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Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Transportation Equipment Cleaning Point Source Category; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 442

[FRL—6720–6]

RIN 2040–AB98

Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards for the Transportation Equipment Cleaning Point Source Category

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This regulation establishes technology-based effluent limitations guidelines, new source performance standards, and pretreatment standards for the discharge of pollutants into waters of the United States and into publicly owned treatment works (POTWs) by existing and new facilities that perform transportation equipment cleaning operations. Transportation equipment cleaning (TEC) facilities are defined as those facilities that generate wastewater from cleaning the interior of tank trucks, closed-top hopper trucks, rail tank cars, closed-top hopper rail cars, intermodal tank containers, tank barges, closed-top hopper barges, and ocean/sea tankers used to transport materials or cargos that come into direct contact with the tank or container interior. Facilities which do not engage in cleaning the interior of tanks are not considered within the scope of this rule.

EPA is subcategorizing the TEC Point Source Category into the following four subparts based on types of cargos carried and transportation mode: Subpart A—Tank Trucks and Intermodal Tank Containers Transporting Chemical & Petroleum Cargos; Subpart B—Rail Tank Cars Transporting Chemical & Petroleum Cargos; Subpart C—Tank Barges and Ocean/Sea Tankers Transporting Chemical & Petroleum Cargos; Subpart D—Tanks Transporting Food Grade Cargos.

For all four subparts, EPA is establishing effluent limitations guidelines for existing facilities and new sources discharging wastewater directly to surface waters. EPA is establishing pretreatment standards for existing facilities and new sources discharging wastewater to POTWs in all subparts except for Subpart D, applicable to Food Grade Cargos. EPA is not establishing effluent limitations guidelines or pretreatment standards for facilities that generate wastewater from cleaning the interior of hopper cars.

The TEC limitations do not apply to wastewaters associated with tank cleanings performed in conjunction with other industrial, commercial, or POTW operations so long as the facility cleans only tanks and containers that have contained raw materials, by-products, and finished products that are associated with the facility's on-site processes.

The wastewater flows covered by this rule include all washwaters which have come into direct contact with the tank or container interior including pre-rinse cleaning solutions, chemical cleaning solutions, and final rinse solutions. Additionally, the rule covers wastewater generated from washing vehicle exteriors, equipment and floor washings, and TEC contaminated stormwater at those facilities subject to the TEC effluent limitations guidelines and standards. Compliance with this rule is estimated to reduce the annual discharge of priority pollutants by at least 60,000 pounds per year and result in annual benefits ranging from $1.5 million to $5.5 million. The total annualized compliance cost of the rule is projected to be $16.1 million (pre-tax).

DATES: This regulation shall become effective September 13, 2000.

ADDRESSES: The public record is available for review in the EPA Water Docket, 401 M St. SW, Washington, D.C. 20460. The public record for this rulemaking has been established under docket number W–97–25, and includes supporting documentation, but does not include any information claimed as Confidential Business Information (CBI). The record is available for inspection from 9 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. For access to docket materials, please call (202) 260–3027 to schedule an appointment.

FOR FURTHER INFORMATION CONTACT: For additional technical information contact Mr. John Tinger at (202) 260–4992 or send E-mail to: *tinger.john@epa.gov.* For additional economic information contact Mr. George Denning at (202) 260–7374 or send E-mail to: *denning.george@epa.gov.*

SUPPLEMENTARY INFORMATION:

Regulated Entities: Entities potentially regulated by this action include:

Category	Examples of regulated entities	Examples of common SIC codes
Industry	Facilities that generate wastewater from cleaning the interior of tank trucks, rail tank cars, intermodal tank containers, tank barges, or ocean/sea tankers used to transport materials or cargos that come into direct contact with tank or container interior, except where such tank cleanings are performed in conjunction with other industrial, commercial, or POTW operations..	SIC 7699, SIC 4741, SIC 4491.

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 now 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, should carefully examine the applicability criteria in § 442.1 of the rule language. If you have questions regarding the applicability of this action to a particular entity, consult the person listed for technical information in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Judicial Review

In accordance with 40 CFR Part 23.2, this rule will be considered promulgated for purposes of judicial review at 1 p.m. Eastern time on August 28, 2000. Under section 509(b)(1) of the Clean Water Act, judicial review of this regulation can be obtained only by filing a petition for review in the United States Court of Appeals within 120 days after the regulation is considered promulgated for purposes of judicial review. Under section 509 (b)(2) of the Clean Water Act, the requirements in this regulation may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

Compliance Dates

The compliance date for Pretreatment Standards for Existing Standards (PSES) is as soon as possible, but no later than August 14, 2003. Deadlines for compliance with Best Practicable

Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT), and Best Available Technology Economically Achievable (BAT) are established in the National Pollutant Discharge Elimination System (NPDES) permits. The compliance dates for New Source Performance Standards (NSPS) and Pretreatment Standards for New Sources (PSNS) are the dates the new source commences discharging.

Supporting Documentation

The regulations promulgated today are supported by several major documents:

1. ''Final Development Document for Effluent Limitations Guidelines and Standards for the Transportation Equipment Cleaning Category'' (EPA 821–R–00–0012). Hereafter referred to as the Technical Development Document, the document presents EPA's technical conclusions concerning the rule. EPA describes, among other things, the data-collection activities in support of the regulation, the wastewater treatment technology options, wastewater characterization, and the estimated costs to the industry.

2. ''Final Economic Analysis of Effluent Limitations Guidelines and Standards for the Transportation Equipment Cleaning Category'' (EPA 821–R–00–0013).

3. ''Final Cost-Effectiveness Analysis of Effluent Limitations Guidelines and Standards for the Transportation Equipment Cleaning Category'' (EPA 821–R–00–0014).

How To Obtain Supporting Documents

All documents are available from the National Service Center for Environmental Publications, P.O. Box 42419, Cincinnati, OH 45242–2419, (800) 490–9198. The Technical Development Document and previous Transportation Equipment Cleaning Federal Register Notices can also be obtained on the Internet, located at *WWW.EPA.GOV/OST/GUIDE.* This website also links to an electronic version of today's notice.

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I. Legal Authority

EPA 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 which restrict pollutant discharges for those who discharge wastewater indirectly through sewers flowing to publicly-owned treatment works (POTWs) (Sections 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 treatment 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 guidelines for an industry category, EPA defines BPT effluent

limits for conventional, toxic,[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 characteristics. 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 Available Technology Economically Achievable (BAT)—Section 304(b)(2) of the CWA

In general, BAT effluent limitations guidelines represent the best existing economically achievable performance of direct discharging 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 processes employed, engineering aspects of the control technology, potential process changes, non-water quality environmental impacts (including energy requirements), and such factors as the Administrator deems appropriate. The Agency retains considerable discretion in assigning the weight to be accorded to these factors. An additional statutory factor considered in setting BAT is economic achievability. Generally, the achievability is determined on the basis of the total cost to the industrial subcategory and the overall effect of the rule on the industry's financial health. BAT limitations may be based upon effluent reductions attainable through changes in a facility's processes and operations. As with BPT, where existing performance is uniformly inadequate, BAT may be based upon technology transferred from a different subcategory within an industry or from another industrial category. BAT may be based upon process changes or internal controls, even when these technologies are not common industry practice.

3. 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 technology for discharges from existing industrial point sources. BCT is not an additional limitation, but replaces Best Available Technology (BAT) for control of conventional pollutants. 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 (BOD_5), 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).

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 greatest degree of effluent reduction attainable through the application of the best available demonstrated 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.

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 (POTWs). 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 are technology-based and analogous to BAT effluent limitations guidelines.

The General Pretreatment Regulations, which set forth the framework for implementing categorical pretreatment 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 dischargers. See 52 FR 1586, January 14, 1987.

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. Profile of the Industry

The TEC industry includes facilities that generate wastewater from cleaning the interiors of tank trucks, closed-top hopper trucks, rail tank cars, closed-top hopper rail cars, intermodal tank containers, tank barges, closed-top hopper barges, and ocean/sea tankers used to transport cargos or commodities that come into direct contact with the tank or container interior. Transportation equipment cleaning is performed to prevent cross-contamination between products or commodities being transported in the tanks, containers, or hoppers, and to prepare transportation equipment for repair and maintenance activities, such as welding. The cleaning activity is a necessary part of the transportation process.

Based upon responses to EPA's 1994 Detailed Questionnaire for the Transportation Equipment Cleaning Industry (see discussion in Section V.B of the proposal (63 FR 34686)), the Agency estimates that there are approximately 2,405 facilities in the United States that perform TEC activities. This includes approximately

[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, BOD_5). However, nothing on the face of the statute explicitly restricted BPT limitation 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 toxic pollutants under the guidelines program. BPT guidelines continue to include limitations to address all pollutants.

1,166 facilities that perform tank cleaning operations on site, but which are excluded from this rule because of their association with other industrial, commercial, or POTW operations. There are 1,239 TEC facilities not associated with other industrial, commercial, or POTW operations. Of these facilities, EPA estimates that 692 facilities discharge to either a POTW or to surface waters. The remaining 547 facilities are considered zero dischargers.

The TEC industry consists of distinct transportation sectors: the trucking sector, the rail sector, and the barge shipping sector. Each one of these sectors has different technical and economic characteristics. The transportation industry transports a wide variety of commodities, and TEC facilities therefore clean tanks and containers with residues (*i.e.,* heels) from a broad spectrum of commodities, such as food-grade products, petroleum-based commodities, organic chemicals, inorganic chemicals, soaps and detergents, latex and resins, hazardous wastes, and dry bulk commodities.

TEC facilities vary greatly in the level of wastewater treatment that they currently have in place. Treatment at existing TEC facilities ranges from no treatment to tertiary treatment. The majority of TEC facilities discharging to surface waters currently employ primary treatment, such as oil/water separation or gravity separation, followed by biological treatment. Indirect discharging facilities typically employ some form of primary treatment, such as oil/water separation, gravity separation, dissolved air flotation, or coagulation and flocculation. A relatively small number of direct and indirect facilities currently employ tertiary treatment, such as activated carbon adsorption.

C. Proposed Rule

On June 25, 1998 (63 FR 34685), EPA published proposed effluent limitations guidelines and pretreatment standards for the discharge of pollutants into waters of the United States and into POTWs by existing and new facilities that perform transportation equipment cleaning operations.

EPA received comments on many aspects of the proposal. The majority of comments related to the use of mass-based rather than concentration-based limits; the subcategorization approach; the technology options used as the basis for setting effluent limitations; the selection of pollutants proposed for regulation; the costs associated with the regulation; the cost effectiveness of the regulation; the lack of a low flow exclusion from the regulation; and the applicability of the rule. EPA evaluated all of these issues based on additional information collected by EPA or received during the comment period following the proposal. EPA then discussed the results of most of these evaluations in a Notice of Availability discussed below.

D. Notice of Availability

On July 20, 1999 (64 FR 38863), EPA published a Notice of Availability (NOA) in which the Agency presented a summary of new data collected by EPA or received in comments on the proposed rule. EPA discussed the major issues raised during the proposal comment period and presented several alternative approaches to address these issues. EPA solicited comment on these approaches and on the new data and analyses conducted in response to comments.

III. Summary of Significant Changes Since Proposal

This section describes the most significant changes to the rule since proposal. The majority of these changes have been in response to comments on the proposal. All of these changes were discussed in the Notice of Availability.

A. Concentration-Based Limitations

EPA proposed mass-based limitations. In the proposal and NOA, EPA discussed a change to the format of the rule that would establish concentration-based rather than mass-based limits. EPA received many comments on the proposal and on the NOA from regulatory authorities, industry stakeholders, and POTWs strongly supporting the concentration-based format of the rule. EPA received only one comment on the proposal supporting mass-based limits. In the NOA, EPA presented concentration-based limitations and explained its rationale for the change. Comments on the NOA were unanimously supportive of concentration-based limits. The final limitations and standards being promulgated today are concentration-based.

B. Modification to Subcategorization Approach

EPA proposed separate subcategories for the Truck/Chemical, Truck/Petroleum, Rail/Chemical, and Rail/Petroleum Subcategories. In the proposal and NOA, EPA discussed combining the Truck/Chemical Subcategory and Truck/Petroleum Subcategory into the Truck/Chemical & Petroleum Subcategory, and combining the Rail/Chemical Subcategory and Rail/Petroleum Subcategory into the Rail/Chemical & Petroleum Subcategory. In the NOA, EPA presented the preliminary conclusion for making this change, and presented the costs, loadings, and economic impacts that would result if this change were made.

The majority of the commenters on the NOA, including regulatory authorities, industry stakeholders, and POTWs, supported combining these subcategories. EPA received only one comment supporting separate subcategories. EPA concluded that the proposed definitions of the chemical and petroleum subcategories did not adequately define the difference between chemical and petroleum commodities. For the final regulation, EPA has combined the proposed chemical and petroleum subcategories in both the truck and rail segments of the industry.

Additionally, EPA has combined the Truck/Food, Rail/Food, and Barge/Food Subcategories into one subcategory, the Food Subcategory. For the proposed rule, subcategorization by transportation mode was necessary because the truck, rail, and barge facilities had different regulatory flows per tank cleaned, which resulted in different mass-based limits for each subcategory. Subcategorization of the Food Subcategory by transportation mode for the final regulation is unnecessary because the limits are all based on the same BPT technology, and the final concentration-based limits are identical for all TEC facilities cleaning food grade cargos.

C. Low Flow Exclusion

In the proposal, EPA considered establishing a minimum flow level for defining the scope of the regulation but did not propose a low-flow exclusion. EPA conducted an analysis to determine an appropriate flow exclusion level based on the economic impacts of low flow facilities, the economic impacts on small businesses, and the relative efficiency of treatment technologies for low flow facilities, in terms of pounds of pollutants removed.

Based on comments on the proposal, EPA re-evaluated a low-flow exclusion based on 100,000 gallons per year of TEC process wastewater and presented the results in the NOA. EPA presented the costs, loadings, and economic impacts that would result if this exclusion was adopted. EPA's analyses demonstrated that 26 low flow facilities generated much less than one percent of the baseline loadings to the industry. EPA received numerous comments which supported the adoption of a low flow exclusion due to the low amounts of toxics generated by these facilities.

EPA also received comments supporting establishing a low flow exclusion at 200,000 gallons of TEC process wastewater per year. In the NOA, EPA noted that one model facility (representing nine facilities) excluded at proposal would be added to the Truck/Chemical & Petroleum Subcategory and would therefore be subject to the TEC limitations. EPA noted that an exclusion set at 200,000 gallons per year would exclude this model facility from the regulation. Consequently, EPA evaluated establishing the cutoff at 200,000 gallons per year. Establishing a low flow cutoff at 200,000 gallons per year would exclude an additional nine facilities in the combined Truck/Chemical & Petroleum Subcategory which discharge a combined total of 680 pound equivalents. This equates to 3.1 percent of facilities discharging 2.3 percent of the loadings in the Truck/Chemical & Petroleum Subcategory. EPA determined that the facilities discharging between 100,000 to 200,000 gallons per year contribute a proportional amount of toxic loadings to the industry. Additionally, EPA found that if the low flow exclusion was raised from 100,000 to 200,000 gallons per year, there would be no decrease in the number of facilities projected to close or experience financial stress.

For the final regulation, EPA is excluding facilities that discharge less than 100,000 gallons per year of TEC process wastewater. Facilities discharging less than 100,000 gallons per year will remain subject to limitations and standards established on a case-by-case basis using Best Professional Judgement by the permitting authority.

D. Revision of Pollutant Loading Estimates

In the NOA, EPA discussed a revision to the methodology for calculating pesticide and herbicide loadings. This revision was in response to a comment claiming that EPA overestimated pollutant reductions by using calculations based on a small number of data points detected at levels close to the pesticide/herbicide quantification levels. Specifically, EPA revised the proposed methodology by using the same editing criteria for pesticide/herbicide pollutants as were used for all other parameters. EPA made this change to the editing criteria which resulted in excluding parameters that were not detected in at least two samples and with average concentrations greater than five times the detection limit. The revised loadings were presented in the NOA.

EPA continued to receive comment from the industry that EPA had misidentified several pesticides and herbicides that were contributing to the calculation of toxic pound equivalent removals in the Truck/Chemical & Petroleum Subcategory. Based on an extensive analysis of the pesticide data collected in support of the regulation, the EPA must concur that the laboratory analysis does not conclusively support the presence of several pesticides that were believed to be present in the Truck/Chemical & Petroleum Subcategory wastewater. Therefore, the Agency has labeled the analytical results for EPN and disulfoton as ''questionable'' and has subsequently removed these pesticides from the cost effectiveness analysis and benefits analysis. This approach has resulted in a significant decrease in toxic pound equivalent removals when compared to the approach used at proposal.

However, EPA believes that pesticides and herbicides are present in TEC wastewater. As evidenced by responses to the Detailed Questionnaire, only 5% of tank truck facilities prohibit the cleaning of tank trucks that have contained pesticides and herbicides, meaning that 95% of tank truck facilities may potentially clean a cargo that has contained pesticides or herbicides. As documented by comments submitted by the industry, site visit reports, and a recent trade association journal article, the TEC industry is a service industry that cleans out tank trucks as needed by customers. EPA has identified over 3,000 cargo types that are cleaned at tank truck facilities, and these cargos have been documented to include pesticide and herbicides.

E. Overlap With Other Guidelines

EPA proposed language for excluding certain commercial and industrial facilities from the TEC guideline. Many commenters believed that this language was too restrictive and that the TEC rule, as proposed, would encompass many industrial facilities that EPA did not intend to cover. In the NOA, EPA described several situations where it concurred with commenters that the proposed language was overly restrictive. These included industrial or manufacturing facilities that clean a small number of tank cars on site but that are not covered by an existing Clean Water Act categorical effluent guideline. EPA presented revised regulatory language for excluding certain industrial and commercial facilities which the Agency believed addressed the concerns raised by commenters and more clearly defined the exclusion. The majority of commenters supported the revised language, and no commenter opposed the language. Therefore, EPA has adopted language similar to that presented in the NOA for the final regulation. The final rule does not apply to wastewaters associated with tank cleanings performed in conjunction with other industrial, commercial, or POTW operations so long as the facility cleans only tanks and containers that have contained raw materials, by-products, and finished products that are associated with the facility's on-site processes.

EPA also received comments requesting that EPA specifically exclude TEC wastewaters generated by POTWs that clean out garbage trucks, biosolid waste haulers, tankers that contained landfill leachate, and street cleaning trucks. EPA does not believe that wastewater generated from cleaning garbage trucks, biosolids trucks, landfill leachate tankers, or street cleaning trucks meets EPA's definition of cleaning a tank that has contained a chemical, petroleum, or food grade product. However, in order to address the concern that POTWs would unnecessarily be subject to the TEC rule, EPA has added language in the final applicability section which states that wastewater cleaning operations performed at POTWs (in addition to other commercial and industrial operations) are not subject to the TEC guidelines. Additionally, EPA has adopted a low flow exclusion of 100,000 gallons per year to exclude from this rule those facilities which may perform a minimal amount of tank cleaning activities (see Section III.C).

In the proposal, EPA stated that facilities that are predominantly engaged in Metal Products and Machinery (MP&M) operations and clean ocean/sea tankers, tank barges, rail tank cars, or tank trucks as part of those activities would likely be included in the upcoming MP&M regulations and, thus, are excluded from the TEC guideline. EPA received numerous comments asking EPA to more clearly define what is meant by ''predominantly engaged.'' In the NOA, EPA attempted to address these concerns by clarifying the distinction between MP&M wastewaters and TEC wastewaters based on the purpose of cleaning. All commenters supported the revised language presented in the NOA as addressing their concerns. Therefore, EPA is adopting the following language for the final regulation: ''Wastewater generated from cleaning tank interiors for purposes of shipping products (*i.e.,* cleaned for purposes other than maintenance and repair) is considered

TEC process wastewater. Wastewater generated from cleaning tank interiors for the purposes of maintenance and repair on the tank is not considered TEC process wastewater.'' It is possible that some facilities, or wastewater generated from some unit operations at these facilities, will be subject to the Metals Products & Machinery (MP&M) effluent guideline currently being developed by EPA. Facilities that clean tank interiors solely for the purposes of repair and maintenance would not be regulated under the TEC guideline.

Wastewater generated from cleaning tank interiors for purposes of shipping products (i.e., cleaned for purposes other than maintenance and repair) is considered TEC process wastewater and is subject to the TEC guideline. It is possible that a facility may be subject to both the TEC regulations and the MP&M regulations. If a facility generates wastewater from MP&M activities which is subject to the MP&M guideline and also discharges wastewater from cleaning tanks for purposes other than repair and maintenance of those tanks, then that facility may be subject to both guidelines.

F. Modification to Pollutants Selected for Regulation

EPA proposed limitations for a number of conventional, priority, and non-conventional pollutants. Many commenters requested that EPA establish oil and grease (measured as Hexane Extractable Material (HEM)) and non-polar oil and grease (measured as Silica-gel Treated Hexane Extractable Material (SGT–HEM)) as indicator pollutants for a number of other pollutants proposed to be regulated. In the NOA, EPA presented its evaluation for establishing indicator pollutants, and concluded that oil and grease (HEM) and non-polar oil and grease (SGT–HEM) could serve as indicator pollutants for the straight chain hydrocarbons proposed to be regulated. Comments on the NOA generally supported this conclusion. For the final regulation, EPA has established limits for oil and grease (HEM) and non-polar material (SGT–HEM) as indicator pollutants. EPA has therefore not established limits for any straight chain hydrocarbon, but has established limits for polyaromatic hydrocarbons for certain subcategories.

Furthermore, as described in Section VI. of this notice, EPA has decided to promulgate effluent limitations and pretreatment standards for mercury in the Truck/Chemical & Petroleum Subcategory and in the Barge/Chemical & Petroleum Subcategory. EPA has also eliminated zinc as regulated pollutant in the Truck/Chemical & Petroleum Subcategory, and has decided to eliminate COD as a regulated pollutant in all subcategories.

G. Technology Options

EPA presented revised costs and loads in the NOA for the technology options considered for the proposal. The costs and loads were revised due to a number of changes, which were discussed in the NOA. In summary, EPA revised the cost model; reduced the monitoring costs; revised the list of pollutants effectively removed; combined the Truck/Chemical and Truck/Petroleum Subcategories; combined the Rail/Chemical and Rail/Petroleum Subcategories; and adopted a low flow exclusion.

EPA also discussed in the NOA several options it was considering in lieu of the proposed options for the Truck/Chemical & Petroleum and Rail/Chemical & Petroleum Subcategories, including the associated costs, loads, economic impacts, and environmental benefits. Based on the revised analysis, EPA is selecting Option I instead of Option II for PSES and PSNS in the Truck/Chemical & Petroleum Subcategory. For the Rail/Chemical & Petroleum Subcategory, EPA is selecting Option II for BPT, BAT, BCT and NSPS. EPA had proposed Option I for BPT, BAT, and BCT and Option III for NSPS. For indirect dischargers in the Rail/Chemical & Petroleum Subcategory, EPA is selecting Option II for both PSES and PSNS instead of Option I for PSES and Option III for PSNS. Additionally, EPA has decided to establish PSES based on Option II for the Barge/Chemical & Petroleum Subcategory in order to prevent pass through or interference at a POTW.

