0.120
Titanium	0.0947	0.0618
Vanadium	0.218	0.0662
Zinc	2.87	0.641
Organic Parameters		
Bis(2-ethylhexyl) phthalate	0.215	0.101
Carbazole	0.598	0.276
o-Cresol	1.92	0.561
p-Cresol	0.698	0.205
n-Decane	0.948	0.437
2,3-Dichloroaniline	0.0731	0.0361
Fluoranthene	0.0537	0.0268
n-Octadecane	0.589	0.302
2,4,6-Trichlorophenol	0.155	0.106

[1] mg/L (ppm).

(2) The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

IN-PLANT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Cyanide	500	178

[1] mg/L (ppm).

(c) Combined waste receipts from subparts A and B of this part. (1) As provided in § 437.47(a), any new source subject to this paragraph must achieve the following pretreatment standards:

PRETREATMENT STANDARDS (PSNS)

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Metal Paratmeters		
Antimony	0.237	0.141
Arsenic	0.162	0.104
Barium	0.427	0.281
Cadmium	0.474	0.0962
Chromium	0.746	0.323
Cobalt	0.192	0.124
Copper	0.500	0.242
Lead	0.350	0.160
Mercury	0.00234	0.000739
Molybdenum	3.50	2.09
Nickel	3.95	1.45
Selenium	1.64	0.408
Silver	0.120	0.0351
Tin	0.409	0.120
Titanium	0.0947	0.0618
Vanadium	0.218	0.0662
Zinc	2.87	0.641
Organic Parameters		
Bis (2-ethylhexyl) phthalate	0.215	0.101
Carbazole	0.598	0.276
n-Decane	0.948	0.437
Fluoranthene	0.0537	0.0268
n-Octadecane	0.589	0.302

[1] mg/L (ppm).

(2) The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

IN-PLANT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Cyanide	500	178

[1] mg/L (ppm).

(d) Combined waste receipts from subparts A and C of this part. (1) As provided in § 437.47(a), any new source subject to this paragraph must achieve the following pretreatment standards:

PRETREATMENT STANDARDS (PSNS)

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Metal Parameters		
Antimony	0.249	0.206
Arsenic	0.162	0.104
Cadmium	0.474	0.0962
Chromium	15.5	3.07
Cobalt	0.192	0.124
Copper	4.14	1.06
Lead	1.32	0.283
Mercury	0.00234	0.000739
Molybdenum	1.01	0.965
Nickel	3.95	1.45
Selenium	1.64	0.408
Silver	0.120	0.0351
Tin	0.409	0.120
Titanium	0.0947	0.0618
Vanadium	0.218	0.0662
Zinc	2.87	0.641
Organic Parameters		
o-Cresol	1.92	0.561
p-Cresol	0.698	0.205
2,3-Dichloroaniline	0.0731	0.0361
2,4,6-Trichlorophenol	0.155	0.106

[1] mg/L (ppm).

(2) The following in-plant limitations apply to metal-bearing wastewater containing cyanide:

IN-PLANT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Cyanide	500	178

[1] mg/L (ppm).

(e) Combined waste receipts from subparts B and C of this part. As provided in § 437.47(a), any new source subject to this paragraph must achieve the following pretreatment standards:

PRETREATMENT STANDARDS (PSNS)

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Metal Parameters		
Antimony	0.237	0.141
Barium	0.427	0.281
Chromium	0.746	0.323
Cobalt	56.4	18.8
Copper	0.500	0.242
Lead	0.350	0.160
Molybdenum	1.01	0.965
Tin	0.335	0.165
Zinc	8.26	4.50

PRETREATMENT STANDARDS (PSNS)—Continued

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Organic Parameters		
Bis(2-ethylhexyl) phthalate ...	0.215	0.101
Carbazole	0.598	0.276
o-Cresol	1.92	0.561
p-Cresol	0.698	0.205
n-Decane	0.948	0.437
2,3-Dichloroaniline	0.0731	0.0361

PRETREATMENT STANDARDS (PSNS)—Continued

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
Fluoranthene	0.0537	0.0268
n-Octadecane	0.589	0.302
2,4,6-Trichlorophenol	0.155	0.106

[1] mg/L (ppm).

[FR Doc. 00–24565 Filed 12–21–00; 8:45 am]

BILLING CODE 6560–50–U