EPA has eliminated flow reduction from the technology options for all subcategories because it is promulgating concentration-based rather than mass-based limitations. Note, however, that EPA has retained flow reduction as a cost-effective compliance strategy for several subcategories.

Sections VII, VIII, and IX of this notice present the final costs, pollutant reductions, economic impacts, and water quality impacts for EPA's selected options. The technology options are described in Section V of this notice. A description of the wastewater treatment technology components of the options can be found in Section VIII of the proposal and in the Technical Development Document.

IV. Applicability of Final Regulation

EPA is establishing effluent limitations guidelines and pretreatment standards for wastewater discharges from facilities engaged in cleaning the interiors of tanks including tank trucks, rail tank cars, intermodal tank containers, tank barges, and ocean/sea tankers used to transport commodities that come into direct contact with the tank or container interior. Facilities which do not engage in cleaning the interior of tanks are not considered within the scope of this rule.

The wastewater flows covered by the rule include all washwaters that come into direct contact with the tank or container interior including pre-rinse cleaning solutions, chemical cleaning solutions, and final rinse solutions. Additionally, the rule would cover wastewater generated from washing vehicle exteriors, equipment and floor washings, and TEC contaminated wastewater only at those facilities subject to the TEC guidelines and standards.

EPA evaluated the following subcategorization approach for the final regulation: Truck/Chemical & Petroleum Subcategory; Rail/Chemical & Petroleum Subcategory; Barge/Chemical & Petroleum Subcategory; Food Subcategory; Truck/Hopper Subcategory; Rail/Hopper Subcategory; and Barge/Hopper Subcategory. Table 1 presents the final regulatory approach.

TABLE 1.—REGULATORY APPROACH FOR THE TEC CATEGORY

Subcategory	BPT and BCT	BAT	NSPS	PSES	PSNS
Truck/Chemical & Petroleum	X	X	X	X	X
Rail/Chemical & Petroleum	X	X	X	X	X
Barge/Chemical & Petroleum	X	X	X	X	X
Food	X	.....	X	.....	.....
Truck/Hopper	.....	.....	.....	.....	.....

TABLE 1.—REGULATORY APPROACH FOR THE TEC CATEGORY—Continued

Subcategory	BPT and BCT	BAT	NSPS	PSES	PSNS
Rail/Hopper	.....	.....	.....	.....	.....
Barge/Hopper	.....	.....	.....	.....	.....

EPA is establishing effluent limitations guidelines for existing facilities and new sources discharging wastewater directly to surface waters in the following subcategories: Truck/Chemical & Petroleum, Rail/Chemical & Petroleum, Barge/Chemical & Petroleum, and Food Subcategory. EPA is establishing pretreatment standards for existing facilities and new sources discharging wastewater to POTWs in the Truck/Chemical & Petroleum, Rail/Chemical & Petroleum, and Barge/Chemical & Petroleum Subcategories.

For the Food Subcategory, EPA is establishing effluent limitations guidelines for existing and new facilities discharging directly to surface waters. These limitations and standards are established to control discharges of conventional pollutants which may adversely affect waterways when discharged directly to surface waters. Few priority pollutants were found in food wastewaters; thus, EPA has chosen to not establish BAT limitations for the Food Subcategory. Because POTWs have the ability to treat conventional pollutants, EPA concluded that it was unnecessary to establish pretreatment standards for the Food Subcategory. Comments received on the proposal predominantly supported EPA's regulatory approach for the Food Subcategory.

EPA is not establishing effluent limitations guidelines or standards for the Truck/Hopper, Rail/Hopper, and Barge/Hopper Subcategories. Closed-top hopper trucks, rail cars, and barges are used to transport dry bulk materials such as coal, grain, and fertilizers. Raw wastewater generated from cleaning the interiors of hoppers was found to contain very few priority pollutants at treatable levels. This is likely due to the fact that the residual materials (heels) from dry bulk goods are easily removed prior to washing, and that relatively little wastewater is generated from cleaning the interiors of hopper tanks due to the dry nature of bulk materials transported. These facts result in low pollutant loadings being present in the wastewater discharges from hopper tank cleaning. Based on the low pollutant loadings associated with wastewater discharge from the hopper subcategories, the Agency concluded that it is not necessary to establish nationally-applicable effluent limitations for these subcategories. Rather, direct dischargers will remain subject to effluent limitations established on a case-by-case basis using Best Professional Judgement, and indirect dischargers may be subject to local pretreatment limits as necessary to prevent pass through or interference. EPA received comments supporting this conclusion.

EPA received comments on the proposal requesting that EPA include wastewater from cleaning the interiors of intermediate bulk containers (IBCs) within the scope of this regulation. The commenter believed that IBCs generate a significant amount of loadings in the industry; therefore, excluding IBCs would give an economic advantage to facilities that clean only IBCs because these facilities would not be covered by the TEC regulation. In response to these comments, EPA collected additional data on IBC cleaning performed by the TEC industry and then conducted an economic analysis on the impact of IBC cleaning on the tank truck industry. This information and analysis were presented in the NOA. Based on the analysis presented in Section VII of the NOA, EPA concluded that wastewater generated from IBC cleaning should not be included in the scope of this guideline. As discussed in the NOA, EPA will continue to evaluate the Industrial Container and Drum Cleaning Industry as a potential candidate for future regulation.

TEC process wastewater includes all wastewaters associated with cleaning the interiors of tanks including: tank trucks; rail tank cars; intermodal tank containers; tank barges; and ocean/sea tankers used to transport commodities or cargos that come into direct contact with the tank or container interior. At those facilities subject to the TEC guidelines and standards, TEC process wastewaters also include wastewater generated from washing vehicle exteriors, equipment and floor washings, and TEC-contaminated stormwater. TEC process wastewater is defined to include only wastewater generated from a regulated TEC subcategory. Therefore, TEC process wastewater does not include wastewater generated from the hopper facilities, or from food grade facilities discharging to a POTW.

EPA is adopting a low flow exclusion for this regulation. A facility that discharges less than 100,000 gallons per year of TEC process wastewater is not subject to the TEC guidelines. EPA is adopting this exclusion due to the very low pollutant loadings associated with facilities discharging less than 100,000 gallons per year.

Facilities discharging less than 100,000 gallons per year of TEC process wastewater will remain subject to limitations and standards established on a case-by-case basis using Best Professional Judgement by the permitting authority.

V. Technology Options Selected for Basis of Regulation

All of the treatment technologies considered for the final regulations were discussed in the proposal. In the NOA, EPA presented the costs, loads, and impacts for one option in the Truck/Chemical & Petroleum Subcategory that were not presented in the proposal. This option, consisting of equalization and oil/water separation only, was a component of other options in the proposal but had not been evaluated separately as a regulatory option.

The following sections summarize the technology options that EPA considered for each subcategory. The costs, loads, economic impacts, and environmental benefits for the selected options are also presented. All results presented in this notice are expressed in 1998 dollars.

A. Truck/Chemical & Petroleum Subcategory

1. BPT, BCT, BAT, and NSPS for the Truck/Chemical & Petroleum Subcategory

EPA evaluated the following treatment options for the final regulation:

Option I: Equalization, Oil/Water Separation, Chemical Oxidation, Neutralization, Coagulation, Clarification, Biological Treatment, and Sludge Dewatering.

Option II: Equalization, Oil/Water Separation, Chemical Oxidation, Neutralization, Coagulation, Clarification, Biological Treatment,

Activated Carbon Adsorption, and Sludge Dewatering.

EPA proposed to establish BPT limits based on Option II, and to establish BCT, BAT, and NSPS equivalent to BPT. In the proposal, EPA stated that all three model facilities have equalization, coagulation/clarification, biological treatment, and activated carbon in place. Two of the three facilities in the cost model have sufficient treatment in place; therefore, costs for additional monitoring only are attributed to these facilities. The third facility was costed for flow reduction, sludge dewatering, and monitoring. Flow reduction and sludge dewatering generates net cost savings for the facility's entire treatment train. In addition, these net cost savings are larger than the monitoring costs incurred by the other two facilities.

EPA determined that Option II is economically achievable because it will result in a net cost savings to the industry, and will not cause any facility closures, revenue impacts, or employment impacts. EPA did not identify any more stringent treatment technology option which it considers to represent NSPS level of control.

EPA did not consider any changes to the option selected for this subcategory in the NOA. EPA did not receive any comments specific to option selection for direct discharging facilities in this subcategory in the proposal or the NOA. EPA has therefore established BPT, BCT, BAT, and NSPS based on Option II.

2. PSES and PSNS for the Truck/Chemical & Petroleum Subcategory

EPA evaluated the following treatment options for the final regulation:

Option A: Equalization and Oil/Water Separation.

Option I: Equalization, Oil/Water Separation, Chemical Oxidation, Neutralization, Coagulation, Clarification, and Sludge Dewatering.

Option II: Equalization, Oil/Water Separation, Chemical Oxidation, Neutralization, Coagulation, Clarification, Activated Carbon Adsorption, and Sludge Dewatering.

In response to comments received, EPA has also considered a pollution prevention approach as a compliance option, as discussed below.

EPA proposed to establish PSES and PSNS at Option II. In the NOA, EPA presented revised costs, loads and impacts for each option, and stated that Options I and A were also being considered for PSES and PSNS. EPA is today promulgating a pollution prevention compliance option for this subcategory as well as promulgating a traditional compliance option (*i.e.* a set of numeric pretreatment standards) based on Option I.

EPA received comments on the proposed technology options from the affected industry and from other stakeholders. Several commenters expressed concern that Option II, which includes activated carbon adsorption, was an excessive and costly level of treatment for indirect dischargers in the tank cleaning industry. Commenters also expressed concern that Option A level of control may be inadequate to control tank cleaning wastewater discharges. Several commenters were concerned with the discrepancy of treatment options proposed for the truck and rail segments of the industry.

EPA also received technical comment questioning the presence of specific pesticides in raw tank truck cleaning wastewater, and the pollutant removals associated with these pesticides for the various options.

EPA also received comments from stakeholders that encouraged EPA to explore the use of pollution prevention plans as an alternative to extensive treatment. Generally, EPA seeks to encourage practices that reduce pollutant generation or minimize the extent to which they enter treatment systems because of the substantial opportunities for reducing both treatment costs and the total pollutant load to the environment. Specifically, the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13101 et seq., Pub. L. 101–508, November 5, 1990) ''declares it to be the national policy of the United States that pollution should be prevented or reduced whenever feasible; pollution that cannot be prevented should be recycled in an environmentally safe manner, whenever feasible; pollution that cannot be prevented or recycled should be treated in an environmentally safe manner whenever feasible; and disposal or release into the environment should be employed only as a last resort * * *''.

As described in Section VIII.A of the proposal, EPA identified and evaluated a number of pollution prevention controls applicable to the industry, including the use of dedicated tanks, heel (residual cargo remaining in tanks following unloading) minimization, water conservation practices, and reduction in the toxicity and amount of chemical cleaning solutions. These controls were also described in more detail in Chapter 8 of the proposed Technical Development Document. EPA identified these controls as voluntary practices that many facilities in the industry were already incorporating. POTWs have also required such practices as part of their local pretreatment requirements. For example, some POTWs have required that facilities segregate specific wastewaters such as cleaning solutions or pesticide residues, or have prohibited the discharge of wastewaters associated with acid brighteners.

EPA believes that pollution prevention and effective pollutant management is an appropriate and effective way of reducing pollutant discharges from this subcategory. Further, the Agency believes that providing a pollution prevention compliance option may be less costly than the technology options considered for regulation. Therefore EPA is providing both a pollution prevention option based on development and implementation of a Pollutant Management Plan (PMP) and a set of numeric limits allows facility owners and operators to choose the less expensive compliance alternative. Based on its economic analysis of technology Option I, EPA believes that PSES and PSNS based on a choice between effective pollution prevention and limits based on Option I is economically achievable for this subcategory. For the portion of the industry that already has extensive treatment in place, it may be more cost effective to comply with the numeric limits. Conversely, for those facilities already utilizing good pollution prevention practices and/or operating in accordance with a PMP, it may be more cost effective to use the pollution prevention compliance alternative.

Nationally applicable pretreatment standards are designed to prevent pass through or interference with a POTW. The legislative history of the 1972 Act indicates that pretreatment standards are to be technology-based and analogous to the BAT effluent limitations guidelines for removal of toxic pollutants. EPA conducted a pass through analysis for the pollutants of concern. EPA determined that several pollutants would pass through a POTW. The results of this analysis are presented in Section VI. of this notice. Today's rule includes numeric limits for several of these pollutants for facilities which choose not to use the pollution prevention compliance option.

Without considering a pollution prevention compliance option, Option A has a post-tax annualized cost of $5.2 million ($8.1 million pre-tax) for 286 facilities. Option I's cost is $9.2 million ($14.4 million pre-tax), and Option II's cost is $20.9 million ($32.9 million pre-

tax). Costs for any of the options in combination with a pollution prevention compliance option would likely be lower.

For the final regulation, EPA projects that there will be no closures or employment impacts for any option (even without a Pollution prevention compliance option) when a positive cost pass through assumption is made. When zero cost pass through is assumed, EPA's economic analysis indicates that 14 facilities may experience financial stress at Option I, and that 22 facilities may experience financial stress at Option II. At Option I, none of the 14 facilities experiencing financial stress are small businesses; at Option II, 7 of the 22 facilities experiencing financial stress are small businesses.

In addition to the financial stress analysis, EPA also evaluated revenue impacts at small businesses. EPA projects that the compliance cost would not be greater than three percent of revenue for any small businesses at Option I, but would exceed that percentage for 14 small business at Option II under the positive cost pass through assumption. For the zero cost pass through assumption, 14 small businesses are projected to exceed revenue impacts of three percent at Option A; 29 small businesses at Option I; and 36 small businesses at Option II.

Option A is projected to result in no monetized benefits. EPA estimates that implementation of Option I will result in significantly higher benefits than Option A, ranging from $1.5 million to $5.2 million annually. However, EPA estimates that Option II would not result in any significant additional monetized benefits incremental to Option I.

EPA also examined the projected pollutant removals and cost effectiveness of each option. In assessing removals of toxic pollutants, EPA estimates actual reductions that would be achieved by the treatment option under consideration, adjusts these to account for removals that occur at the POTW anyway, and then converts the actual pounds removed to toxic pound equivalents using a standardized set of toxic weighting factors. For Option A, EPA projects total removals for this subcategory of 1,500 toxic pound equivalents. For Option I, EPA projects total removals for this subcategory of 11,700 toxic pound equivalents. For Option II, EPA projects total removals for this subcategory of 20,900 toxic pound equivalents.

Section X of the preamble for the proposed rule describes EPA's cost effectiveness analysis. EPA uses cost effectiveness to evaluate the relative efficiency of each option in removing toxic pollutants. The cost effectiveness of Option A is estimated to be $3,200/PE. The average cost effectiveness of Option I is estimated to be $740/PE , and the incremental cost effectiveness over Option A is estimated to be $370/PE . The average cost effectiveness of Option II is estimated to be $940/PE , and the incremental cost effectiveness over Option I is estimated to be $1,200/PE .

EPA notes that these cost-effectiveness estimates do not include any credit for reductions of a number of pesticides, herbicides, or other toxic agents that may be present in TEC wastewater at some facilities but that were not found at the time of EPA's sampling. According to the detailed questionnaire responses, EPA notes that over 3,000 types of cargos are being cleaned at tank truck facilities. However, absent better estimates, EPA based its analysis on those toxic substances that were confirmed present by its sampling protocols. Based on the number presented above, EPA was concerned that the cost effectiveness estimates were high and the toxic removal estimates were low when compared to those calculated for many of the primary manufacturing industries for which EPA has promulgated pretreatment standards.

As the Agency evaluated whether or not to establish pretreatment standards for this subcategory, and at what technology option, EPA compared its information on this subcategory to that for the Industrial Laundries point source category (64 FR 45072), which EPA ultimately decided not to regulate at the national level.

First, EPA found that the estimated pollutants were similarly low for both industries. However, in contrast to the Industrial Laundries decision, the TEC record identifies a wide range of pollutants of concern to POTWs, and identified problems (past and recent) with TEC facilities that have included interference and pass through, upsets due to slug loads, not meeting local limits, and sludge contamination. These problems have generally been addressed by the application of appropriate local limits. Pretreatment authorities submitting comments on the proposal generally supported regulation of this industry. Already, 44% of the industry has been required to install technology equivalent to Option I, and 86% of the industry has been required to install technology equivalent to Option A.

Second, for industrial laundries, EPA estimated a reduction of 32 PE per facility at an average cost of $84,000 ($1998 post-tax) for the preferred option among the technology options. EPA estimates that under the preferred option for this TEC subcategory (Option I), a reduction of 40 PE per facility would be achieved at an average cost of $30,000 ($1998 post-tax).

Third, in terms of the cost effectiveness analysis, the economically achievable options for both industries had costs per PE that are high. However, the CE for laundries (at $2,360/PE) was significantly higher than the CE for this subcategory of the TEC industry (at $740/PE).

Finally, in terms of economic impacts, EPA determined that the preferred option was economically achievable in both cases. However, EPA also noted that 44 laundry facilities were projected to close under the preferred option, and no firms were projected to experience stress. No facility closures are projected under the preferred option for this TEC subcategory, and no facilities were projected to experience financial stress if they are able to pass some costs through to customers. If the facilities were unable to pass costs through to customers, 14 facilities are projected to occur financial stress.

EPA also notes that the cost-benefit analysis for the preferred treatment option for the industrial laundries industry indicated that the rule, if published, would have annual pre-tax costs of $131.2 million (1993$) and annual monetized benefits of $0.07–$0.35 million (1993$). The Truck/Chemical & Petroleum Subcategory has an annual pre-tax cost of $14.4 million and annualized monetized benefits of $1.5–$5.2 million (1998$) annually.

In summary, EPA has determined that in some respects, this subcategory is similar to the industrial laundries industry that EPA decided not to regulate (*e.g.* small pollutant removals) but in other respects it is significantly different (*e.g.* greater potential for POTW interference and less significant economic impacts).

While EPA believes that pretreatment standards are appropriate for the TEC industry, EPA acknowledges that costs for some facilities may be high relative to removals. For the 14% of facilities with no treatment in place, EPA estimated that the average cost per facility could be as high as $100,000 per year on a pre-tax basis, and would remove 67 PE per facility per year. The Agency also does not want to establish an inflexible regulation that may not be able to offer the most environmentally responsible yet cost effective solution to a particular wastestream at a individual TEC facility. In light of this, and considering the wide variety of tanker cargos accepted for cleaning, EPA recognizes that one of the most

successful means of reducing the discharge of pollutants in wastewater may be pollution prevention and source reduction.

EPA evaluated potential regulatory structures for pollution prevention practices and concluded that the Agency should promulgate a regulatory option that would reduce the pollutant loadings being discharged and also prevent pass through and interference, but that may allow more opportunities for pollution prevention than nationally applicable numeric pretreatment standards. In evaluating a pollution prevention alternative, EPA considered a number of factors that included public comments received, industry support, costs, and environmental benefits. EPA believes that the pass through and interference of pollutants of concern to EPA and to the pretreatment authorities can be appropriately controlled through effective pollution prevention and pollutant management tailored to the circumstances of the individual facility through a Pollutant Management Plan. EPA believes these pollutants can also be controlled through compliance with the numeric limits based on technology Option I. EPA is thus offering both options for compliance with PSES and PSNS.

EPA has had discussions with industry stakeholders and the U.S. Small Business Administration Office of Advocacy and EPA believes that it has sufficient support from stakeholders to proceed with this dual approach, and that this approach will provide effective pollutant reductions that prevent pass through, interference, and sludge contamination at the POTWs.

EPA has chosen to establish a pollution prevention compliance option, as well as tradition PSES and PSNS limits based on Option I. EPA does not believe that the lower cost Option A removed enough toxics to justify its selection as the basis for pretreatment standards. Additionally, EPA agrees with comments received from pretreatment authorities, including the Association of Metropolitan Sewerage Agencies (AMSA), that oil/water separation alone is not effective for achieving appropriate reductions of the pollutants which may be discharged by TEC facilities. AMSA also indicated its support for effective pollution prevention practices as an alternative to numeric limits for these facilities.

Although Option II removed significantly more pound equivalents than Option I, Option II does not achieve significant incremental reductions for any regulated pollutant and is not projected to result in any increased monetized benefits. Also, EPA notes that Option II has the potential to cause more economic impacts than Option I. EPA does not believe that the considerable cost increase for Option II incremental to Option I is justified. Therefore, EPA decided that limits based on Option II are not appropriate for this subcategory.

EPA believes that a dual approach which offers facilities a choice between Pollution prevention and compliance with numeric limits based on Option I is economically achievable and will significantly reduce pollutant loadings. Option I does not result in any projected closures, even with a zero cost pass through assumption. Although 14 facilities are projected to incur financial stress under this assumption, this is a relatively small percentage of the subcategory population (two percent of the industry) and none of these facilities are small businesses. Under the assumption of some cost pass through to customers, no facilities are projected to experience financial stress. Additionally, EPA believes that it has responded to many commenters' concerns by requiring similar levels of control for the truck and rail subcategories and by providing the pollution prevention compliance option for both subcategories and by omitting granular activated carbon, a potentially costly treatment addition, from the selected PSES and PSNS treatment option for the Truck/Chemical & Petroleum Subcategory. Also, EPA has made a finding of no barrier to entry associated with Option I level of control for new sources (discussed in Section VIII). Therefore, EPA is establishing PSES and PSNS based on a dual approach involving a pollution prevention compliance option and traditional limits based on Option I technologies.

The Agency believes that the implementation of a Pollutant Management Plan that ensures that heels, chemicals, and mixtures that are incompatible with POTW systems are not discharged to POTWs, and ensures appropriate handling of such materials (by recycle, reuse, effective pretreatment, or off-site treatment or disposal) would provide comparable effluent reductions. Wastewaters resulting from heel removals, prerinse solutions, and cleaning solutions normally contain the highest concentrations of pollutants in TEC wastewater. Some facilities will find it less costly to implement pollution prevention and pollutant management controls, while others will find it less costly to meet numeric limits. As a regulatory compliance alternative, facility owners and operators would be given the flexibility to choose the less expensive compliance alternative, *i.e.* either meeting the specific numeric pretreatment standards, or by implementing a Pollutant Management Plan.

The management plan would require facilities to implement procedures for identifying cargos, the cleaning of which is likely to result in discharges of pollutants that would be incompatible with treatment at the POTW. This would include cargos containing pesticides, herbicides, and other toxic compounds that are not effectively treated by biological treatment. The plan would also require facilities to fully drain heels from such cargos, segregate those heels from other wastewaters, and handle them in an appropriate manner. Appropriate handling of heels could include return of the heel to the customer, off-site treatment or disposal, or pretreatment that has been demonstrated to result in sufficient reductions to prevent pass through or interference. The plan would likewise require facilities to prerinse or presteam such cargos as appropriate, segregate the prerinse/presteam wastewaters from other wastewaters as appropriate and handle in an appropriate manner to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW. Appropriate handling of prerinse/presteam wastewaters could include recycle/reuse, off-site treatment or disposal, or pretreatment that has been demonstrated to result in sufficient reductions to prevent pass through or interference.

In addition, the plan would require that all spent cleaning solutions be segregated as appropriate and handled in an appropriate manner to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW. Spent cleaning solutions include interior caustic washes, interior presolve washes, interior detergent washes, interior acid washes, and exterior acid brightener washes. Appropriate handling of spent cleaning solutions could include regeneration of the solutions, off-site treatment or disposal, or pretreatment that has been demonstrated to result in sufficient reductions to prevent pass through or interference.

The plan would also require the appropriate recycling or reuse of cleaning agents; the minimization of toxic cleaning agent use; and the maintenance of appropriate records on heel management, prerinse/presteam management, cleaning agent management, operator training, and

proper operation and maintenance of any pretreatment systems.

The plans would also provide information on the volumes, content, and chemical characteristics of cleaning agents used in cleaning or brightening operations.

EPA has identified these pollution prevention practices through its data collection efforts in support of this rulemaking, and EPA believes that it has developed the most appropriate combination of Pollution prevention practices that provides maximum flexibility while ensuring significant pollutant reductions.

B. Rail/Chemical & Petroleum Subcategory

1. BPT, BCT, BAT and NSPS for the Rail/Chemical & Petroleum Subcategory

EPA evaluated three treatment options for the final regulation:

Option I: Oil/Water Separation, Equalization, Biological Treatment, and Sludge Dewatering.

Option II: Oil/Water Separation, Equalization, Dissolved Air Flotation (with Flocculation and pH Adjustment), Biological Treatment and Sludge Dewatering.

Option III: Oil/Water Separation, Equalization, Dissolved Air Flotation (with Flocculation and pH Adjustment), Biological Treatment, Organo-Clay/Activated Carbon Adsorption, and Sludge Dewatering.

EPA proposed Option I for BPT, and proposed to establish BCT and BAT equivalent to BPT. EPA proposed Option III for NSPS. EPA did not receive any comments following the proposal or the NOA specific to establishing limits for direct discharging facilities in this subcategory.

All regulated toxic parameters were treated to the same level at Options I, II, and III. As discussed in Section VI, EPA did not have sampling data for direct dischargers in this subcategory because EPA only identified one direct discharger and it does not have the treatment technology used as the basis for BPT. EPA has therefore relied on technology transfer from the Barge/Chemical & Petroleum Subcategory to establish limits for conventionals, and data from indirect dischargers in the Rail/Chemical & Petroleum Subcategory to establish limits for toxic pollutants. Although EPA believes that the treatment in place at the one rail direct discharging facility (consisting of oil/water separation, equalization, pH adjustment, biological treatment, and a filter press) is sufficient to meet the limitations, EPA has decided to establish BPT, BCT, BAT, and NSPS based on Option II, which includes dissolved air flotation (DAF). EPA believes that this is the most appropriate technology because the dataset used to transfer limits (from both the rail indirect facilities and the barge direct facilities) includes DAF treatment. Therefore, EPA has included the additional costs of DAF treatment for the one direct discharging rail facility, even though this has not changed the limitations presented in the NOA.

As discussed in Section VIII.B.1.c of the proposal, EPA evaluated the costs, loads, and impacts of the one model direct discharging facility. EPA estimates that the cost of implementing Option I, for monitoring only, is about $4,900 annually on a post-tax basis ($7,600 pre-tax). EPA's estimate of costs for Option II is $40,800 annually on a post-tax basis ($59,000 pre-tax), and for Option III is $60,600 annually on a post-tax basis ($89,000 pre-tax). EPA projects that this facility would not close or experience revenue impacts, employment impacts, or financial stress at Option I or Option II level of control. EPA's economic analysis indicates that Option III would have higher costs for the existing facility used as the basis for today's regulation. The single direct discharge facility used for analysis would not close under Option III, but this facility would have annualized costs that exceed three percent of annual revenue. The results of the annualized costs to sales analysis shows a high impact that should be avoided if possible since these additional costs would not provide incremental pollutant removals in comparison to Option II.

In addition, the incremental economic impacts projected at Option III may create a barrier to entry for new sources. Therefore, EPA does not believe that there are additional removals or benefits to be obtained by establishing NSPS at a more stringent level of control, and EPA decided to establish NSPS equivalent to BPT, BCT, and BAT.

2. PSES and PSNS for the Rail/Chemical & Petroleum Subcategory

EPA considered three options for the final regulation:

Option I—Oil/Water Separation.

Option II—Oil/Water Separation, Equalization, Dissolved Air Flotation (with Flocculation and pH Adjustment), and Sludge Dewatering.

Option III—Oil/Water Separation, Equalization, Dissolved Air Flotation (with Flocculation and pH Adjustment), Organo-Clay/Activated Carbon Adsorption, and Sludge Dewatering.

EPA proposed Option I for PSES and Option III for PSNS. As discussed in Section VIII.B.5.d of the proposal, the economic impacts to the industry played a large role in EPA's selection of Option I for pretreatment standards. EPA noted that its preliminary conclusion was that Option II was projected to result in six facility closures and was not considered to be economically achievable.

EPA received several comments on the pollutant control technologies proposed for the Rail/Chemical & Petroleum Subcategory. EPA received comments from several entities, including AMSA, who argued that oil/water separation alone is not sufficient pretreatment for the pollutants in Rail/Chemical & Petroleum Subcategory wastewaters. Additionally, many commenters have expressed concern about the discrepancy in treatment technology proposed for the rail and truck facilities. Several commenters argued that the wastewater characteristics are similar for truck and rail facilities, and that the treatment options should therefore be similar for facilities which potentially compete with each other.

EPA has determined that a Pollutant Management Plan is an appropriate compliance alternative to the numerical pretreatment standards also being promulgated in today's rule for the rail/chemical and petroleum subcategory. As explained elsewhere in today's notice, the Agency believes this Pollutant Management Plan alternative is consistent with the CWA and the Pollution Prevention Act of 1990; is comparable to the numerical standards in terms of pollutant removal and costs incurred by facilities; is economically achievable; and will allow an appropriate level of flexibility to facility owners and operators on how to best achieve a reduction in pollutants being discharged to the POTW. The full discussion of the Agency's reasoning is set forth in section V.A of today's notice.

In the proposal, EPA also noted this discrepancy, and noted that there were many similarities between the truck and rail subcategory wastewaters, and that the most significant reason for proposing dissimilar technology options in the truck and rail subcategories was due to economic considerations. EPA's analysis showed that several rail facilities were unable to incur the costs of a more stringent regulatory option without sustaining significant economic impacts. However, all of the financially

stressed rail facilities will now qualify for the low flow exclusion (see Section III.C of this notice). Additionally, as discussed in Section VI, EPA has reduced monitoring costs by establishing indicator parameters. Removing low flow facilities and some monitoring costs from EPA's analysis has affected the total costs, loads, and economic impacts of the technology options for this subcategory.

For the final regulation, EPA estimates that Option I will have an annualized cost of $589,000 post-tax ($897,000 pre-tax), Option II will cost $1.0 million post-tax ($1.5 million pre-tax), and Option III will cost $1.6 million post-tax ($2.5 million pre-tax). EPA projects that Option I and Option II will both result in monetized benefits of $54,000 to $285,000 annually, and that Option III would result in benefits of $1.0 to $3.9 million annually.

EPA conducted a pass through analysis for the pollutants selected for regulation under BAT. EPA determined that several pollutants would pass through a POTW. The results of this analysis are presented in Section VI. of this notice.

For Options I, II, and III, EPA anticipates no closures, revenue impacts, or employment impacts at even the most conservative assumption of no cost pass through. Additionally, EPA does not anticipate any facilities will experience financial stress at Options I, II, or III.

EPA also considers the cost effectiveness to evaluate the relative efficiency of each option in removing toxic pollutants. Option I is projected to remove 6,600 pound equivalents, Option II will remove 7,300 pound equivalents, and Option III will remove 7,800 pound equivalents.

EPA has decided to establish PSES and PSNS based on Option II. Although Option III is projected to remove more pound equivalents and also result in higher monetized benefits then Option II, Option III was not demonstrated to achieve significant reductions incremental to Option II for any regulated pollutant. The increase in monetized benefits in Option II was due to the removal of several pesticides not proposed for regulation. EPA has discussed its rationale for not establishing limitations for pesticides in Section VI. Therefore, EPA does not believe that the higher costs for Option III justify its selection for pretreatment standards for new sources.

As noted in the NOA, the cost of Option II is 70 percent higher than the costs for Option I, and the corresponding increase in pound equivalents removed is approximately 10 percent. Comparatively, the cost of Option III is 65 percent higher than the costs for Option II, and the corresponding increase in pound equivalents removed is approximately six percent. While this results in a relatively high incremental cost-effectiveness ratio for both Options II and III, EPA has decided to establish PSES based on Option II for the reasons discussed above. Option II, which is analogous to Option I in the Truck/Chemical & Petroleum Subcategory, achieves a significant reduction in toxic loadings and results in no closures, financial stress, or revenue impacts. Additionally, EPA has modified the proposal to decrease costs for the industry, and the final costs for Option II are roughly equivalent to the costs estimated for Option I at proposal. EPA has therefore decided to establish PSES and PSNS based on Option II.

C. Barge/Chemical & Petroleum Subcategory

1. BPT, BCT, BAT, and NSPS for the Barge/Chemical & Petroleum Subcategory

EPA considered two options for the final regulation:

Option I: Oil/Water Separation, Dissolved Air Flotation, Filter Press, Biological Treatment, and Sludge Dewatering.

Option II: Oil/Water Separation, Dissolved Air Flotation, Filter Press, Biological Treatment, Reverse Osmosis, and Sludge Dewatering.

EPA proposed Option I for BPT, and proposed to establish BCT, BAT and NSPS equivalent to BPT. EPA estimates the annualized costs for Option I at $89,500 annually post-tax ($146,300 pre-tax) and Option II at $345,700 annually post-tax ($540,900 pre-tax). EPA estimates that both Option I and Option II remove 19,300 pounds of BOD_5 and TSS. Based on the treatment technologies in place at the model facilities, coupled with the biological treatment system upgrades estimated by EPA to achieve Option I performance levels, EPA predicts that Option II would not result in any additional removal of toxic pollutants because most pollutants are already treated to very low levels, often approaching or below non-detect levels. EPA did not receive any support for establishing BPT, BCT, BAT, or NSPS at Option II.

EPA has therefore decided to establish BPT, BCT, BAT, and NSPS based on Option I.

2. PSES and PSNS for the Barge/Chemical & Petroleum Subcategory

EPA considered three options for the final regulation:

Option I—Oil/Water Separation, Dissolved Air Flotation, and Filter Press.

Option II—Oil/Water Separation, Dissolved Air Flotation, Filter Press, Biological Treatment, and Sludge Dewatering.

Option III—Oil/Water Separation, Dissolved Air Flotation, Filter Press, Biological Treatment, Reverse Osmosis, and Sludge Dewatering.

EPA proposed Option II for PSNS. EPA did not propose PSES for the Barge/Chemical & Petroleum Subcategory because EPA identified only one facility discharging to a POTW. However, since the proposal, EPA has identified four facilities which previously discharged directly to surface waters and have since either switched or plan to switch discharge status. EPA noted this change in discharge status for these four barge facilities in the NOA, and EPA now estimates that there are five facilities in EPA's model which discharge wastewater to a POTW.

EPA evaluated the treatment in place and levels of control currently achieved by the model indirect discharging Barge/Chemical & Petroleum facilities. EPA was able to evaluate effluent discharge concentrations of BOD_5, TSS, and oil and grease from each of these model facilities (EPA did not have the data to evaluate the discharge concentrations of other parameters). Based on the discharge concentrations of these conventional pollutants, EPA believes that all model indirect discharging facilities are meeting the levels of control that would be established under PSES, and that the effluent concentrations of other pollutants of interest would also be similarly controlled.

Therefore, EPA estimates that the cost of implementing PSES standards equivalent to PSNS would be solely for increased monitoring costs, totaling approximately $67,000 (pre-tax) annually. EPA believes that all indirectly discharging facilities have sufficient treatment in place to meet standards that would be established under PSES. EPA predicts that there would be no incremental removals or benefits associated with establishing PSES standards. EPA has not received any comments that disagreed with the Agency's assessment that existing facilities would meet the standards.

EPA evaluated the pass through of pollutants regulated under BAT. As was

discussed at proposal for establishment of NSPS, and in the NOA for SGT–HEM, EPA found that a number of pollutants would in fact pass through a POTW based on BAT treatment. Due to the pass through of a number of pollutants, and due to the number of facilities that have switched discharge status since proposal, EPA concluded that it should establish PSES and PSNS based on Option II. EPA believes that PSES is necessary in order to establish similar levels of control for direct and indirect dischargers, and especially to establish similar levels of control for those facilities which may decide to switch discharge status.

As noted under NSPS for the Barge/Chemical & Petroleum Subcategory, EPA believes that Option III, consisting of reverse osmosis treatment, would not result in a significant reduction of toxic pollutants, because most pollutants are already treated to low levels based on Option II level of control. Option II was demonstrated to treat many regulated pollutants to effluent levels approaching the detection limit. EPA has therefore decided to establish PSES and PSNS based on Option II.

D. Food Subcategory

EPA proposed to establish separate subcategories for the Truck/Food, Rail/Food, and Barge/Food subcategories due to the differences in the amount of water generated per cleaning by truck, rail, and barge facilities. The different volumes of wastewater were used to establish distinct mass-based limits in each of the subcategories. However, EPA is establishing concentration-based instead of mass-based limits, making further subcategorization of food facilities by transportation mode unnecessary.

1. BPT, BCT, BAT, and NSPS for the Food Subcategory

EPA considered the following options for the final regulation:

Option I—Oil/Water Separation.
Option II—Oil/Water Separation, Equalization, Biological Treatment, and Sludge Dewatering.

Based on screener survey results, EPA estimates that there are 19 direct discharging facilities in the Food Subcategory.

EPA proposed Option II for BPT, BCT, and NSPS. In the proposal, EPA stated that no additional pollutant removals and no additional costs to the industry were projected because all facilities identified by EPA currently have the proposed technology in place. EPA has not received any comment objecting to the assumptions or conclusions contained in the proposal. EPA therefore continues to believe that all food grade facilities currently have the proposed treatment technology in place, and that Option II represents the average of the best treatment. EPA has decided to establish BPT at Option II, and to establish BCT and NSPS equivalent to BPT. Based on the analysis of existing facilities, EPA concluded that there would be no barrier to entry for new sources based on Option II. Additionally, EPA did not identify any treatment technology for the Food Subcategory that would achieve significant pollutant removals or would establish effluent limitations significantly more stringent than those being established under BPT. EPA is not establishing BAT because EPA did not identify toxic or non-conventional pollutants at levels sufficient to merit regulation.

2. PSES and PSNS for the Food Subcategory

In the Agency's engineering assessment of pretreatment of wastewaters for the Food Subcategory, EPA considered the types and concentrations of pollutants found in raw wastewaters in this subcategory. As expected, food grade facilities did not discharge significant quantities of toxic pollutants to POTWs. In addition, conventional pollutants present in the wastewater are amenable to treatment at a POTW. As a result, EPA did not propose to establish pretreatment standards for any of the food subcategories. Comments received on the proposal predominantly supported EPA's regulatory approach for the Food Subcategory. Therefore, EPA is not establishing PSES or PSNS for the Food Subcategory in the final regulation.

E. Truck/Hopper, Rail/Hopper, and Barge/Hopper Subcategories

1. BPT, BCT, BAT, and NSPS for the Truck/Hopper, Rail/Hopper, and Barge/Hopper Subcategories.

EPA did not propose to establish BPT, BAT, BCT, or NSPS regulations for any of the hopper subcategories. EPA concluded that hopper facilities discharge very few pounds of conventional or toxic pollutants. This is based on EPA sampling data, which showed very few priority toxic pollutants at treatable levels in raw wastewater. Additionally, very little wastewater is generated from cleaning the interiors of hopper tanks due to the dry nature of bulk materials transported. EPA estimates that nine hopper facilities discharge 21 pound equivalents per year to surface waters, or about two pound equivalents per year per facility. Comments on the proposal generally supported EPA's conclusion on the hopper subcategories. Therefore, EPA concluded that nationally-applicable regulations are unnecessary and hopper facilities will remain subject to limitations established on a case-by-case basis using Best Professional Judgement.

2. PSES and PSNS for the Truck/Hopper, Rail/Hopper, and Barge/Hopper Subcategories

EPA also did not propose to establish PSES or PSNS for any of the hopper subcategories. EPA estimates that there are 42 indirect discharging hopper facilities which discharge a total of 3.5 pound equivalents to the nation's waterways, or less than one pound-equivalent per facility. Additionally, EPA estimates that the total cost to the industry to implement PSES would be greater than $350,000 annually. The estimated costs to control the discharge of these small amounts of pound equivalents were not considered to be reasonable. EPA also evaluated the levels of pollutants in raw wastewaters and concluded that none were present at levels that are expected to cause inhibition to the receiving POTW.

Therefore, EPA concluded that nationally-applicable regulations are unnecessary and hopper facilities will remain subject to local pretreatment limits as necessary to prevent pass through or interference.

VI. Development of Effluent Limitations

A. Selection of Pollutant Parameters for Final Regulation

EPA based its decision to select specific pollutants for regulation on a rigorous evaluation of available sampling data. This evaluation included factors such as the concentration and frequency of detection of the pollutants in the industry raw wastewater, the relative toxicity of pollutants as defined by their toxic weighting factors, the treatability of the pollutants in the modeled treatment systems, and the potential of the pollutants to pass through or interfere with POTW operations. Particular attention has been given to priority pollutants which have been detected at treatable levels. EPA has attempted to select several pollutants which have been frequently detected at sampled facilities, which are possible indicators of the presence of similar pollutants, and whose control through some combination of physical, chemical, and biological treatment will be indicative of a well-operated

treatment system capable of removing a wide range of pollutants.

EPA proposed to establish limits for a list of pollutants that included classical pollutants, semivolatile organics, and metals. EPA solicited and received numerous comments from stakeholders on the pollutants selected for regulation in each subcategory. In the NOA, EPA presented several changes being considered based on the comments received.

EPA did not propose to establish effluent limitations for any pesticide, herbicide, dioxin, or furan. These pollutants were not found in concentrations high enough to merit regulation, the cost associated with monitoring for these parameters is very high, and EPA's sampling data have shown that the discharge concentrations of pesticides, herbicides, dioxins, and furans are generally treated by the proposed technology options. In the case of dioxins and furans, the most highly toxic congeners were treated to nondetect values based on oil/water separation and coagulation/clarification. In its evaluation of treatment technologies, EPA compared the TEC treatment data to known characteristics of dioxins and furans, and to the correlation of TSS and oil & grease removals. Dioxins and furans are lipophilic and hydrophobic and are most often associated with suspended particulates and/or oils in wastewater matrices. Treatment technologies for dioxins and furans vary depending on the characteristics of the matrix. If wastes such as oils and greases are present, dioxins will tend to bind with the oil and can be effectively removed by treatments such as dissolved air flotation. If oils are not present, dioxins will tend to bind with particulates and can be effectively removed by treatments such as clarification and filtration.

The removal efficiencies for dioxins and furans across oil/water separation and coagulation/clarification ranged from 65–97 percent, (they would be 100 percent if the effluent nondetect value were set at zero), and paralleled the removal efficiencies of oil & grease and/or TSS.

In summary, EPA decided not to establish limitations for dioxin or furan congeners for several reasons: (1) the congeners found in TEC wastewater are not priority pollutants and were found at very low levels in raw wastewater, (2) the selected technology options were demonstrated to treat dioxin and furans to nondetect levels (due to control of TSS and oil and grease), and (3) dioxin and furan monitoring is very expensive (monitoring alone would increase the cost per facility by approximately $12,000 per year, compared to the average per facility cost of the regulation of approximately $30,000 per year).

Several commenters disagreed with the Agency's conclusion and thought that EPA should establish limitations for these parameters due to their toxicity. However, most comments received by EPA supported EPA's conclusion not to regulate these parameters due to the high costs associated with monitoring and due to the fact that these pollutants are generally treated by the technologies identified in this rule. EPA has decided not to establish limitations for pesticides, herbicides, dioxins, or furans in the final regulation. However, NDPES permits for any individual TEC facility must include certain other pollutants in given circumstances. For example, permits must include limitations that are necessary to ensure compliance with water quality standards and State requirements. See 40 CFR 122.44(d). Moreover, TEC industry permittees must submit with their permit application detailed monitoring information on an extensive list of pollutants. See 40 CFR 122.21(g)(7). Their permits must include technology-based limits for any toxic pollutant which the permit writer determines is or may be discharged at a level greater than the level which can be achieved by treatment requirements appropriate to the permittee. The permit writer would establish case-by-case limits for such pollutants. See 40 CFR Part 125.3 (c)(3).

EPA proposed to establish limitations for chemical oxygen demand (COD). EPA received numerous comments opposed to the Agency's preliminary decision to regulate COD and, based on these comments, EPA has decided to eliminate COD as a regulated pollutant. The majority of comments received were from POTW operators who did not want EPA to establish pretreatment standards for COD. The commenters believed that COD pollutant loads generated from tank cleaning facilities were easily treated biologically in a POTW. EPA has agreed with commenters that the levels of COD generated from tank cleaning facilities are adequately treated in a POTW and, thus, will not pass through or interfere with its operation. Additionally, EPA believes COD would be adequately controlled through the regulation of other conventional pollutants, including BOD and oil and grease for direct dischargers. EPA did not receive any comments in opposition to this change, and EPA has not included limits for COD in the final regulation. Permit writers and local authorities should carefully examine the concentration and/or treatability of COD in TEC wastewater to determine if local limits are necessary.

EPA received comments from pretreatment authorities that EPA should regulate pollutants identified in TEC wastewater that may pass through the POTW or which may accumulate in the POTW sludge. The commenter specifically identified copper, lead, and mercury as pollutants of concern to the POTW. The commenter was especially concerned that mercury was identified in the proposal as a constituent of raw TEC wastewater and was identified as a pollutant of concern for the Truck/Chemical & Petroleum Subcategory and the Barge/Chemical & Petroleum Subcategory, but was not proposed for regulation in either subcategory. In response to these comments, EPA reevaluated the frequency of detection, the level of concentrations found in raw wastewater, and the pass through analysis for each of the regulated subcategories for the pollutants copper, lead, and mercury.

In the Rail/Chemical & Petroleum Subcategory, neither copper, lead, nor mercury was detected at significant concentrations in raw wastewater to merit national regulation.

In the Truck/Chemical & Petroleum Subcategory, lead was detected at very low concentrations and EPA determined that lead did not merit national regulation. However, copper was detected in 10 out of 10 samples, with an average concentration of 1,100 μg/L, and a maximum concentration of 9,200 μg/L. Due to the frequency of detects, relatively high raw wastewater concentrations, and toxicity of copper, EPA has promulgated effluent limitations for copper. EPA conducted a pass through analysis, and determined that copper does pass through a POTW. Therefore, EPA has established pretreatment standards for copper. Mercury was detected 8 out of 10 times, with an average concentration of 1.8 μg/L and a maximum concentration of 5.0 μg/L. Mercury was also determined to pass through a POTW. Due to the high toxicity of mercury, the high frequency of detects, relatively high raw wastewater concentrations, and pass through analysis, EPA has promulgated effluent limitations and pretreatment standards for mercury in the Truck/Chemical & Petroleum Subcategory.

In the Barge/Chemical & Petroleum Subcategory, mercury was detected three out of six times, with an average concentration of 5.4 μg/L and a maximum concentration of 81 μg/L. Although the detection frequency was only 50%, the raw wastewater concentrations reached high enough

levels to be of concern, especially for a pollutant as toxic as mercury. Mercury was also determined to pass through a POTW. Therefore, EPA has decided to promulgate effluent limitations and pretreatment standards for mercury in the Barge/Chemical & Petroleum Subcategory. Additionally, both lead and copper were detected at significant concentrations in raw wastewater to merit regulation and were determined to pass through a POTW. Due to the toxicity, frequency of detects, and relatively high raw wastewater concentrations of lead and copper, EPA has promulgated effluent limitations and pretreatment standards for lead and copper.

EPA did not propose to regulate mercury in either the Truck/Chemical & Petroleum Subcategory or the Barge/Chemical & Petroleum Subcategory. However, mercury was identified as a pollutant of concern in each of these subcategories and EPA developed long term averages and variability factors for mercury at the time of proposal, which were included in the proposed statistical support document (EPA–832–B–98–014). In calculating limits for the final regulation, EPA has used the same methodology as descibed in Section VIII of the proposal and as finalized in Section VI of this notice. Based on comments, EPA has concluded that it should establish effluent limitations and pretreatment standards for mercury.

EPA also received comments from pretreatment authorities and stakeholders on EPA's decision to establish limits for parameters such as zinc and chromium which are found in potable water supply systems, and which may be found at levels higher than the proposed limitations. The commenters questioned if the presence of these parameters in TEC wastewaters was the result of cleaning cargos, or the result of source water contamination. The commenter noted that maximum contaminant levels for zinc and chromium in drinking water are 5 mg/L and 0.1 mg/l, respectively, and that the proposed limitations were low in comparison to drinking water standards. In response, EPA evaluated sampling data from TEC wastewater and source water from the Truck/Chemical & Petroleum Subcategory and Barge/Chemical & Petroleum Subcategory.

Based on a data review of the Truck/Chemical & Petroleum Subcategory, EPA concluded that one of the highest concentrations of zinc found in truck/chemical process water was actually from source water supplied from a domestic water distribution system. Furthermore, all of the levels of zinc found in truck/chemical process water were within the range of concentrations that the commenter describes as being present in drinking water (*i.e.* less than 5 mg/l.) Therefore, EPA has concluded that zinc is not a pollutant of concern for this subcategory because the zinc levels present in dischargers from Truck/Chemical & Petroleum Subcategory facilities may be due to source water contamination rather than a direct result of cleaning tanks. Therefore, EPA has decided not to promulgate effluent limitations or pretreatment standards for zinc in the Truck/Chemical & Petroleum Subcategory. However, the average raw wastewater concentration of chromium in raw wastewater was 2.4 mg/L, and the maximum concentration was 18.6 mg/L. The levels of chromium in the source water at these facilities was much lower than raw wastewater concentrations, and were all less than 0.01 mg/L. Therefore, EPA concluded that chromium is a pollutant of interest in the Truck/Chemical & Petroleum Subcategory. However, based on the discussion in Section VI.A of this notice, EPA is not promulgating effluent limitations and pretreatment standards for chromium. However, with respect to the comment that the chromium limits are too low, EPA has recalculated the limits based on additional self monitoring data received from industry after publication of the NOA. The industry data represents the effluent levels attainable at a facility over a much longer time period that was represented by EPA's original data set. Because this data more accurately accounts for the variability present in tank cleaning wastewater, the limits have become less stringent.

In the Barge/Chemical & Petroleum Subcategory, the average raw wastewater concentration of zinc was 19 mg/L, and the maximum concentration found was 78.5 mg/L. The highest level of zinc in source water at barge facilities was 0.114 mg/L. Additionally, all source water concentrations of chromium were non-detect. Therefore, EPA concluded that the levels of zinc and chromium present in barge process water were the result of barge cleaning operations, and not due to source water contamination. EPA concluded that, due to the high levels present in raw wastewater, that zinc and chromium are pollutants of interest. EPA has decided to retain the effluent limitations and pretreatment standards for zinc and chromium in the Barge/Chemical & Petroleum Subcategory.

EPA received numerous comments from POTWs, industry trade associations, and affected facilities suggesting that EPA use oil and grease (measured as HEM) and total petroleum hydrocarbons as indicator pollutants for straight chain hydrocarbons proposed for regulation. As descibed in the NOA, EPA has revised the name of ''total petroleum hydrocarbons'' in Method 1664 to ''non-polar material'' to indicate that the new test method is different from previous versions. (64 FR 26315 May 14, 1999). Non-polar materials are measured by Silica-gel Treated n-Hexane Extractable Material (SGT–HEM). Oil and Grease continues to be synonymous with the Method 1664 for n-Hexane Extractable Material (HEM). EPA proposed to regulate oil and grease (HEM) for direct discharging facilities, and non-polar oil and grease (SGT–HEM) for indirect discharging facilities. As discussed in Section XIII.G of the proposal, EPA recognizes that HEM analysis can include edible oils (such as animal fats and vegetable oils) in addition to petroleum-based oils, which are the primary constituents measured by the SGT–HEM analysis. As discussed in Section VIII.B of the NOA, EPA has deemed non-polar material (SGT–HEM) to pass through a POTW due to the prevalence of petroleum-based compounds.

Many commenters argued that straight chain hydrocarbons are components of oil and grease (HEM) and non-polar material (SGT–HEM), and that their regulation as individual pollutants would be redundant and would impose additional, unnecessary costs on the industry. These straight chain hydrocarbons include n-Hexadecane, n-Hexacosane, n-Decane, n-Docosane, n-Dodecane, n-Eicosane, n-Octacosane, n-Octadecane, n-Tetracosane, n-Tetradecane, and n-Triacontane. EPA does not necessarily agree that regulation of such individual pollutants is redundant but has considered the comment and performed the evaluation described below.

EPA reviewed the treatment effectiveness data collected in support of this regulation, and found that the treatment effectiveness of these parameters is related to the treatment effectiveness of HEM and SGT–HEM. This is consistent with the chemical characteristics of HEM and SGT–HEM, which by definition include the straight chain hydrocarbons as constituents. In cases where oil and grease (HEM) and non-polar material (SGT–HEM) were effectively controlled, all of the pollutants listed above were treated to very low levels, such as in PSES/PSNS Option II in the Rail/Chemical & Petroleum Subcategory, which consists of oil/water separation and dissolved air flotation. This system achieved substantial removals of HEM and SGT–

HEM, along with the straight chain hydrocarbons listed above. Treatment effectiveness in the Barge/Chemical & Petroleum Subcategory demonstrated similar results.

Additionally, EPA reviewed data from a characterization study of the HEM and SGT–HEM test methods conducted for the Proposed Effluent Limitations Guidelines and Pretreatment Standards for the Industrial Laundries Point Source Category (63 FR 71054 December 23, 1998). This study was performed to characterize the individual constituents measured by method 1664 (HEM and SGT–HEM); the study is available for review in Section 16 of the regulatory record for the Industrial Laundries Effluent Guideline. The laundries data demonstrate that the HEM and SGT–HEM test methods provide a general indication of the presence of the straight chain hydrocarbons listed above in wastewater samples.

EPA proposed effluent limitations and pretreatment standards for chromium in the Truck/Chemical & Petroleum Subcategory based on EPA sampling data from one BAT facility. to develop long term averages. At the time of the NOA (July 20, 1999) EPA continued to propose effluent limitations and pretreatment standards for chromium based on the proposal methodology.

However, during the comment period on the NOA, the industry submitted additional self-monitoring data from the wastewater treatment plant that EPA had sampled, and from which EPA had developed the proposed limits. The data submitted by the facility demonstrated that it would actually exceed the proposed limitations on numerous occasions. Although a significant number of effluent monitoring chromium concentrations were similar to the concentrations observed by EPA during its sampling episode, a few data points were significantly higher than the values observed by EPA.

The facility only provided EPA copies of its DMRs and associated laboratory analyses, and did not provide any information on raw wastewater concentrations, treatment system operation, or lists of cleaning operations that were performed during the time of the self-monitoring sampling. Therefore, EPA cannot evaluate the effectiveness of treatment on those days with high chromium effluent concentrations. However, based on its knowledge of the industry, EPA hypothesizes that the high concentrations of chromium in the effluent are the result of the facility performing exterior acid washes on those days. Exterior acid washing is a common service that tank truck facilities provide to their customers to brighten and remove the tarnish from the chrome parts of a tank truck. This service leaches chromium from the external truck parts.

On the days that EPA sampled the facility, it did not perform acid brightener washes. Therefore EPA's sampling data did not include high concentrations of chromium. EPA believes that its chromium data is not representative of the practices that may be performed by tank truck facilities, and that the chromium limits based on EPA's sampling data may not be achievable for facilities that are performing acid washes for their customers.

However, because the facility provided no data about its raw wastewater concentrations, treatment effectiveness, or treatment unit operations on the days it reported self-monitoring data, EPA does not believe that it would be appropriate to establish long term averages based on the industry supplied self monitoring data. EPA is unable to evaluate the effectiveness of the treatment system.

Therefore, EPA has decided not to promulgate the effluent limitations and pretreatment standards for chromium in the Truck/Chemical & Petroleum Subcategory, and leave the establishment of any chromium limitations and standards to the BPJ of the permit writer.

As described in detail in Section X of this notice, EPA has spent a considerable amount of effort in developing an alternative pollution prevention option in lieu of national pretreatment standards for the industry. Specific to the concern of chromium in tank truck washwater, and realizing the potential for pollution prevention practices in lieu of national numeric standards, EPA has included in the P2 practices the segregation of exterior acid brighteners from other wastewaters, and has specified that these wastewaters must be handled in an appropriate manner to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW. While EPA is not promulgating this pollution prevention alternative for chromium for facilities that decided to meet the numeric limitations, EPA believes that the control authority may wish to incorporate pollution prevention in lieu of BPJ numeric limitations for chromium. EPA has received comments from a POTW that currently employs such a pollution prevention practice in order to prevent high levels of chrome from being discharged to its system.

Due to concerns about its own data, insufficient documentation of the industry's self monitoring data, inadequate time for additional field sampling and public notice of any sampling efforts, and the opportunities for appropriate pollution prevention practices, EPA is not establishing limitations or pretreatment standards for chromium and the control authority may establish BPJ chromium standards, or require chromium pollution prevention practices, based on an evaluation of site specific factors.

For direct discharging facilities, EPA is establishing limitations for the Truck/Chemical & Petroleum Subcategory for BOD_5, TSS, Oil and Grease (HEM), Copper, Mercury, and pH. For the Rail/Chemical & Petroleum Subcategory, EPA is establishing limitations for BOD_5, TSS, Oil and Grease (HEM), Fluoranthene, Phenanthrene, and pH. For the Barge/Chemical & Petroleum Subcategory, EPA is establishing limitations for BOD_5, TSS, Oil and Grease (HEM), Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc, and pH. Additionally, EPA is establishing limits for the Food Subcategory for BOD_5, TSS, Oil and Grease (HEM), and pH.

Finally, EPA conducted a pass-through analysis on the pollutants selected for regulation under BPT and BAT to determine if the Agency should establish pretreatment standards for any pollutant. (The pass-through analysis is not applicable to conventional parameters such as BOD_5, TSS, and Oil and Grease (HEM). EPA is establishing pretreatment standards for those pollutants which the Agency has determined to pass through a POTW. In addition, as discussed in the NOA, EPA has concluded that non-polar material (SGT–HEM) does pass through a POTW in the Truck/Chemical & Petroleum, Rail/Chemical & Petroleum, and Barge/Chemical & Petroleum Subcategories. EPA did not receive any comments on this pass through determination, and EPA has retained its conclusion for the final regulation.

Based on the pass-through analysis, EPA is establishing PSES and PSNS in the Truck/Chemical & Petroleum Subcategory for non-polar material (SGT–HEM), Copper and Mercury. EPA is establishing PSES and PSNS in the Rail/Chemical & Petroleum Subcategory for non-polar material (SGT–HEM), Fluoranthene, and Phenanthrene. Finally, EPA is establishing PSES and PSNS in the Barge/Chemical & Petroleum Subcategory for non-polar material (SGT–HEM), Cadmium, Chromium, Copper, Lead, Mercury, Nickel, and Zinc.

Regulated facilities can meet the final limitations through the use of any

combination of physical, chemical, or biological treatment, or implementation of pollution prevention strategies (*e.g.,* good heel removal and water conservation). Additional information on the development of effluent limitations and the technology options considered for regulation is included in Section VIII of the proposed rule, Section V of this notice and the Technical Development Document.

B. Calculation of Effluent Limitations

1. Changes in Methodology Since Proposal

The data and methodology used to calculate effluent limitations and pretreatment standards are located in Section 21 of the regulatory record. The data and methodology are the same as proposed with several exceptions.

One, EPA has calculated concentration-based instead of mass-based limits. EPA received many comments on the proposal criticizing EPA for proposing mass-based standards. EPA described these comments in the NOA and described an alternative methodology which would establish concentration-based limits. EPA received almost unanimous comment in support of concentration-based limits and has adopted concentration-based limits for the final regulation.

Two, EPA has used data provided by industry to calculate final effluent limitations. EPA used data from two additional Barge/Chemical & Petroleum facilities for the calculation of BOD_5 and TSS limits, as discussed in Section II of the NOA. EPA has received no comment on the use of this additional data, and EPA has continued to use these data for developing the final BOD_5 and TSS limitations. EPA has used additional data from one Truck/Chemical & Petroleum Subcategory facility for the calculation of variability factors for copper, and mercury. The data provided consisted of self monitoring data for a facility that was sampled by EPA and used to calculate proposed effluent limitations. EPA had already determined this site to represent BAT treatment. EPA has used this additional self-monitoring data to determine variability factors because it represents treatment performance over a much longer time period (4 years) than was demonstrated from EPA sampling data. The complete dataset, including lab reports and certified monitoring reports, can be found in Section 15.2.2 of the regulatory record.

Third, EPA has used the pollutant-specific variability factor where available, and then calculated group and fraction-level variability factors by taking a median of all pollutants effectively removed in a chemical class, rather than using the median of only those pollutants selected for regulation in a chemical class. EPA believes this revised methodology is appropriate because the Agency believes that all pollutants in a chemical class will behave similarly, regardless of whether or not it is selected for regulation. This change was also presented in the NOA, and EPA did not receive any comment on this revised methodology. EPA has adopted this methodology for the final regulation.

Fourth, EPA has used technology transfer to establish PSES standards for non-polar material (SGT–HEM) in the Truck/Chemical & Petroleum Subcategory. EPA proposed pretreatment standards for SGT–HEM in the Truck/Chemical Subcategory based on the data from two Truck/Chemical facilities. However, EPA feels that the SGT–HEM standards developed for this subcategory may not be achievable, because the raw wastewater concentrations at these two facilities were 65 mg/L and 61 mg/L, whereas the average raw wastewater concentration for the Truck/Chemical & Petroleum subcategory was measured to be 150 mg/L. EPA is aware that some facilities in the Truck/Chemical & Petroleum Subcategory may be generating wastewater with significantly higher concentrations of oil and grease than EPA considered in the proposed limitations. Therefore, EPA transferred standards for SGT–HEM from similar treatment technologies operated in the Rail/Chemical & Petroleum Subcategory. As mentioned previously, this system consisted of oil/water separation followed by dissolved air flotation (DAF) and achieved 98 percent removal of HEM for wastewater that had an influent concentration of 1,994 mg/L. For SGT–HEM, the system achieved a 97 percent removal for wastewater that had an average influent concentration of 206 mg/L. EPA believes that technology transfer of SGT–HEM establishes limitations that are achievable for all facilities in the Truck/Chemical & Petroleum Subcategory. As discussed in Section III.F and VI.A, EPA is establishing HEM (for direct dischargers) and SGT–HEM (for indirect dischargers) as indicator pollutants for several other constituents in the Truck/Chemical & Petroleum Subcategory.

As in the proposal, EPA has continued to use technology transfer to establish BPT limits for conventional pollutants BOD_5, TSS, and oil and grease (HEM) in the Truck/Chemical & Petroleum and Rail/Chemical & Petroleum Subcategories. EPA does not have sampling data from a facility operating BPT biological treatment in either the Truck/Chemical & Petroleum or Rail/Chemical & Petroleum Subcategories. Therefore, EPA has transferred effluent limitations for BOD_5, TSS, and oil and grease (HEM) from a biological system in the Barge/Chemical & Petroleum Subcategory, as was described in Section II of the NOA.

2. Methodology for Final Limitations

EPA based the effluent limitations and standards in today's notice on widely-recognized statistical procedures for calculating long-term averages and variability factors. The following presents a summary of the statistical methodology used in the calculation of effluent limitations.

Effluent limitations for each subcategory are based on a combination of long-term average effluent values and variability factors that account for variation in day-to-day treatment performance within a treatment plant. The long-term averages are average effluent concentrations that have been achieved by well-operated treatment systems using the processes described in Section V (Technology Options Selected for Basis of Regulation). The variability factors are values that represent the ratio of a large value that would be expected to occur only rarely to the long-term average. The purpose of the variability factor is to allow for normal variation in effluent concentrations. A facility that designs and operates its treatment system to achieve a long-term average on a consistent basis should be able to comply with the daily and monthly limitations in the course of normal operations.

The variability factors and long-term averages were developed from a database composed of individual measurements on treated effluent based on EPA sampling data and from industry supplied data. EPA sampling data reflects the performance of a system over a three to five day period, although not necessarily over consecutive days.

The long-term average concentration of a pollutant for a treatment system was calculated based on either an arithmetic mean or the expected value of the distribution of the samples, depending on the number of total samples and the number of detected samples for that pollutant at that facility. A delta-lognormal distributional assumption was used for all subcategories except the Truck/Chemical & Petroleum Subcategory where the arithmetic mean was used. The pollutant long-term

average concentration for a treatment technology was the median of the long-term averages from the sampled treatment systems within the subcategory using the proposed treatment technology.

EPA calculated variability factors by fitting a statistical distribution to the sampling data. The distribution was based on an assumption that the furthest excursion from the long-term average (LTA) that a well operated plant using the proposed technology option could be expected to make on a daily basis was a point below which 99 percent of the data for that facility falls, under the assumed distribution. The daily variability factor for each pollutant at each facility is the ratio of the estimated 99th percentile of the distribution of the daily pollutant concentration values divided by the expected value of the distribution of the daily values. The pollutant variability factor for a treatment technology was the mean of the pollutant variability factors from the facilities with that technology.

There were several instances where variability factors could not be calculated directly from the TEC database because there were not at least two effluent values measured above the minimum detection level for a specific pollutant. In these cases, the sample size of the data is too small to allow distributional assumptions to be made. Therefore, in order to assume a variability factor for a pollutant, the Agency transferred variability factors from other pollutants that exhibit similar treatability characteristics within the treatment system.

In order to do this, pollutants were grouped on the basis of their chemical structure and published data on relative treatability. The median pollutant variability factor for all pollutants within a group at that sampling episode was used to create a group-level variability factor. When group-level variability factors were not able to be calculated, groups that were similar were collected into analytical method fractions and the median group-level variability factor was calculated to create a fraction-level variability factor. Group-level variability factors were used when available, and fraction-level variability factors were used if group-level variability factors could not be calculated. For the sampling episodes in the Truck/Chemical & Petroleum Subcategory, there were not enough data to calculate variability factors at any level from EPA sampling data and therefore variability factors were calculated based on industry supplied data contained in self-monitoring reports.

Limitations were based on actual concentrations of pollutants measured in wastewaters treated by the proposed technologies where such data were available. Actual measured value data were available for pollutant parameters in all subcategories with the exception of pollutants regulated for direct dischargers in the Truck/Chemical & Petroleum and Rail/Chemical & Petroleum Subcategories. Due to the small number of direct discharging facilities identified by EPA, all of EPA's sampling was conducted at indirect discharging facilities in these subcategories. In the case of BPT regulation for conventional, priority, and non-conventional pollutants, EPA concluded that establishing limits based on indirect discharging treatment systems was not appropriate because indirect discharging treatment systems are generally not operated for optimal control of pollutants which are amenable to treatment in a POTW. For example, treatment systems at indirect discharging facilities generally do not require biological treatment to control organic pollutants because a POTW will control these pollutants. Therefore, in establishing limits for conventional pollutants at direct discharging facilities, EPA has established BPT limitations based on the treatment performance demonstrated from two direct discharging Barge/Chemical & Petroleum facilities that utilized biological treatment systems. Limitations for priority and non conventional pollutants were based on the indirect discharging facilities in that subcategory.

The daily maximum limitation is calculated as the product of the pollutant long-term average concentration and the variability factor. The monthly maximum limitation is also calculated as the product of the pollutant long-term average and the variability factor, but the variability factor is based on the 95 percentile of the distribution of daily pollutant concentrations instead of the 99th percentile.

By accounting for these reasonable excursions above the LTA, EPA's use of variability factors results in standards that are generally well above the actual LTAs. Thus if a facility operates its treatment system to meet the relevant LTA, EPA expects the plant to be able to meet the standards. Variability factors assure that normal fluctuations in a facility's treatment are accounted for in the limitations.

The final limitations, as presented in today's notice, are provided as daily maximums and monthly averages for conventional pollutants. Monitoring was assumed to occur four times per month for conventional pollutants. Monitoring was assumed to occur once per month for all priority and non-conventional pollutants. This has the result that the daily maximums and monthly averages for priority and non-conventional pollutants are the same.

Although the monitoring frequency necessary for a facility to demonstrate compliance is determined by the local permitting authority, EPA must assume a monitoring frequency in order to assess costs and to determine variability of the treatment system.

EPA has assumed facilities will monitor their wastewater four times per month for conventional pollutants or SGT–HEM to ensure that facility TEC processes and wastewater treatment systems are consistently and continuously operated to achieve the associated pollutant long-term averages. EPA also assumed that facilities will monitor wastewater once per month for toxic pollutants, providing some economic relief to regulated facilities while ensuring that facility TEC processes and wastewater treatment systems are designed and operated to control the discharge of toxic pollutants.

VII. Costs and Pollutant Reductions of Final Regulation

EPA estimated industry-wide compliance costs and pollutant loading removals associated with the effluent limitations and standards using a computer cost model and data collected through survey responses, industry submittals, site visits, and sampling episodes. Cost estimates and pollutant removals for each regulatory option are summarized below and in more detail in the Technical Development Document.

A. Changes to Cost Analysis Since Proposal

Following a thorough review of the cost model, EPA made several adjustments to the costing methodology in response to comments on the proposed rule and Notice of Availability, and to correct minor inaccuracies identified by EPA. One of the most notable changes was to eliminate estimated compliance costs for facilities that would meet the low flow exclusion (*i.e.*, discharge less than 100,000 gallons per year of TEC process wastewater). After eliminating these facilities, EPA evaluated the remaining 77 Detailed Questionnaire recipients, plus four direct discharging facilities that did not receive the questionnaire, to determine TEC operations, wastewater characteristics, daily flow rates (process flow rates), operating schedules, tank cleaning production (*i.e.*, number of

tanks cleaned), and wastewater treatment technologies currently in place at the site.

Facilities that did not have the technologies for the selected option already in place were projected to incur costs as a result of compliance with this regulation. A facility that did not have the technology, or an equivalent technology, in place was costed for installing and maintaining the technology. Costs include: (1) total capital costs for installed technologies, including equipment, shipping, indirect, and start-up costs; (2) operating and maintenance (O&M) costs for installed technologies, including labor, electrical, material, and chemical usage costs; (3) solids handling costs, including capital, O&M, and disposal costs; and (4) monitoring costs.

EPA based direct capital costs for equipment, shipping, installation, controls, and retrofit costs on information from treatment vendors and other effluent guidelines. EPA also developed cost factors and applied them to the direct capital costs to account for indirect costs such as site work, interface piping, general contracting, engineering, buildings, site improvements, legal/administrative fees, interest, contingency, and taxes and insurance. For the final rule, EPA increased some of the indirect capital cost factors and included start-up costs in total capital cost estimates.

Also for the final rule, EPA made the following changes: increased capital and annual costs for activated carbon, equalization, and filter presses; revised the methodology to credit treatment in place; and removed flow reduction for some facilities. EPA also significantly reduced the monitoring costs associated with compliance by selecting indicator parameters to replace specific pollutants proposed for regulation and by using less expensive analytical methods.

Although EPA has eliminated flow reduction from the technology bases for all subcategories, EPA has retained flow reduction in the cost model for most subcategories. Flow reduction results in significant compliance cost savings and consequently EPA assumes facilities will incorporate flow reduction in their compliance strategy.

The total capital costs were amortized over 16 years and added to the total annual O&M costs (equipment and monitoring) to calculate the total annualized costs incurred by each facility to comply with this regulation. The costs associated with each of the 81 facilities in the cost analysis were then modeled to represent the national population by using statistically calculated survey weights.

All cost models, cost factors, and cost assumptions are discussed in detail in the Technical Development Document for the final rule.

B. Compliance Costs

The final costs for the regulated subcategories are presented in Table 2. Total capital investment, total annual (*i.e.*, O&M), and total annualized costs are shown in 1998 post-tax dollars. BPT, BCT, and BAT total annual and total annualized costs include weekly monitoring of regulated conventional pollutants and monthly monitoring of all other regulated pollutants. PSES total annual and total annualized costs include monthly monitoring of all regulated pollutants.

TABLE 2.—TOTAL COSTS OF THE TEC RULE, BY SUBCATEGORY

[Millions of 1998 dollars]

Subcategory	Selected option	Total capital investment	Total annual O&M costs	Total annualized cost (post-tax)
BPT/BCT/BAT				
Truck/Chemical & Petroleum	II	0.084	[a] (0)	[a] (0)
Rail/Chemical & Petroleum	II	0.201	0.038	0.041
Barge/Chemical & Petroleum	I	0.093	0.138	0.089
Food	II	0	0	0
PSES				
Truck/Chemical & Petroleum	I	56.3	8.79	9.16
Rail/Chemical & Petroleum	II	7.70	0.722	1.02
Barge/Chemical & Petroleum	II	0	0.067	0.041

[a] Net annual cost savings are the result of flow reduction and sludge dewatering for one facility, which results in a greater savings than the monitoring costs incurred by all facilities.

C. Changes to Pollutant Reduction Analysis Since Proposal

The BPT, BCT, BAT, and PSES limitations will control the discharge of conventional, priority toxic, and non-conventional pollutants from TEC facilities. The Agency developed estimates of the post-compliance long-term average (LTA) pollutant concentrations that would be discharged from TEC facilities within each subcategory. These estimates were calculated using the long-term average effluent concentrations of specific pollutants achieved after implementation of the BPT, BCT, BAT, and PSES technology bases. Long-term average effluent concentrations at proposal were statistically derived using treatment performance data collected during EPA's sampling program. For the final rule, EPA made the following adjustments to the load removal estimates: revised the list of pollutants for which removals were calculated; added a new criteria to determine final effluent concentrations; and incorporated additional treatment performance data for the Truck/Chemical & Petroleum Subcategory and the Barge/Chemical & Petroleum Subcategory.

BPT, BCT, BAT, and PSES pollutant reductions were first estimated on a site-specific basis for affected facilities that responded to the Detailed Questionnaire (77 facilities) and for four additional affected facilities identified from responses to the Screener Questionnaire. Site-specific pollutant reductions were calculated as the difference between the site-specific baseline pollutant loadings (*i.e.*, estimated pollutant loadings currently discharged) and the site-specific post-compliance pollutant loadings (*i.e.*,

estimated pollutant loadings discharged after implementation of the regulation). The site-specific pollutant reductions were then multiplied by statistically derived survey weighting (scaling) factors and summed to represent pollutant reductions for the entire TEC industry.

To estimate pollutant loadings discharged after implementation of the regulation, EPA estimated pollutant load removals for ''pollutants of interest'' for each subcategory. EPA identified pollutants of interest for each subcategory using a set of data-editing criteria such that these pollutants are typically present at treatable concentrations in the subcategory-specific raw wastewater. These editing criteria are: (1) The average influent technology option concentration must be at least five times the pollutant's method detection limit, and (2) the pollutant must be detected in at least two wastewater characterization samples (if at least two facilities in the subcategory were sampled) or one wastewater characterization sample (if only one facility in the subcategory was sampled) .

For proposal and the NOA, EPA only considered those pollutants that were removed by at least 50% by EPA's technology bases in the subcategory-specific load removals. In the proposal, EPA described how it used a modified approach to identify pesticide and herbicide pollutants included in the removal estimates; however, for the final rule, EPA applied the same approach to all pollutants. Upon further review, for the final rule, EPA included all pollutants of interest in the load removal estimates that had a removal efficiency greater than 0%. EPA believes its previous data-editing criteria requiring 50% removal was incorrect because it did not accurately reflect incidental removals of all pollutants across the various technology options. Note, however, that EPA retained the 50% removal criteria for the purpose of selecting regulated pollutants.

If a given pollutant met the pollutant of interest criteria, EPA calculated the treatment effectiveness concentrations and percent removal efficiencies from the sampling data. Treatment effectiveness concentrations are the long-term average concentrations achievable by the technology option. Percent removal efficiencies are the pollutant percent removals achievable by the technology option, based on the difference between the influent and effluent concentrations.

For the proposed rule, EPA only estimated pollutant load removals based on treatment effectiveness concentrations. For example, the TEC cost model calculated the difference between the influent concentration and the treatment effectiveness concentration achieved by the treatment unit; the result was the pollutant reduction achieved by the treatment unit. For the final rule, EPA incorporated pollutant percent removal efficiencies (for all pollutants of interest), in addition to treatment effectiveness concentrations, in the load removal calculations. For example, for pollutants with significant removals (for pollutants of interest with removals greater than 50% by the technology bases), the TEC cost model compared the influent concentration to two possible effluent concentrations, the treatment effectiveness concentration and the effluent concentration that would be achieved after applying the treatment unit (limited to the pollutant method detection limit) percent removal efficiency. The model selects the lower of the two effluent concentrations to calculate the pollutant reductions achieved by the treatment unit. No removals were credited to a pollutant if the influent concentration was at its detection limit. For other pollutants, the model uses only a percent removal efficiency.

EPA obtained additional treatment performance data following the proposed rule from two Barge/Chemical & Petroleum facilities operating BPT/BAT treatment. The data consisted of influent and effluent self-monitoring data over a one-year period. EPA used these data to calculate BPT effluent limitations and new source performance standards for biochemical oxygen demand (BOD_5) and total suspended solids (TSS). These additional data and revised effluent limitations were presented in the NOA.

EPA obtained additional treatment performance data following the NOA from one Truck/Chemical & Petroleum Subcategory facility operating PSES/PSNS treatment. The data consisted of effluent self-monitoring data over a four-year period. EPA used these data to calculate limitations and pretreatment standards for copper and mercury.

For the proposed rule, EPA did not consider dioxin and furan removals for any subcategory because EPA assumed that any detections of these pollutants were isolated, site-specific instances. In response to several comments on this issue, EPA reevaluated the presence of dioxins and furans in TEC wastewater based on the pollutants of interest criteria described above. EPA found that several dioxins and furans meet the editing criteria and should be considered pollutants of interest; therefore, EPA included their removals in the load removal estimates.

D. Pollutant Reductions

The final pollutant removals for the regulated subcategories are presented in Table 3, by discharge type. Pollutant removals were estimated as the difference between the subcategory baseline pollutant loadings (*i.e.*, estimated pollutant loadings currently discharged) and the subcategory post-compliance pollutant loadings (*i.e.*, estimated pollutant loadings discharged after implementation of the regulation). The load removals (in pounds per year) are scaled to represent the industry but do not account for the relative toxicity between pollutants.

TABLE 3.—TOTAL POLLUTANT REMOVALS OF THE TEC RULE

Subcategory	Selected option	Pounds of conventional pollutants removed (lbs/yr)	Pounds of priority pollutants removed (lbs/yr)	Pounds of non-conventional pollutants removed (lbs/yr)	Total pounds of pollutant removed (lbs/yr)
BPT/BCT/BAT (for consistency with Table 2)					
Truck/Chemical & Petroleum	II	47	2.3	670	720
Rail/Chemical & Petroleum	II	22	2.2	15,000	15,000
Barge/Chemical & Petroleum	I	>19,000	(1)	>69,000	>88,000
Food	II	0	0	0	0

TABLE 3.—TOTAL POLLUTANT REMOVALS OF THE TEC RULE—Continued

Subcategory	Selected option	Pounds of conventional pollutants removed (lbs/yr)	Pounds of priority pollutants removed (lbs/yr)	Pounds of non-conventional pollutants removed (lbs/yr)	Total pounds of pollutant removed (lbs/yr)
PSES					
Truck/Chemical & Petroleum	I	20,000,000	60,000	21,000,000	41,000,000
Rail/Chemical & Petroleum	II	960,000	870	4,500,000	5,500,000
Barge/Chemical & Petroleum	II	0	0	0	0

[1] Not available.

VIII. Economic Impacts of Final Regulation

EPA projects that the final TEC rule will result in no facility closures, revenue losses, nor employment losses in the industry. As set forth below, the Agency's financial analysis found that 14 facilities in the Truck/Chemical & Petroleum Subcategory may experience financial stress as a result of this rule. In addition, the small business analysis, using a sales test methodology, shows that some small businesses could have compliance costs that exceed three percent of annual sales revenues. However, these impacts are quite small relative to the TEC industry, and EPA certifies, as discussed later, that the regulation will not have a significant impact on substantial number of small entities.

A. Changes to Economic Analysis Since Proposal

EPA has not changed the economic methodology used in the proposal for the final rulemaking action. As in the proposal, the economic methods include a cost annualization model, a market model (with a commercial component and an outsourcing component), a closure model, financial ratio analysis, secondary impacts analysis, small business analysis, and cost effectiveness analysis. The description of these analytical tools can be found in Section X of the proposal.

EPA received comments in response to the proposal and the NOA from potentially affected facilities and trade associations regarding the economic analysis. The majority of comments reflected concerns about the economic impacts that the effluent guideline would have on the industry. EPA's response is that the economic analysis finds that the regulation will not cause any facility closures, and it will not lead to the loss of any business revenues nor the loss of any jobs in the industry.

The comments did not generally address EPA's economic analysis methods. The only issue raised related to the methodology was over EPA's cost pass through analysis, which assumes that a portion of compliance costs can be passed through to the final customers. Several commenters disagreed with the assumption that a portion of the compliance costs could potentially be passed through to the customer. EPA believes that, given the relatively inelastic demand for TEC services, a portion of compliance costs can be passed through to TEC customers. In turn, EPA believes that, because TEC services are such a small portion of total transportation costs, the impact on the customer market is minimal.

The nature of the market demand for TEC services is two-fold. First, tank cleaning services are essential services in the marketplace, because transportation service providers must deliver clean and safe products. Therefore, the transportation service firms and their customers create a demand for tank cleaning services that is relatively inelastic, *i.e.*, customers need the services provided by the TEC industry. Second, EPA believes that some costs can be passed through to the customer without losing business because all facilities transporting similar cargos will be subject to the regulation. EPA performed a sensitivity analysis to evaluate the impacts that would occur under the most conservative assumption of zero cost pass through, which assumes that no compliance cost can be passed through to the final customer. EPA found that, at the most conservative cost pass through assumption, this rule will result in no closures, revenue losses, or employment losses.

As in the proposal, the economic baseline was established using data from the *1993 Tank and Container Cleaning Screener Questionnaire* and the *1994 Detailed Questionnaire for the Transportation Equipment Cleaning Industry.* Anecdotal market and economic information has been used to update trends in the industry. Details of the economic analysis are presented in the ''Final Economic Analysis of Effluent Limitations Guidelines and Standards for the Transportation Equipment Cleaning Category'' and in the ''Final Cost-Effectiveness Analysis of Effluent Limitations Guidelines and Standards for the Transportation Equipment Cleaning Category''.

EPA has updated the economic analysis to reflect the changes made by EPA since the proposal for this final rulemaking action. These changes are summarized in Section III of this notice. Briefly, the changes include promulgation of concentration-based rather than mass-based limitations, modification to the subcategorization approach, a low flow exclusion, revised pollutant loading estimates, new language for the exclusion of facilities engaged in other commercial activities, and changes to the technology options and regulated pollutants.

EPA has modified the subcategorization approach and reduced the number of subcategories from eleven in the proposal to seven for this final regulation. The economic analysis reflects the change in subcategories. For example, the number of facilities in the proposed Truck/Chemical Subcategory (288) are added to those in the proposed Truck/Petroleum Subcategory (34), giving a total of 322 for the new Truck/Chemical & Petroleum Subcategory. The economic analysis was conducted for the new subcategory rather than the two separate subcategories.

EPA has also decided to establish a flow exclusion of less than 100,000 gallons per year for process wastewater. Due to the low flow exclusion, 36 indirect Truck/Chemical & Petroleum Subcategory facilities, 11 indirect Rail/Chemical & Petroleum Subcategory facilities, and three direct discharge Barge/Chemical & Petroleum facilities will be excluded from the effluent guidelines.

The Agency has also revised the pollutant reduction analysis for the final guideline which has, in turn, affected

the cost effectiveness of the regulation. For the Truck/Chemical & Petroleum Subcategory, 17 pollutants were removed and 26 pollutants were added. For the Rail/Chemical & Petroleum Subcategory, EPA removed 37 pollutants and added 23 pollutants. For the Barge/Chemical & Petroleum Subcategory, three pollutants were removed and 18 pollutants were added. The Truck/Chemical & Petroleum Subcategory now includes 95 pollutants of interest; the Rail/Chemical & Petroleum Subcategory includes 85 pollutants of interest; and the Barge/Chemical & Petroleum Subcategory includes 82 pollutants of interest.

B. Impacts Analysis

EPA estimates that the total capital costs incurred by regulated facilities (over the sixteen year project life) for the transportation equipment cleaning industry effluent limitations guidelines and standards will be about $64.4 million in 1998 dollars. Total annualized costs on a post-tax basis of the regulation for all facilities are estimated to be about $10.4 million in 1998 dollars, which includes $4.8 million of annualized capital costs and $5.6 million in annualized operation and maintenance costs.

EPA estimated the total annualized compliance costs based on the incremental capital investment, annual operation and maintenance costs, and monitoring costs required for facilities to comply with this final regulation. Capital costs for each TEC facility were annualized, using EPA's cost annualization model, by spreading them over the 16 year analytic life of the project. These annualized capital costs are then added to the annual operation and maintenance costs and to the annual monitoring costs for each TEC facility to estimate total annualized post-tax costs of the selected technology alternative. EPA presented the total annualized costs on a post-tax basis to show the full opportunity compliance costs that facilities may incur after taxes. In the later section on cost-benefits analysis, costs are presented on a pre-tax basis as a proxy for social costs.

EPA's economic analysis estimates that the selected technology alternatives will result in no facility closures. In addition, EPA predicts that the selected technology alternatives will result in no loss in revenues or employment. In the financial stress analysis using the Altman Z″ bankruptcy test, EPA found that 14 facilities in the Truck/Chemical & Petroleum Subcategory could experience financial stress under the selected technology alternatives. In order to analyze these 14 facilities more carefully, EPA conducted two additional financial tests—current ratio analysis and times interest earned analysis. The current ratio analysis indicated that 14 facilities could experience financial stress as a result of the regulation. However, the times interest earned analysis, which measures the ability of facilities to cover their debt, gave results that no financial stress would occur as a result of the regulation. Therefore, EPA concludes that financial stress, if present, is minimal among 14 facilities.

1. BPT, BCT, and BAT

As described in Section V of today's notice, EPA is issuing final effluent limitations based on BPT, BCT, and BAT for the Truck/Chemical & Petroleum Subcategory, Rail/Chemical & Petroleum Subcategory, Barge/Chemical & Petroleum Subcategory, and Food Subcategory. The summary of costs and economic impacts is presented here for each subcategory. For BPT and BCT, additional information on cost and removal comparisons is presented in the Technical Development Document.

EPA estimates that the total post-tax annualized compliance costs for BPT, BCT, and BAT will be about $130 thousand. EPA based its analysis on technology Option II for the Truck/Chemical & Petroleum Subcategory, Option II for the Rail/Chemical & Petroleum Subcategory, Option I for the Barge/Chemical & Petroleum Subcategory, and Option II for the Food Subcategory. Due to data limitations as described in the proposed regulation and in this notice, EPA did not have data from the detailed questionnaire for direct discharging facilities in the Truck/Chemical & Petroleum Subcategory and Rail/Chemical & Petroleum Subcategory because of the very small population. Instead, EPA used information from the screener survey to identify direct discharging facilities. EPA assumed that the economic profile for direct discharging facilities is similar to indirect discharging facilities. EPA believes that this is a reasonable approach, because the Agency does not believe that there is a correlation between annual revenue or facility employment and the method the facility chooses to discharge its wastewater. Rather, the decision on whether to discharge wastewater directly or indirectly is determined by such considerations as cost, proximity to a POTW, permitting requirements, and wastewater treatment technology options.

EPA therefore assumed that the direct discharging Truck/Chemical & Petroleum and Rail/Chemical & Petroleum facilities were similar to indirect discharging facilities in terms of annual revenue, facility employment, and the number of tanks cleaned. Information on each of these indices was provided to EPA by the three direct discharging facilities in the screener questionnaire. EPA then identified indirect discharge facilities in the detailed questionnaire database that were similar to each of the direct dischargers in terms of revenue, employment and tanks cleaned. EPA then simulated the financial and economic profile for the direct discharging facilities based on data provided by similar indirect discharging facilities in the same subcategory. Based on this analysis, EPA determined that implementation of BPT would result in no facility closures and anticipates that no facilities will have revenue losses or employment losses.

For Barge/Chemical & Petroleum facilities, EPA estimated economic impacts for the 10 direct discharge facilities based on responses to the detailed questionnaire and incremental compliance costs. EPA has projected no closures, revenue losses, or employment losses for these facilities. EPA also described in the proposal the costs that may accrue to Barge/Chemical & Petroleum facilities under a regulation published under authority of the Clean Air Act. EPA analyzed this subcategory assuming that those regulations, and possible consequent costs, were in effect. This analysis may be found in the economic analysis for the proposal and the final regulation.

For the Food Subcategory, EPA found that direct discharge facilities have oil/water separators and biological treatment in place. This is the selected BPT and BCT technology option for the Food Subcategory, and the facilities in this subcategory will not incur incremental compliance costs nor experience economic impacts.

2. PSES

EPA estimates that the total annualized compliance costs for PSES will be approximately $10.2 million per year (1998 post-tax dollars). These costs include compliance with PSES for the Truck/Chemical & Petroleum Subcategory, the Rail/Chemical & Petroleum Subcategory, and the Barge/Chemical & Petroleum Subcategory. EPA is not setting PSES for the Food and Hopper Subcategories. Total annual compliance costs are based on the following technology alternatives: Option I for the Truck/Chemical & Petroleum Subcategory, Option II for the Rail/Chemical & Petroleum Subcategory,

and Option II for the Barge/Chemical & Petroleum Subcategory.

EPA estimates that the selected technology options will result in no facility closures, revenue losses, nor employment losses for PSES. As indicated above, EPA did find that PSES may cause financial stress for 14 facilities (4.3 percent) in the Truck/Chemical & Petroleum Subcategory under the highly conservative assumption of zero cost pass through, but confirmatory financial tests indicated that financial stress, if present, would be minimal.

Within non-TEC industries, EPA's economic analysis indicates that some industries that provide materials and equipment to the TEC industry may experience revenue increases as a result of the regulation. However, other non-TEC industries could incur revenue losses. EPA's economic analysis indicates that the regulation would result in net losses of 200 to 300 jobs in all industries (*i.e.,* including TEC and non-TEC industries). These impacts were estimated using EPA's input-output methodology for the U.S. economy. Details of EPA's input-output analysis are available in the Economic Analysis.

Within the TEC industry itself, EPA determined that many financially healthy facilities might actually experience gains in production (and thus gains in output, revenue, and employment). Financially healthy facilities in the local market area might expand to take over a portion of production from a facility having financial difficulties. In addition, some employment gains are anticipated for installation and operation of flow reduction and wastewater treatment facilities.

EPA has also conducted an analysis of the community impacts of the final regulation for PSES. EPA has determined that most facility financial stress will result in a community's unemployment rate of no more than 0.2 percent. Because the methodology assumes that all of the community impacts would occur in one State, the more probable impact is considerably lower. Thus the community impact from the transportation equipment cleaning industry regulation is estimated to be negligible.

EPA expects the rule to have minimal impact on international markets. Domestic markets might initially be slightly affected by the rule, because tank cleaning facilities will absorb a portion of the compliance costs and will pass through a portion of the costs through to their customers. For the portion of compliance costs passed through to tank cleaning customers, EPA's market model estimates that prices will increase about 0.1 percent to 4.3 percent. Output, or the number of tanks cleaned, will decrease from almost zero percent to about 0.6 percent. Because tank cleaning is an essential service and is a very small part of total transportation services costs, customers may not be as sensitive to tank cleaning prices as they are to larger cost elements.

EPA expects the rule will have minimal impacts on inflation, insignificant distributional effects, and no major impacts on environmental justice.

EPA also investigated the likelihood that customers might use methods such as installing additional on-site wastewater treatment in order to comply with the regulation. Substitution possibilities, such as on-site tank washing or purchasing dedicated tanks, are associated with potential negative impacts on customers that might deter them from choosing these potential substitutes. On-site tank cleaning capabilities require capital investment, operation and maintenance, and monitoring costs. The decision to build an on-site tank cleaning capability is more likely determined by non-pricing factors such as environmental liability, tank-cleaning quality control, and internal management controls than by a choice to develop alternatives to commercial tank washing.

EPA's analysis does not indicate that transportation service companies (*i.e.,* TEC customers) would likely decide to build a tank cleaning facility as a result of EPA's regulations. Further, because of high initial capital investment ($1.0–$2.0 million for a tank cleaning facility) and the small increase in price of transportation equipment cleaning services discussed earlier, on-site transportation equipment cleaning could require years before any cost savings might be realized. Also, EPA's market model provides a means for estimating price increases and reductions in quantity demanded for transportation equipment cleaning services at the higher price. This analysis shows a very small decrease in the number of tanks cleaned as a result of the regulation, from almost zero to about 0.6 percent of baseline production across the subcategories. Given the disincentives towards substitutes indicated above, EPA does not expect the rule to cause many, if any, customers to substitute on-site facilities for transportation equipment cleaning services or to substitute dedicated tanks. The small reduction in production is more likely to occur from customers delaying cleaning (rather than cleaning tanks after delivery of load) or dropping certain services such as handling toxic wastes heels. This decline in production is negligible compared to the approximate 10 to 20 percent per year revenue growth between 1992 and 1994, (according to data provided in the Detailed Questionnaire) in the TEC industry.

3. NSPS and PSNS

As described in today's notice, EPA is setting NSPS equivalent to BPT, BCT, and BAT, and PSNS equivalent to PSES, in all subcategories.

EPA uses a barrier-to-entry analysis to analyze the impacts of effluent guideline and pretreatment standards on new sources. The analysis focuses on whether the impact of the regulation will result in a barrier-to-entry into the market. The methodology for the barrier-to entry analysis is described in the proposal. Briefly, the analysis compares the expected compliance costs to the assets of existing facilities. This analysis is performed by analyzing the costs that each existing facility could potentially incur as a result of the regulations. EPA makes the assumption that new facilities will have impacts from the regulation that are no greater than the impact of the regulation on existing facilities. This assumption is based upon the rationale that new facilities are better able to include regulatory requirements in their design and construction plans. The incremental compliance costs are compared with the dollar value of assets of the existing facilities. The dollar value of assets of each facility provide a measure of the size of the facility in terms of financial capital in place. EPA has used the dollar value of assets as one indicator, among others, of the ability of a facility to absorb additional costs. The analytic approach is to divide the compliance costs of each facility by the dollar value of the assets of each facility. The result of the analysis is reviewed in comparison to industry trends and norms. EPA has not set a threshold value for the ratio of incremental compliance costs to the dollar value of facility assets. However, EPA decisions in the past have generally indicated that ratios below 10 percent indicate that there is no barrier-to-entry. The results of this analysis show the relative impact of the effluent guideline on existing sources.

For the Truck/Chemical & Petroleum Subcategory, average facility assets are about $2.5 million ($1998). In its economic analysis, EPA determined that the average additional facility capital costs for PSNS in this subcategory

would be about $197 thousand. The ratio of average facility capital compliance costs to average facility assets would be approximately 8.0 percent. EPA concludes that the capital cost to comply with the standards are modest in comparison to total facility assets and would not pose a barrier-to-entry into the market.

For the Rail/Chemical & Petroleum Subcategory, responses to the detailed questionnaire indicate that the average facility assets are about $5.4 million ($1998). In its economic analysis, EPA determined that the average additional facility capital compliance costs for PSNS would be about $257 thousand. The ratio average facility compliance capital costs to average facility assets would be less than five percent of average facility assets. EPA concluded that the average annual capital compliance costs are modest in comparison to average facility assets and that they would not pose a barrier-to-entry into the market.

For the Barge/Chemical & Petroleum Subcategory, the average facility assets for a barge chemical cleaning facility are about $3.3 million. The average additional compliance capital costs for NSPS are about $13,000, or less than one percent of average facility assets. This percentage is expected to be lower for new facilities, because they can include pollution control equipment in the design of new facilities. Therefore, these costs would not pose a barrier to entry into the market.

EPA is regulating only direct dischargers in the Food Subcategory. The Agency is setting BPT, BCT, and NSPS for the Food Subcategory. The direct dischargers in the Food Subcategory have treatment in place that meets the requirements that EPA is promulgating in today's rule. Because Food Subcategory facilities have treatment in place, these facilities will not incur additional costs to comply with the regulation. In addition, new sources will install treatment similar or equivalent to treatment in place for existing facilities. New sources will incur no costs as a result of the regulation that is not incurred by existing facilities. Therefore, there are no costs and no barrier to entry in this subcategory under the NSPS regulation.

EPA analyzed the number of facilities that entered the market each year during the three year period of the Detailed Questionnaire. The results of this analysis can be found in the proposal. In essence, new facilities were replacing closing facilities. In addition to replacing existing facilities, the industry also experienced modest growth during the three year period of the Detailed Questionnaire.

Similar to PSNS, EPA concludes that no barrier-to-entry exists for new direct discharge facilities to construct, operate, and maintain these technologies. EPA also analyzed the impact on new, small facilities in the TEC industry. The analysis shows that there are no small facility closures for direct discharging small businesses. New, small businesses will incur costs no higher than costs for existing, small businesses. Therefore there will be no barrier to entry for new, small businesses in the TEC industry.

4. Economic Analysis of Accepted and Rejected Options

As discussed in Section V of this notice, EPA considered several technology options for each subcategory. A summary of costs and impacts for all BPT, BCT, BAT, NSPS, PSES, and PSNS options are shown in Table 4. The annualized costs in Table 4 are presented on a post-tax basis.

EPA also conducted an economic analysis under the zero cost pass through assumption as a sensitivity analysis. Although these analyses estimated higher impacts than the analyses using positive cost pass though analysis, EPA believes that the most conservative economic and financial assumptions are highly unlikely and that all facilities will be able to pass through a portion of any incremental compliance cost that they may incur. Cost pass through is more likely to occur, because the entire industry will be required to comply with the new regulation.

TABLE 4.—SUMMARY OF IMPACTS FOR FINAL BPT, BCT, BAT, NSPS, PSES, AND PSNS OPTIONS

Subcategory	Option	Annualized costs ($1998 millions post-tax)	Facility closures	Financial stress	Employee losses
Truck/Chemical & Petroleum (Direct)	Option I	0	0	0	0
	Option II (BPT, BCT, BAT, NSPS)	0	0	0	0
Truck/Chemical & Petroleum (Indirect)	Option A	5.2	N/A	N/A	N/A
	Option I (PSES, PSNS)	9.2	0	14	0
	Option II	20.9	0	22	0
Rail/Chemical & Petroleum (Direct)	Option I	0.005	0	0	0
	Option II (BPT, BCT, BAT, NSPS)	0.041	0	0	0
	Option III	0.61	0	0	0
Rail/Chemical & Petroleum (Indirect)	Option I	0.589	0	0	0
	Option II (PSES, PSNS)	1.02	0	0	0
	Option III	1.61	0	0	0
Barge/Chemical & Petroleum (Direct)	Option I (BPT, BCT, BAT, NSPS)	0.089	0	0	0
	Option II	0.346	0	0	0
Barge/Chemical & Petroleum (Indirect)	Option I	0.04	0	0	0
	Option II (PSES, PSNS)	0.04	0	0	0
	Option III	0.240	0	0	0
Food (Direct)	Option I	0	0	0	0
	Option II (BPT, BCT, NSPS)	0	0	0	0
Food (Indirect)	Option I (no regulation)	0	0	0	0
Truck/Hopper (Direct and Indirect)	Option I (no regulation)	0	0	0	0
Rail/Hopper (Direct and Indirect)	Option I (no regulation)	0	0	0	0
Barge/Hopper (Direct and Indirect)	Option I (no regulation)	0	0	0	0

C. Small Business Analysis

For purposes of assessing the impacts of today's rule on small entities, a small entity is defined as a business that has annual revenues of less than $5,000,000.

EPA provided the initial results of the small business analysis in the proposal. As described in the proposal, a key aspect of the small business analysis was to identify options that would minimize the economic impacts for small businesses. The Agency considered exclusions based upon business size and wastewater flow as ways to provide relief to small businesses. In the proposal, EPA did not identify criteria for a facility exclusion to the regulation. Since the proposal, however, the Agency has continued to assess possible criteria for facility exclusions from the regulations. For this final regulation, the Agency is excluding from coverage all facilities discharging less than 100,000 gallons per year of TEC process wastewater.

In the small business analyses for the proposal, EPA applied a conservative set of assumptions, *i.e.,* zero cost past through, to analyze the options available to provide relief to small businesses. Among the analyses the Agency conducted was a sales test analysis that compares the post-tax cost of compliance with the regulation with the annual revenues of each facility in the sample survey. EPA conducted similar sales test analyses for this final regulation using both positive cost pass through and zero cost pass through assumptions. For the Truck/Chemical & Petroleum Subcategory, using the positive cost pass through analysis, 29 of 79 (37 percent) small businesses exceed the one percent sales test and zero small businesses exceed the three percent sales test. Using the zero cost pass through assumption, 29 of 79 (37 percent) small businesses exceed the one percent sales and 29 of 79 (37 percent) small businesses exceed the three percent sales test.

For the Rail/Chemical & Petroleum Subcategory, 6 of 12 (50 percent) small businesses exceed the one percent sales test under both zero cost pass and positive cost pass through assumptions. No small businesses exceed the three percent sales test under either zero or positive cost pass through scenarios.

For the Barge/Chemical & Petroleum Subcategory, no small businesses exceed either the one or three percent sales test under positive cost pass through. Using the zero cost pass through analysis, three of six small businesses exceed the one percent sales test and no facilities exceed the three percent sales test.

For the Food Subcategory, facilities will not incur additional costs, because they have the required treatment in place. Therefore, the sales test was not conducted on the 19 facilities in the Food Subcategory. There are no facilities in the Food Subcategory that will have an economic impact or have a sales test greater than zero.

EPA believes that the sales test serves as an indication of relative cost of the regulation but alone is not sufficient to determine the economic achievability for this rule. However, EPA has concluded that the rule is economically achievable, because there are no impacts on small businesses in terms of closures or employment losses. In addition, EPA has determined that there will not be a significant impact on a substantial number of small entities, because the number of small business affected by this rule is relatively low and the impact is modest for most of the affected small businesses. The impact on small businesses is even less when a portion of the costs are passed through to the final transportation industry customers.

D. Market Analysis

EPA conducts a market analysis using the market model (with commercial and out source components) developed for the transportation equipment cleaning industry. The market analysis provides information on the changes in the marketplace as a result of the regulation. For the Truck/Chemical & Petroleum Subcategory, EPA predicts that the regulation may increase the price of tank cleaning from about $279 to about $285 per tank, or about a two percent price increase. In response to the price increase, there could be a small adjustment in the number of tanks cleaned from a baseline of 774,000 to about 772,000 (a decrease of less than 0.5 percent). The projected price increases are modest relative to the market price and market response is expected to be minimal.

For the Rail/Chemical & Petroleum Subcategory, the market analysis shows that the cost for cleaning rail tank cars could increase from about $781 to about $815 per tank cleaned or about 4.3 percent. The market response would be a decrease in the number of rail tank cars cleaned from about 33,000 to about 32,800 (about 0.5 percent). The projected market price relative the market price of cleaning rail tank cars is modest and the expected market response is minimal.

For the Barge/Chemical & Petroleum Subcategory, the market analysis indicates that there would be a price increase from about $6,448 to about $6,456 per tank barge cleaned (or about 0.1 percent change in the price). The market response is anticipated to be an imperceptible change in the quantity of tank barges cleaned.

For the Food Subcategory, EPA's economic analysis indicates that all direct discharging facilities have treatment in place. Therefore, they will not have to install treatment technology or change operation and management practices as a result of today's promulgation. The Food Subcategory facilities will not incur costs that exceed those that they have already incurred for currently installed treatment. The market analysis indicates that there will be no impacts on the markets served by these facilities as a result of the regulation.

Although transportation cleaning services is a small part of the overall transportation services sector, cleaning services are essential for delivery of safe, quality products in the marketplace. Because these services are essential, transportation services companies must have clean tanks, cleaned by their in-house cleaning services, or provided by commercial cleaning service companies. Given the necessity of cleaning tanks to provide safe, quality products, the price may increase in the marketplace with little if any response by cleaning customers. This finding suggests that prices could increase, in some cases significantly, with little if any reduction in the number of tanks cleaned.

E. Cost-Effectiveness Analysis

EPA conducts the cost-effectiveness (CE) analysis to determine the cost per pound of pollutant removed as a result of the regulation. The Agency identifies the pounds of each pollutant removed by each technology considered as a basis for regulation. These removals are added for each technology option and compared to the incremental costs of each technology option. EPA estimates the average and incremental cost effectiveness of each regulatory option. Pounds removed are adjusted for the removal by POTWs and for the toxic weights of the specific pollutants. After these two adjustments, the analysis provides pound equivalents. The results of the cost effectiveness analysis for this rule are presented in 1981 dollars, the latter for comparing with other effluent guidelines if appropriate. EPA's incremental cost-effectiveness analysis for the Truck/Chemical & Petroleum Subcategory indicates a cost effectiveness ratio of $370 in 1981 dollars. For the Rail/Chemical & Petroleum Subcategory, the CE analysis indicated a result of $492 in 1981 dollars. Further information about the

cost effectiveness analysis is provided in ''Final Cost-Effectiveness Analysis of Effluent Limitations Guidelines and Standards for the Transportation Equipment Cleaning Category''.

F. Cost-Benefit Analysis

Executive Order 12866 requires agencies to prepare a cost-benefit analysis for Federal regulations that may have economic impacts on industry. Table 5 presents the costs and benefits of the TEC final regulation. The details of the cost-benefit analysis are discussed in the Economic Analysis. Total social costs for the cost-benefit analysis are estimated by using pre-tax dollars as an approximation for the total social costs of the regulation. The benefits of the regulation are derived from improvements in water quality resulting from reductions in the amount of pollutants discharged.

This rule is expected to have a total annual social cost of $17.0 million (1998 dollars), which includes $16. 4 million in pre-tax compliance costs, $0.6 million in administrative costs, and almost zero costs for administering unemployment benefits. Total annual benefits are expected to range from $1.5 million to $5.5 million (1998 dollars). This includes $1.0 million to $3.5 million for recreational benefits, $0.5 million to $1.7 million associated with nonuse values benefits, and $56,000 to $300,000 associated with cancer benefits. The derivation of annual benefits is discussed in more detail in Section IX.

TABLE 5.—SUMMARY OF THE COST-BENEFIT ANALYSIS

Category	Costs and benefits ($1998 millions)
Costs (pre-tax)	
Compliance Costs	$16.4
Administrative Costs	$0.6
Administrative Costs of Unemployment	$0.0
Total Social Costs	$17.0
Benefits	
Human Health Benefits	
Cancer Benefits	$0.056–$0.30
Recreational Benefits	$1.0–$3.5
Nonuse Benefits	$0.5–$1.7
Total Monetized Benefits	$1.5–$5.5

IX. Water Quality Impacts of Final Regulation

A. Changes to Benefits Analysis Since Proposal

EPA has not changed the methodology described in the proposal to evaluate the environmental benefits of controlling discharges of pollutants for the final rulemaking action. As in the proposal, the methodology includes evaluation of projected in-stream concentrations of pollutants relative to aquatic criteria, analysis of potential interference with POTW operations in terms of inhibition of activated sludge and contamination of sludges, and the potential for human health impacts resulting from the ingestion of drinking water and fish containing pollutants discharged by TEC facilities. A detailed description of the methodology can be found in the Environmental Assessment of the Final Effluent Guidelines for the Transportation Equipment Cleaning (TEC) Industry.

Several changes made to the rule since proposal have affected this analysis, resulting in removal of a few facilities, the removal of some pollutants, and the addition of other pollutants assessed in the analysis for the proposal. These changes include: (1) The modification to the subcategorization approach, in which EPA combined the Truck/Chemical Subcategory and Truck/Petroleum Subcategory into the Truck/Chemical & Petroleum Subcategory, and also combined the Rail/Chemical Subcategory and Rail/Petroleum Subcategory into the Rail/Chemical & Petroleum Subcategory; (2) the establishment of a low flow exclusion, which excludes facilities that discharge less than 100,000 gallons per year of TEC process wastewater; (3) the clarification of the definition of the exclusion of facilities engaged in activities covered elsewhere (*e.g.,* the proposed MP&M guideline); and (4) a revision to the methodology for calculating pesticide and herbicide loadings.

B. Truck/Chemical & Petroleum Subcategory

1. Direct Dischargers

EPA projects that no additional removals of toxics will be achieved by the regulatory option because all three modeled facilities have sufficient treatment in place to meet BAT limits. EPA therefore predicts that there are no additional benefits to be obtained as a result of the selected BAT regulatory option.

2. Indirect Dischargers

EPA evaluated the potential effect on aquatic life and human health of a representative sample of 40 indirect wastewater dischargers of the 286 facilities subject to the guidelines in the Truck/Chemical & Petroleum indirect subcategory to receiving waters at current levels of treatment and at pretreatment levels. These 40 modeled facilities discharge 84 pollutants in wastewater to 34 POTWs, which then discharge to 34 receiving streams.

At the national level, 286 facilities discharge wastewater to 255 POTWs, which then discharge into 255 receiving streams. EPA projects that in-stream concentrations of one pollutant will exceed aquatic life or human health criteria (for both water and organisms) in seven receiving streams at current discharge levels. The selected pretreatment regulatory option eliminates excursions of aquatic life or human health criteria in all seven streams. Estimates of the increase in value of recreational fishing to anglers as a result of this improvement range from $975,000 to $3,484,000 annually (1998 dollars). In addition, the nonuse value (*e.g.* option, existence, and bequest value) of the improvement is estimated to range from $488,000 to $1,742,000 (1998 dollars).

The reduction of excess annual cancer cases from the ingestion of contaminated fish and drinking water by all populations evaluated generate a benefit to society of $2,200 to $13,000 (1998 dollars). (A monetary value of this benefit to society was not projected at proposal.) No systemic toxicant effects (non-cancer adverse health effects such as reproductive toxicity) are projected for anglers fishing the receiving streams at current discharge levels. Therefore, no further analysis of these types of impacts was performed.

3. POTWs

EPA also evaluated the potential adverse impacts on POTW operations (inhibition of microbial activity during biological treatment) and contamination of sewage sludge at the 34 modeled POTWs that receive wastewater from the Truck/Chemical & Petroleum Subcategory. At current discharge levels, EPA projects no inhibition or sludge contamination problems at any of the POTWs at current loadings. Therefore, no further analysis of these types of impacts was performed.

C. Rail/Chemical & Petroleum Subcategory

1. Direct Dischargers

EPA projects that no additional removals of toxics will be achieved by the regulatory option because the one model facility has sufficient treatment in place to comply with BAT. EPA therefore predicts that there are no additional benefits to be obtained as a result of the selected BAT regulatory option.

2. Indirect Dischargers

EPA evaluated the potential effect on aquatic life and human health of a representative sample of 10 indirect wastewater dischargers of the 30 facilities in the Rail/Chemical & Petroleum Subcategory to receiving waters at current levels of treatment and at pretreatment levels. These 10 modeled facilities discharge 74 pollutants in wastewater to nine POTWs, which discharge to nine receiving streams.

At the national level, 30 facilities discharge wastewater to 28 POTWs, which then discharge into 28 receiving streams. EPA projects that in-stream pollutant concentrations will exceed human health criteria (for both water and organisms) in 13 receiving streams at both current and pretreatment discharge levels. Since the selected pretreatment regulatory option is not expected to eliminate all occurrences of pollutant concentrations in excess of human health criteria at any of the receiving streams, no increase in value of recreational fishing to anglers is projected as a result of this pretreatment.

The reduction of excess annual cancer cases from the ingestion of contaminated fish and drinking water by all populations evaluated generate a benefit to society of $55,000 to $290,000 (1998 dollars). (A monetary value of this benefit to society was not projected at proposal.) No systemic toxicant effects (non-cancer adverse health effects such as reproductive toxicity) are projected for anglers fishing the receiving streams at current discharge levels. Therefore, no further analysis of these types of impacts was performed.

3. POTWs

EPA also evaluated the potential adverse impacts on POTW operations (inhibition of microbial activity during biological treatment) and contamination of sewage sludge at the nine modeled POTWs that receive wastewater from the Rail/Chemical & Petroleum Subcategory. Model results were then extrapolated to the national level, which included 28 POTWs.

At current discharge levels, EPA projects inhibition problems at 13 of the POTWs, caused by two pollutants. At the selected pretreatment regulatory option, EPA projects continued inhibition problems at these 13 POTWs because these two pollutants are not treated to sufficiently low levels to affect the POTW inhibition level. The Agency projects sewage sludge contamination at none of the POTWs at current loadings. Therefore, no further analysis of these types of impacts was performed.

The POTW inhibition values used in this analysis are not, in general, regulatory values. EPA based these values upon engineering and health estimates contained in guidance or guidelines published by EPA and other sources. EPA used these values to determine whether the pollutants interfere with POTW operations. The pretreatment standards today are not based on these values; rather, they are based on the performance of the selected technology basis for each standard. However, the values used in this analysis help indicate the potential benefits for POTW operations that may result from the compliance with pretreatment discharge levels.

D. Barge/Chemical & Petroleum Subcategory

1. Direct Dischargers

EPA projects that BAT would not result in any additional removals of toxic pollutants because most pollutants are already treated to very low levels, often approaching the detection levels. EPA therefore did not quantify additional benefits obtained as a result of the selected BAT regulatory option.

2. Indirect Dischargers

Based on the discharge concentrations of several conventional pollutants, EPA believes that all five modeled indirect discharging facilities are meeting the levels of control that would be established under PSES. EPA therefore did not additional benefits obtained as a result of the selected PSES regulatory option.

E. Food Subcategory

1. Direct Dischargers

EPA estimates no additional pollutant removals and no additional costs to the industry because all 19 facilities identified by EPA currently have the proposed BPT technology in place. EPA is not establishing BAT because EPA is not regulating any toxic parameters.

2. Indirect Dischargers

EPA is not establishing PSES or PSNS for the Food Subcategory.

X. Non-Water Quality Impacts of Final Regulation

As required by Sections 304(b) and 306 of the Clean Water Act, EPA has considered the non-water quality environmental impacts associated with the treatment technology options for the TEC industry. Non-water quality environmental impacts are impacts of the final rule on the environment that are not directly associated with wastewater, such as changes in energy consumption, air emissions, and solid waste generation of sludge and oil. In addition to these non-water quality environmental impacts, EPA examined the impacts of the final rule on noise pollution, and water and chemical use. Based on these analyses, EPA finds the relatively small increase in non-water quality environmental impacts resulting from the rule to be acceptable. EPA's estimates have not changed significantly from the proposed rule.

A. Energy Impacts

Energy impacts resulting from the regulatory options include energy requirements to operate wastewater treatment equipment such as aerators, pumps, and mixers. However, flow reduction technologies reduce energy requirements by reducing the number of operating hours per day and/or operating days per year for wastewater treatment equipment currently operated by the TEC industry. For some regulatory options, energy savings resulting from flow reduction exceed requirements for operation of additional wastewater treatment equipment, resulting in a net energy savings for these options. EPA estimates a net increase in electricity use of approximately 5 million kilowatt hours annually for the TEC industry as a result of the rule, which is an insignificant increase in U.S. industrial electrical energy purchase. Therefore, the Agency concludes that the effluent pollutant reduction benefits from the technology options exceed the potential adverse effects from the estimated increase in energy consumption.

B. Air Emission Impacts

TEC facilities generate wastewater containing concentrations of volatile and semivolatile organic pollutants, some of which are also on the list of Hazardous Air Pollutants (HAPs) in Title 3 of the Clean Air Act Amendments of 1990. These waste streams pass through treatment units open to the atmosphere, which may

result in the volatilization of organic pollutants from the wastewater. Emissions from TEC facilities also occur when tanks are opened and cleaned, with cleaning typically performed using hot water or cleaning solutions. Prior to cleaning, tanks may be opened with vapors vented through the tank hatch and air vents in a process called gas freeing. At some facilities, tanks used to transport gases or volatile material are filled to capacity with water to displace vapors to the atmosphere or a combustion device. Some facilities also perform open steaming of tanks.

Other sources of emissions at TEC facilities include heated cleaning solution storage tanks as well as emissions from TEC wastewater as it falls onto the cleaning bay floor, flows to floor drains and collection sumps, and conveys to wastewater treatment.

In order to quantify the impact of the regulation on air emissions at proposal, EPA performed a model analysis to estimate the amount of organic pollutants emitted to the air. EPA estimated the increase of air emissions at TEC facilities as a result of the wastewater treatment technology to be approximately 153,000 kilograms per year of organic pollutants (volatile and semivolatile organics), which represented approximately 35 percent of the total organic pollutant wastewater load of raw TEC wastewater. Since the final technology options are fairly similar to the proposed technology options, EPA estimates that these estimates would not change significantly. EPA's estimate of air emissions reflects the increase in emissions at TEC facilities, and does not account for baseline air emissions that are currently being released to the atmosphere at the POTW or as the wastewater is conveyed to the POTW. It is expected that much of the increased emissions at indirect TEC facilities calculated for this rule are currently being released at POTWs or during conveyance to the POTW. To a large degree, this rule will merely shift the location at which the air emissions are released, rather than increasing the total air emissions from TEC wastewater. As a result, air emission from TEC wastewater at POTWs are expected to be reduced somewhat following implementation of this rule. EPA's model analysis was performed based on the most stringent regulatory options considered for each subcategory in order to create a ''worst case scenario'' (*i.e.,* the more treatment technologies used, the more chance of volatilization of compounds to the air). For some subcategories, EPA is not promulgating the most stringent regulatory option; therefore, for these subcategories, air emission impacts are overestimated.

In addition, to the extent that facilities currently operate treatment in place, the results overestimate air emission impacts from the regulatory options. Additional details concerning EPA's model analysis to estimate air emission impacts are included in ''Estimated Air Emission Impacts of TEC Industry Regulatory Options'' in the rulemaking record.

Based on the sources of air emissions in the TEC industry and limited data concerning air pollutant emissions from TEC operations provided in response to the 1994 Detailed Questionnaire (most facilities did not provide air pollutant emissions estimates), EPA estimates that the incremental air emissions resulting from the regulatory options are a small percentage of air emissions generated by TEC operations. For these reasons, air emission impacts of the regulatory options are acceptable.

C. Solid Waste Impacts

Solid waste impacts resulting from the regulatory options include additional solid wastes generated by wastewater treatment technologies. These solid wastes include wastewater treatment residuals, including sludge and waste oil.

1. Wastewater Treatment Sludge

Wastewater treatment sludge is generated in two forms: dewatered sludge (or filter cake) generated by a filter press and/or wet sludge generated by treatment units such as oil/water separators, coagulation/clarification, dissolved air flotation, and biological treatment. Many facilities that currently operate wastewater treatment systems do not dewater wastewater treatment sludge. Storage, transportation, and disposal of greater volumes of un-dewatered sludge that would be generated after implementing the TEC industry regulatory options is less cost-effective than dewatering sludge on site and disposing of the greatly reduced volume of resulting filter cake. However, in estimating costs for the rule, EPA has included the costs for TEC facilities to install sludge dewatering equipment to handle increases in sludge generation. For these reasons, EPA estimates net decreases in the volume of wet sludge generated by the industry and net increases in the volume of dry sludge generated by the industry.

EPA estimates that the rule will result in a decrease in wet sludge generation of approximately 17 million gallons per year, which represents an estimated 98 percent decrease from current wet sludge generation. In addition, EPA estimates that the rule will result in an increase in dewatered sludge generation of approximately 35 thousand cubic yards per year, which represents an estimated 120 percent increase from current dewatered sludge generation. However, this results in a net decrease of sludge volume that will be deposited in landfills.

Compliance cost estimates for the TEC industry regulatory options are based on disposal of wastewater treatment sludge in nonhazardous waste landfills. EPA sampling of sludge using the Toxicity Characteristic Leaching Procedure (TCLP) test verified the sludge as non-hazardous. Such landfills are subject to RCRA Subtitle D standards found in 40 CFR parts 257 or 258.

The Agency concludes that the effluent benefits and the reductions in wet sludge generation from the technology options exceed the potential adverse effects from the estimated increase in wastewater treatment sludge generation.

2. Waste Oil

EPA estimates that compliance with the regulation will result in an increase in waste oil generation at TEC sites based on removal of oil from wastewater via oil/water separation. EPA estimates that this increase in waste oil generation will be approximately 670,000 gallons per year, which represents no more than an estimated 330 percent increase from current waste oil generation. EPA assumes, based on responses to the Detailed Questionnaire, that waste oil disposal will be via oil reclamation or fuels blending on or off site. Therefore, the Agency does not estimate any adverse effects from increased waste oil generation.

XI. Regulatory Requirements

A. Executive Order 12866

Under Executive Order 12866 [58 FR 51735 (October 4, 1993)], the Agency must determine whether the regulatory action is ''significant'' and therefore subject to 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.'' As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations have been documented in the public record.

B. Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), 5 USC 601 et seq.

The RFA generally requires an agency to prepare a regulatory flexibility analysis of 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 impacts of today's rule on small entities, a small entity is defined as (1) a small business that has less than $5 million in annual revenue (based on SBA size standards); (2) a small government jurisdiction that is a government of a city, county, town, school district or special district with a population of 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.

After considering the economic impacts of today's final rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. In accordance with section 603 of the RFA, EPA prepared an initial regulatory flexibility analysis (IRFA) for the proposed rule (see 63 FR 34685) and convened a Small Business Advocacy Review Panel to obtain advice and recommendations from representatives of small entities that would potentially be regulated by the rule in accordance with section 609(b) of the RFA. A detailed discussion of the Panel's advice and recommendations is found in the Panel Report (DCN T10301). A summary of the Panel's recommendations is presented in the preamble to the proposed rule at 63 FR 34730.

In the final rule, EPA made changes to the proposal that reduced the level of impacts to small entities. The final regulation excludes all facilities that discharge less than 100,000 gallons per year of TEC process wastewater and excludes facilities that are engaged in non-TEC industrial, commercial, or POTW activities. In addition, EPA projects fewer economic impacts to small entities as a result of selecting a less stringent technology option in one subcategory. These and other changes made to the proposal are described in Section III of this notice.

In particular, EPA acknowledges the SBAR Panel's recommendations regarding regulatory alternatives, applicability of the final rule, and comment solicitation in the proposal. EPA carefully considered and adopted many of the recommendations made by the SBAR Panel as discussed in the proposal. EPA evaluated comments received on the proposal during the notice and comment period and decided to adopt several of the alternatives supported by commenters and the SBAR Panel. As discussed throughout this notice, EPA has decided to exclude drums and Intermediate Bulk Containers from the rule; to establish a less stringent regulatory option for the Truck/Chemical & Petroleum Subcategory; to establish similar levels of control for the Truck/Chemical & Petroleum Subcategory and Rail/Chemical & Petroleum Subcategory; and to adopt a low flow exclusion.

EPA's Economic Analysis includes an assessment of the impacts on small entities. EPA projects that no small businesses will close as a result of this rule. Using two sets of assumptions related to the ability of a business to pass the additional costs to customers, EPA projects that 35 to 38 small businesses would incur costs exceeding one percent of revenues, and that zero to 29 small businesses would incur costs exceeding three percent of revenues. This is approximately a 50 percent reduction in the impacts projected at proposal for EPA's most conservative cost pass through assumption. Due to the ability to recover all or a portion of regulatory costs by passing them through to customers, the number of small TEC operators affected at these levels is likely to fall in the lower end of the ranges.

C. 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 September 13, 2000.

D. Paperwork Reduction Act

As discussed in Section V of this notice, EPA is promulgating a pollution prevention alternative as a regulatory compliance option and the final rule contains information collection requirements as a part of this compliance option. Therefore, the information collection requirements for this rule will be submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* An Information Collection Request (ICR) document will be prepared by EPA and published in a subsequent **Federal Register** notice. The information requirements are not enforceable until OMB approves them. EPA will incorporate new reporting and record keeping requirements and associated burden into a previously approved ICR (2040–0009) for the National Pretreatment Program with an amendment.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

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 number for the information collection requirements in

this rule will be listed in an amendment to 40 CFR Part 9 in a subsequent **Federal Register** document after OMB approves the ICR. Because of the delayed compliance date for the pretreatment standards in today's rule, indirect dischargers will not be subject to the information collection burden associated with the alternative Pollutant Management Plan provisions for the rail and tank/truck subcategories until three years from now. The Agency will provide burden estimates for the paperwork compliance components of the Pollutant Management Plan alternative (submission of a certification statement and the Pollutant Management Plan to the local control authority, preparation and maintenance of the plan and certain records at the facility) and obtain ICR clearance for these estimates prior to the end of that three-year time frame.

E. Unfunded Mandates Reform Act

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 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 with the final rule an explanation why that alternative was not 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 rule as $11.1 million (1998$, post-tax). Thus, today's rule is not subject to the requirements of Sections 202 and 205 of the UMRA.

EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments. EPA projects that no small governments will be affected by this rule. Thus, today's rule is not subject to the requirements of Section 203 of the UMRA.

F. 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 nor does it impose substantial direct compliance costs on them. EPA has determined that no communities of Indian tribal governments are affected by this rule. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this rule.

G. 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 will not impose substantial costs on States or local governments. The rule establishes effluent limitations guidelines and pretreatment standards imposing requirements that apply to TEC facilities when they discharge wastewater or introduce wastewater to a POTW. The rule does not apply directly to States and local governments and will only affect State and local governments when they are administering CWA permitting programs. The final rule, at most, imposes minimal administrative costs on States that have an authorized NPDES programs and on local governments that are administering approved pretreatment programs. (These States and local governments 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.

H. National Technology Transfer and Advancement Act

As noted in the proposed rule, Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995, (Pub L. No. 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, and business practices) that are developed or adopted by voluntary consensus standard 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. The rule requires dischargers to measure for seven metals, two organic contaminants, BOD5, TSS, Oil and Grease (HEM), non-polar material (SGT–HEM), and pH. EPA performed a search to identify potentially voluntary consensus standards that could be used to measure the analytes in today's final guideline. EPA's search revealed that consensus standards exist and are already specified in the tables at 40 CFR Part 136.3 for measurement of many of the analytes. Pollutants in today's rule for which there are voluntary consensus methods include: seven metals; two organics; BOD5; TSS; Oil and Grease (HEM); non-polar material (SGT–HEM); and pH.

I. 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 TEC process wastewater containing residual and dilute quantities of petroleum and non-petroleum oils is significantly different than an uncontrolled spill of pure petroleum or non-petroleum oil products.

As discussed in Section VI of the proposal, and in accordance with the Edible Oil Regulatory Reform, EPA has grouped facilities which clean transportation equipment that carry vegetable oils or animal fats as cargos into separate subcategories (Food Subcategory) from those facilities that clean equipment that had carried petroleum products (Truck/Chemical & Petroleum Subcategory, Rail/Chemical & Petroleum Subcategory, Barge/Chemical & Petroleum Subcategory).

J. Executive Order 13045 and Protecting Children's Health

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 or safety risk that EPA 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 ''economically significant'' as defined under Executive Order 12866, and because the rule does not concern an environmental health or safety risk that may have a disproportional effect on children.

XII. Regulatory Implementation

Upon promulgation of these regulations, the effluent limitations for the appropriate subcategory must be applied in all Federal and State NPDES permits issued to affected direct dischargers in the TEC industry. In addition, the pretreatment standards are directly applicable to affected indirect dischargers. This section discusses the relationship of upset and bypass provisions, variances and modifications, and monitoring requirements.

A. Implementation of Limitations and Standards

Upon the promulgation of these regulations, all new and reissued Federal and State NPDES permits issued to direct dischargers in the TEC industry must include the effluent limitations for the appropriate subcategory. Permit writers should be aware that EPA has now finalized revisions to 40 CFR 122.44(a) which could be particularly relevant to the development of NPDES permits for the TEC point source category (see 65 FR 30989, May 15, 2000). As finalized, the revision would require that permits have limitations for all applicable guidelines-listed pollutants but allows for the waiver of sampling requirements for guideline-listed pollutants on a case-by-case basis if the discharger can certify that the pollutant is not present in the discharge or present in only background levels from intake water with no increase due to the activities of the dischargers. New sources and new dischargers are not eligible for this waiver for their first permit term, and monitoring can be re-established through a minor modification if the discharger expands or changes its process. Further, the permittee must notify the permit writer of any modifications that have taken place over the course of the permit term and, if necessary, monitoring can be reestablished through a minor modification.

B. Upset and Bypass Provisions

A ''bypass'' is an intentional diversion of waste streams 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 are set forth at 40 CFR 122.41(m) and (n), and 40 CFR 403.16 (upset) and 403.17 (bypass).

C. Variances and Modifications

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.

1. Fundamentally Different Factors Variances

EPA will develop effluent limitations guidelines 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 guidelines 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 limitation 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 categorical 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 an 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 guidelines 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 (*e.g.,* 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 EPA in developing the nationally applicable effluent guidelines. The regulation also lists four other factors (*e.g.,* 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 EPA in establishing the applicable guidelines. The pretreatment regulation 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. Removal Credits

The CWA establishes a discretionary program for POTWs to grant ''removal credits'' to their indirect dischargers. This credit in the form of a less stringent pretreatment standard, allows an increased concentration of a pollutant in the flow from the indirect discharger's facility to the POTW (*See* 40 CFR 403.7). EPA has promulgated removal credit regulations as part of its pretreatment regulations.

The following discussion provides a description of the existing removal credit regulations. Under EPA's existing pretreatment regulations, the availability of a removal credit for a particular pollutant is linked to the POTW method of using or disposing of its sewage sludge. The regulations provide that removal credits are only available for certain pollutants regulated in EPA's 40 CFR Part 503 sewage sludge regulations (58 FR 9386). The pretreatment regulations at 40 CFR Part 403 provide that removal credits may be made potentially available for the following pollutants:

(1) If a POTW applies its sewage sludge to the land for beneficial uses, disposes of it on surface disposal sites or incinerates it, removal credits may be available, depending on which use or disposal method is selected (so long as the POTW complies with the requirements in Part 503). When sewage sludge is applied to land, removal credits may be available for ten metals. When sewage sludge is disposed of on a surface disposal site, removal credits may be available for three metals. When the sewage sludge is incinerated, removal credits may be available for seven metals and for 57 organic pollutants (40 CFR 403.7(a)(3)(iv)(A)).

(2) In addition, when sewage sludge is used on land or disposed of on a surface disposal site or incinerated, removal credits may also be available for additional pollutants so long as the concentration of the pollutant in sludge does not exceed a concentration level established in Part 403. When sewage sludge is applied to land, removal credits may be available for two additional metals and 14 organic pollutants. When the sewage sludge is disposed of on a surface disposal site, removal credits may be available for seven additional metals and 13 organic pollutants. When the sewage sludge is incinerated, removal credits may be available for three other metals (40 CFR 403.7(a)(3)(iv)(B)).

(3) When a POTW disposes of its sewage sludge in a municipal solid waste landfill (MSWLF) that meets the criteria of 40 CFR Part 258, removal credits may be available for any pollutant in the POTW's sewage sludge (40 CFR 403.7(a)(3)(iv)(C)). Thus, given compliance with the requirements of EPA's removal credit regulations,[2] following today's promulgation of the pretreatment standards, removal credits may be authorized for any pollutant subject to pretreatment standards if the applying POTW disposes of its sewage sludge in a MSWLF that meets the requirements of 40 CFR Part 258. If the POTW uses or disposes of its sewage sludge by land application, surface disposal or incineration, removal credits may be available for the following metal pollutants (depending on the method of use or disposal): arsenic, cadmium, chromium, copper, iron, lead, mercury, molybdenum, nickel, selenium and zinc. Given compliance with Section 403.7, removal credits may be available for the following organic pollutants (depending on the method of use or disposal) if the POTW uses or disposes of its sewage sludge: benzene, 1,1-dichloroethane, 1,2-dibromoethane, ethylbenzene, methylene chloride, toluene, tetrachloroethene, 1,1,1-trichloroethane, 1,1,2-trichloroethane and trans-1,2-dichloroethene.

Some facilities may be interested in obtaining removal credit authorization for other pollutants being regulated by

[2] Under 40 CFR 403.7, a POTW is authorized to give removal credits only under certain conditions. These include applying for, and obtaining, approval from the Regional Administrator (or Director of a State NPDES program with an approved pretreatment program), a showing of consistent pollutant removal and an approved pretreatment program. *See* 40 CFR 403.7(a)(3)(i), (ii), and (iii).

this rulemaking for which removal credit authorization would not otherwise be available under Part 403. Under Sections 307(b) and 405 of the CWA, EPA may authorize removal credits only when EPA determines that, if removal credits are authorized, that the increased discharges of a pollutant to POTWs resulting from removal credits will not affect POTW sewage sludge use or disposal adversely. As discussed in the preamble to amendments to Part 403 regulations (58 FR 9382–83), EPA has interpreted these sections to authorize removal credits for a pollutant only in one of two circumstances. Removal credits may be authorized for any categorical pollutant (1) for which EPA have established a numerical pollutant limit in Part 503; or (2) which EPA has determined will not threaten human health and the environment when used or disposed in sewage sludge. The pollutants described in paragraphs (1)–(3) above include all those pollutants that EPA either specifically regulated in Part 503 or evaluated for regulation and determined would not adversely affect sludge use and disposal.

D. Relationship of Effluent Limitations to NPDES Permits and Monitoring Requirements

Effluent limitations act as a primary mechanism to control the discharges of pollutants to waters of the United States. These limitations are applied to individual facilities through NPDES permits issued by EPA or authorized States under Section 402 of the Act.

The Agency has developed the limitations for this regulation to cover the discharge of pollutants for this industrial category. In specific cases, the NPDES permitting authority may elect to establish technology-based permit 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 on covered pollutants), the permitting authority must apply those limitations.

Working in conjunction with the effluent limitations are the monitoring conditions set out in a NPDES permit. An integral part of the monitoring conditions is the point at which a facility must monitor to demonstrate compliance. The point at which a sample is collected can have a dramatic effect on the monitoring results for that facility. Therefore, it may be necessary to require internal monitoring points in order to ensure compliance. Authority to address internal waste streams is provided in 40 CFR 122.44(i)(1)(iii) and 122.45(h). Permit writers may establish additional internal monitoring points to the extent consistent with EPA's regulations.

An important component of the monitoring requirements established by the permitting authority is the frequency at which monitoring is required. In costing the various technology options for the TEC industry, EPA assumed monthly monitoring for priority and non-conventional pollutants and weekly monitoring for conventional pollutants. These monitoring frequencies may be lower than those generally imposed by some permitting authorities, but EPA believes these reduced frequencies are appropriate due to the relative costs of monitoring when compared to the estimated costs of complying with the proposed limitations.

E. Analytical Methods

Section 304(h) of the Clean Water Act directs EPA to promulgate guidelines establishing test methods for the analysis of pollutants. TEC facilities use these methods to determine the presence and concentration of pollutants in wastewater, and EPA, State and local control authorities use them 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. To date, EPA has promulgated methods for conventional pollutants, toxic pollutants, and for some non-conventional pollutants. In 40 CFR 401.16, EPA defines the five conventional pollutants. Table I–B at 40 CFR 136 lists the analytical methods approved for these pollutants. The 65 toxic metals and organic pollutants and classes of pollutants are defined at 40 CFR 401.15. From the list of 65 classes of toxic pollutants EPA identified a list of 126 ''Priority Pollutants.'' This list of Priority Pollutants is shown, for example, at 40 CFR Part 423, Appendix A. The list includes non-pesticide organic pollutants, metal pollutants, cyanide, asbestos, and pesticide pollutants. 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 TEC facilities, unless specified otherwise by the permitting authority.

The final rule would require facilities in the TEC point source category to monitor for BOD_5, TSS, Oil and Grease (HEM), non-polar material (SGT–HEM), Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc, Fluoranthene, Phenanthrene, and pH. EPA has approved test methods for all these pollutants at 40 CFR Part 136.3. EPA recently published an amendment to EPA Methods 625 and 1625 that expands the list of analytes that can be measured using these methods, (see Landfills final rule, 65 FR 3008, January 19, 2000).

As stated in the proposal (see Table 10 at 63 FR 34736, June 25, 1998), EPA used Method 1625C to collect analytical data for the semivolatile organics. The proposal further stated that commenters should use these methods or equivalent methods for analyses. In 1998, EPA also proposed to amend Methods 625 and 1625 to include additional pollutants to be measured under effluent guidelines for the Centralized Waste Treatment point source category (64 FR 2345). Since then, EPA has gathered data on the capacity of these methods to measure the additional pollutants. The modifications to EPA Methods 625 and 1625 consist of text, performance data, and quality control (QC) acceptance criteria for the additional analytes. EPA validated the QC acceptance criteria for the additional analytes in single-laboratory studies that included TEC wastewater. The collected data are summarized in a report contained in the docket for today's rulemaking.

In today's rule, EPA is approving the use of EPA Method 1625 (published at 40 CFR part 136.3, appendix A) for Fluoranthene and Phenanthrene. Method 625 (also published at 40 CFR part 136.3, appendix A) may also be used to monitor for Fluoranthene and Phenanthrene since these two analytes are listed in that method for general application.

Appendix A: Definitions, Acronyms, and Abbreviations Used in This Notice

AGENCY—The U.S. Environmental Protection Agency.

BAT—The best available technology economically achievable, as described in Section 304(b)(2) of the CWA.

BCT—The best conventional pollutant control technology, as described in Section 304(b)(4) of the CWA.

BOD_5—Five Day Biochemical Oxygen Demand. A measure of biochemical decomposition of organic matter in a water sample. It is determined by measuring the dissolved oxygen consumed by microorganisms to oxidize the organic matter in a water sample under standard laboratory

conditions of five days and 70° C, see Method 405.1. BOD5 is not related to the oxygen requirements in chemical combustion.

BPT—The best practicable control technology currently available, as described in Section 304(b)(1) of the CWA.

CARGO—Any chemical, material, or substance transported in a tank truck, closed-top hopper truck, intermodal tank container, rail tank car, closed-top hopper rail car, tank barge, closed-top hopper barge, or ocean/sea tanker that comes in direct contact with the chemical, material, or substance. A cargo may also be referred to as a commodity.

CLOSED-TOP HOPPER RAIL CAR—A completely enclosed storage vessel pulled by a locomotive that is used to transport dry bulk commodities or cargos over railway access lines. Closed-top hopper rail cars are not designed or contracted to carry liquid commodities or cargos and are typically used to transport grain, soybeans, soy meal, soda ash, lime, fertilizer, plastic pellets, flour, sugar, and similar commodities or cargos. The commodities or cargos transported come in direct contact with the hopper interior. Closed-top hopper rail cars are typically divided into three compartments, carry the same commodity or cargo in each compartment, and are generally top loaded and bottom unloaded. The hatch covers on closed-top hopper rail cars are typically longitudinal hatch covers or round manhole covers.

CLOSED-TOP HOPPER TRUCK—A motor-driven vehicle with a completely enclosed storage vessel used to transport dry bulk commodities or cargos over roads and highways. Closed-top hopper trucks are not designed or constructed to carry liquid commodities or cargos and are typically used to transport grain, soybeans, soy meal, soda ash, lime, fertilizer, plastic pellets, flour, sugar, and similar commodities or cargos. The commodities or cargos transported come in direct contact with the hopper interior. Closed-top hopper trucks are typically divided into three compartments, carry the same commodity or cargo in each compartment, and are generally top loaded and bottom unloaded. The hatch covers used on closed-top hopper trucks are typically longitudinal hatch covers or round manhole covers. Closed-top hopper trucks are also commonly referred to as dry bulk hoppers.

CLOSED-TOP HOPPER BARGE—A non-self-propelled vessel constructed or adapted primarily to carry dry commodities or cargos in bulk through rivers and inland waterways, and may occasionally carry commodities or cargos through oceans and seas when in transit from one inland waterway to another. Closed-top hopper barges are not designed to carry liquid commodities or cargos and are typically used to transport corn, wheat, soy beans, oats, soy meal, animal pellets, and similar commodities or cargos. The commodities or cargos transported come in direct contact with the hopper interior. The basic types of tops on closed-top hopper barges are telescoping rolls, steel lift covers, and fiberglass lift covers.

COD—Chemical oxygen demand—A non-conventional bulk parameter that measures the oxygen-consuming capacity of refractory organic and inorganic matter present in water or wastewater. COD is expressed as the amount of oxygen consumed from a chemical oxidant in a specific test, see Methods 410.1 through 401.4.

COMMODITY—Any chemical, material, or substance transported in a tank truck, closed-top hopper truck, intermodal tank container, rail tank car, closed-top hopper rail car, tank barge, closed-top hopper barge, ocean/sea tanker, or similar tank that comes in direct contact with the chemical, material, or substance. A commodity may also be referred to as a cargo.

CONVENTIONAL POLLUTANTS—The pollutants identified in Section 304(a)(4) of the CWA and the regulations thereunder (biochemical oxygen demand (BOD_5), total suspended solids (TSS), oil and grease, fecal Commentors, and pH).

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

CWA—Centralized Waste Treaters Effluent Guideline.

DIRECT DISCHARGER—A facility that conveys or may convey untreated or facility-treated process wastewater or nonprocess wastewater directly into waters of the United States, such as rivers, lakes, or oceans. (See United States Surface Waters definition.)

DRUM—A metal or plastic cylindrical container with either an open-head or a tight-head (also known as bung-type top) used to hold liquid, solid, or gaseous commodities or cargos which are in direct contact with the container interior. Drums typically range in capacity from 30 to 55 gallons.

FOOD GRADE CARGO—Food grade cargos include edible and non-edible food products. Specific examples of food grade products include but are not limited to: alcoholic beverages, animal by-products, animal fats, animal oils, caramel, caramel coloring, chocolate, corn syrup and other corn products, dairy products, dietary supplements, eggs, flavorings, food preservatives, food products that are not suitable for human consumption, fruit juices, honey, lard, molasses, non-alcoholic beverages, salt, sugars, sweeteners, tallow, vegetable oils, vinegar, and pool water.

HEEL—Any material remaining in a tank or container following unloading, delivery, or discharge of the transported cargo. Heels may also be referred to as container residue, residual materials or residuals.

HEXANE EXTRACTABLE MATERIAL (HEM)—A method-defined parameter that measures the presence of relatively nonvolatile hydrocarbons, vegetable oils, animal fats, waxes, soaps, greases, and related materials that are extractable in the solvent n-hexane. See Method 1664.

HEM is also referred to as oil and grease.

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

INTERMEDIATE BULK CONTAINER (IBC OR TOTE)—A completely enclosed storage vessel used to hold liquid, solid, or gaseous commodities or cargos which are in direct contact with the tank interior. Intermediate bulk containers may be loaded onto flat beds for either truck or rail transport, or onto ship decks for water transport. IBCs are portable containers with 450 liters (119 gallons) to 3000 liters (793 gallons) capacity. IBCs are also commonly referred to as totes or tote bins.

INTERMODAL TANK CONTAINER—A completely enclosed storage vessel used to hold liquid, solid, or gaseous commodities or cargos which come in direct contact with the tank interior. Intermodal tank containers may be loaded onto flat beds for either truck or rail transport, or onto ship decks for water transport. Containers larger than 3000 liters capacity are considered intermodal tank containers. Containers smaller than 3000 liters capacity are considered IBCs.

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 final regulation.

NEW SOURCE—''New source'' is defined at 40 CFR 122.2 and 122.29(b).

NON-CONVENTIONAL POLLUTANT—Pollutants other than those specifically defined as conventional pollutants (identified in Section 304(a)(4) of the Clean Water Act) or priority pollutants (identified in 40 CFR Part 423, Appendix A).

NON-DETECT VALUE—A concentration-based measurement reported below the sample specific detection limit that can reliably be measured by the analytical method for the pollutant.

NON-POLAR MATERIAL—A method-defined parameter that measures the presence of mineral oils that are extractable in the solvent n-hexane and not absorbed by silica gel. See Method 1664.

NPDES—The National Pollutant Discharge Elimination System authorized under Section 402 of the CWA. NPDES requires permits for discharge of pollutants from any point source into waters of the United States.

NONPROCESS WASTEWATER—Wastewater that is not generated from industrial processes or that does not come into contact with process wastewater. Nonprocess wastewater includes, but is not limited to, wastewater generated from restrooms, cafeterias, and showers.

NSPS—New Source Performance Standards, under Section 306 of the CWA.

OCEAN/SEA TANKER—A self- or non-self-propelled vessel constructed or adapted to transport commodities or cargos in bulk in cargo spaces (or tanks) through oceans and seas, where the commodity or cargo carried comes in direct contact with the tank interior. There are no maximum or minimum vessel or tank volumes.

OFF SITE—''Off site'' means outside the contiguous and non-contiguous established boundaries of the facility.

OIL AND GREASE—A method-defined parameter that measures the presence of relatively nonvolatile hydrocarbons, vegetable oils, animal fats, waxes, soaps, greases, and related materials that are extractable in either n-hexane (referred to as HEM, see Method 1664) or Freon 113 (1,1,2-tricholoro-1,2,2-trifluoroethane, see Method 413.1). Data collected by EPA in support of the TEC effluent guideline utilized method 1664.

ON SITE—''On site'' means within the contiguous and non-contiguous established boundaries of the facility.

PETROLEUM CARGO—Petroleum cargos include the products of the fractionation or straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking, or other refining processes. For purposes of this rule, petroleum cargos also include products obtained from the refining or processing of natural gas and coal. For purposes of this rule, specific examples of petroleum products include but are not limited to: asphalt; benzene; coal tar; crude oil; cutting oil; ethyl benzene; diesel fuel; fuel additives; fuel oils; gasoline; greases; heavy, medium, and light oils; hydraulic fluids, jet fuel; kerosene; liquid petroleum gases (LPG) including butane and propane; lubrication oils; mineral spirits; naphtha; olefin, paraffin, and other waxes; tall oil; tar; toluene; xylene; and waste oil.

POTW—Publicly-owned treatment works, as defined at 40 CFR 403.3(0).

PRETREATMENT STANDARD—A regulation that establishes industrial wastewater effluent quality required for discharge to a POTW. (CWA Section 307(b).)

PRIORITY POLLUTANTS—The pollutants designated by EPA as priority in 40 CFR Part 423 Appendix A.

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

PSNS—Pretreatment standards for new sources, under Section 307(b) and (c) of the CWA.

RAIL TANK CAR—A completely enclosed storage vessel pulled by a locomotive that is used to transport liquid, solid, or gaseous commodities or cargos over railway access lines. A rail tank car storage vessel may have one or more storage compartments and the stored commodities or cargos come in direct contact with the tank interior. There are no maximum or minimum vessel or tank volumes.

RCRA—Resource Conservation and Recovery Act (PL 94–580) of 1976, as amended (42 U.S.C. 6901, *et. seq.*).

SILICA GEL TREATED HEXANE EXTRACTABLE MATERIAL (SGT–HEM)—A method-defined parameter that measures the presence of mineral oils that are extractable in the solvent n-hexane and not adsorbed by silica gel. See Method 1664. SGT–HEM is also referred to as non-polar material.

TANK—A generic term used to describe any closed container used to transport commodities or cargos. The commodities or cargos transported come in direct contact with the container interior, which is cleaned by TEC facilities. Examples of containers which are considered tanks include : tank trucks, closed-top hopper trucks, intermodal tank containers, rail tank cars, closed-top hopper rail cars, tank barges, closed-top hopper barges, and ocean/sea tankers. Containers used to transport pre-packaged materials are not considered tanks, nor are 55-gallon drums or pails or intermediate bulk containers.

TANK BARGE—A non-self-propelled vessel constructed or adapted primarily to carry commodities or cargos in bulk in cargo spaces (or tanks) through rivers and inland waterways, and may occasionally carry commodities or cargos through oceans and seas when in transit from one inland waterway to another. The commodities or cargos transported are in direct contact with the tank interior. There are no maximum or minimum vessel or tank volumes.

TANK TRUCK—A motor-driven vehicle with a completely enclosed storage vessel used to transport liquid, solid or gaseous materials over roads and highways. The storage vessel or tank may be detachable, as with tank trailers, or permanently attached. The commodities or cargos transported come in direct contact with the tank interior. A tank truck may have one or more storage compartments. There are no maximum or minimum vessel or tank volumes. Tank trucks are also commonly referred to as cargo tanks or tankers.

TEC INDUSTRY—Transportation Equipment Cleaning Industry.

TOTES OR TOTE BINS—A completely enclosed storage vessel used to hold liquid, solid, or gaseous commodities or cargos which come in direct contact with the vessel interior. Totes may be loaded onto flat beds for either truck or rail transport, or onto ship decks for water transport. There are no maximum or minimum values for tote volumes, although larger containers are generally considered to be intermodal tank containers. Totes or tote bins are also referred to as intermediate bulk containers or IBCs. Fifty-five gallon drums and pails are not considered totes or tote bins.

TSS—TOTAL SUSPENDED SOLIDS—A measure of the amount of particulate matter that is suspended in a water sample. The measure is obtained by filtering a water sample of known volume. The particulate material retained on the filter is then dried and weighed, see Method 160.2.

VOLATILE ORGANIC COMPOUNDS (VOCs)—Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. See 40 CFR Part 51.100 for additional detail and exclusions

ZERO DISCHARGE FACILITY—Facilities that do not discharge pollutants to waters of the United States or to a POTW. Also included in this definition are discharge of pollutants by way of evaporation, deep-well injection, off-site transfer to a treatment facility, and land application.

List of Subjects in 40 CFR Part 442

Environmental protection, Barge cleaning, Rail tank cleaning, Tank cleaning, Transportation equipment cleaning, Waste treatment and disposal, Water pollution control.

Dated: June 15, 2000.

Carol M. Browner,

Administrator.

Accordingly, part 442 is added to 40 CFR chapter I to read as follows:

PART 442—TRANSPORTATION EQUIPMENT CLEANING POINT SOURCE CATEGORY

Sec.

Subpart A—Tank Trucks and Intermodal Tank Containers Transporting Chemical and Petroleum Cargos

Subpart B—Rail Tank Cars Transporting Chemical and Petroleum Cargos

Subpart C—Tank Barges and Ocean/Sea Tankers Transporting Chemical and Petroleum Cargos

Subpart D—Tanks Transporting Food Grade Cargos

Authority: 33 U.S.C. 1311, 1314, 1316, 1317, 1318, 1342 and 1361.

§ 442.1 General applicability.

(a) As defined more specifically in each subpart, and except for discharges specified in paragraph (b) of this section, this part applies to discharges resulting from cleaning the interior of tanks used to transport chemical, petroleum or food grade cargos. This part does not apply to facilities that clean only the exteriors of transportation equipment. Operations which may be subject to this part typically are reported under a wide variety of Standard Industrial Classification (SIC) codes. Several of the most common SIC codes include: SIC 7699, SIC 4741, or SIC 4491 (1987 SIC Manual).

(b) This part is not applicable to the following discharges:

(1) Wastewaters associated with tank cleanings operated in conjunction with other industrial, commercial, or Publicly Owned Treatment Works (POTW) operations, provided that the cleaning is limited to tanks that previously contained raw materials, by-products, or finished products that are associated with the facility's on-site processes.

(2) Wastewaters resulting from cleaning the interiors of drums, intermediate bulk containers, or closed-top hoppers.

(3) Wastewater from a facility that discharges less than 100,000 gallons per year of transportation equipment cleaning process wastewater.

§ 442.2 General definitions.

(a) In addition to the general definitions and abbreviations at 40 CFR part 401, the following definitions shall apply to this part:

Chemical cargos mean, but are not limited to, the following: latex, rubber, plastics, plasticizers, resins, soaps, detergents, surfactants, agricultural chemicals and pesticides, hazardous waste, organic chemicals including: alcohols, aldehydes, formaldehydes, phenols, peroxides, organic salts, amines, amides, other nitrogen compounds, other aromatic compounds, aliphatic organic chemicals, glycols, glycerines, and organic polymers; refractory organic compounds including: ketones, nitriles, organo-metallic compounds containing chromium, cadmium, mercury, copper, zinc; and inorganic chemicals including: aluminum sulfate, ammonia, ammonium nitrate, ammonium sulfate, and bleach. Cargos which are not considered to be food grade or petroleum cargos are considered to be chemical cargos.

Closed-top hopper means a completely enclosed storage vessel used to transport dry bulk cargos, either by truck, rail, or barge. Closed-top hoppers are not designed or constructed to carry liquid cargos and are typically used to transport grain, soybeans, soy meal, soda ash, lime, fertilizer, plastic pellets, flour, sugar, and similar commodities or cargos. The cargos transported come in direct contact with the hopper interior. Closed-top hoppers are also commonly referred to as dry bulk hoppers.

Drums mean metal or plastic cylindrical containers with either an open-head or a tight-head (also known as bung-type top) used to hold liquid, solid, or gaseous commodities or cargos which are in direct contact with the container interior. Drums typically range in capacity from 30 to 55 gallons.

Food grade cargos mean edible and non-edible food products. Specific examples of food grade cargos include, but are not limited to, the following: alcoholic beverages, animal by-products, animal fats, animal oils, caramel, caramel coloring, chocolate, corn syrup and other corn products, dairy products, dietary supplements, eggs, flavorings, food preservatives, food products that are not suitable for human consumption, fruit juices, honey, lard, molasses, non-alcoholic beverages, sweeteners, tallow, vegetable oils, and vinegar.

Heel means any material remaining in a tank following unloading, delivery, or discharge of the transported cargo. Heels may also be referred to as container residue, residual materials or residuals.

Intermediate bulk container (''IBC'' or ''Tote'') means a completely enclosed storage vessel used to hold liquid, solid, or gaseous commodities or cargos which are in direct contact with the container interior. IBCs may be loaded onto flat beds for either truck or rail transport, or onto ship decks for water transport. IBCs are portable containers with 450 liters (119 gallons) to 3000 liters (793 gallons) capacity. IBCs are also commonly referred to as totes or tote bins.

Intermodal tank container means a completely enclosed storage vessel used to hold liquid, solid, or gaseous commodities or cargos which come in direct contact with the tank interior. Intermodal tank containers may be loaded onto flat beds for either truck or rail transport, or onto ship decks for water transport. Containers larger than 3000 liters capacity are considered intermodal tank containers. Containers smaller than 3000 liters capacity are considered IBCs.

Ocean/sea tanker means a self or non-self-propelled vessel constructed or adapted to transport liquid, solid or gaseous commodities or cargos in bulk in cargo spaces (or tanks) through oceans and seas, where the commodity or cargo carried comes in direct contact with the tank interior. There are no maximum or minimum vessel or tank volumes.

On-site means within the contiguous and non-contiguous established boundaries of a facility.

Petroleum cargos mean products of the fractionation or straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking, or other refining processes. For purposes of this rule, petroleum cargos also include products obtained from the refining or processing of natural gas and coal. For purposes of this rule, specific examples of petroleum products include but are not limited to: asphalt; benzene; coal tar; crude oil; cutting oil; ethyl benzene; diesel fuel; fuel additives; fuel oils; gasoline; greases; heavy, medium, and light oils; hydraulic fluids, jet fuel; kerosene; liquid petroleum gases (LPG) including butane and propane; lubrication oils; mineral spirits; naphtha; olefin, paraffin, and other waxes; tall oil; tar; toluene; xylene; and waste oil.

Pollution Prevention Allowable Discharge for this subpart means the quantity of/concentrations of pollutants in wastewaters being discharged to publicly owned treatment works after a facility has demonstrated compliance with the Pollutant Management Plan provisions in §§ 442.15(b), 442.16(b), 442.25(b), or 442.26(b) of this part.

Prerinse/presteam means a rinse, typically with hot or cold water, performed at the beginning of the cleaning sequence to remove residual material from the tank interior.

Presolve wash means the use of diesel, kerosene, gasoline, or any other type of fuel or solvent as a tank interior cleaning solution.

Rail Tank Car means a completely enclosed storage vessel pulled by a locomotive that is used to transport liquid, solid, or gaseous commodities or cargos over railway access lines. A rail tank car storage vessel may have one or more storage compartments and the stored commodities or cargos come in direct contact with the tank interior. There are no maximum or minimum vessel or tank volumes.

Tank barge means a non-self-propelled vessel constructed or adapted primarily to carry liquid, solid or gaseous commodities or cargos in bulk

in cargo spaces (or tanks) through rivers and inland waterways, and may occasionally carry commodities or cargos through oceans and seas when in transit from one inland waterway to another. The commodities or cargos transported are in direct contact with the tank interior. There are no maximum or minimum vessel or tank volumes.

Tank truck means a motor-driven vehicle with a completely enclosed storage vessel used to transport liquid, solid or gaseous materials over roads and highways. The storage vessel or tank may be detachable, as with tank trailers, or permanently attached. The commodities or cargos transported come in direct contact with the tank interior. A tank truck may have one or more storage compartments. There are no maximum or minimum vessel or tank volumes. Tank trucks are also commonly referred to as cargo tanks or tankers.

Transportation equipment cleaning (TEC) process wastewater means all wastewaters associated with cleaning the interiors of tanks including: tank trucks; rail tank cars; intermodal tank containers; tank barges; and ocean/sea tankers used to transport commodities or cargos that come into direct contact with the interior of the tank or container. At those facilities that clean tank interiors, TEC process wastewater also includes wastewater generated from washing vehicle exteriors, equipment and floor washings, TEC-contaminated stormwater, wastewater prerinse cleaning solutions, chemical cleaning solutions, and final rinse solutions. TEC process wastewater is defined to include only wastewater generated from a regulated TEC subcategory. Therefore, TEC process wastewater does not include wastewater generated from cleaning hopper cars, or from food grade facilities discharging to a POTW. Wastewater generated from cleaning tank interiors for purposes of shipping products (i.e., cleaned for purposes other than maintenance and repair) is considered TEC process wastewater. Wastewater generated from cleaning tank interiors for the purposes of maintenance and repair on the tank is not considered TEC process wastewater. Facilities that clean tank interiors solely for the purposes of repair and maintenance are not regulated under this Part.

(b) The parameters regulated in this part and listed with approved methods of analysis in Table IB at 40 CFR 136.3, are defined as follows:

(1) *BOD_5* means 5-day biochemical oxygen demand.

(2) *Cadmium* means total cadmium.

(3) *Chromium* means total chromium.

(4) *Copper* means total copper.

(5) *Lead* means total lead.

(6) *Mercury* means total mercury

(7) *Nickel* means total nickel.

(8) *Oil and Grease (HEM)* means oil and grease (Hexane-Extractable Material) measured by Method 1664.

(9) *Non-polar material (SGT–HEM)* means the non-polar fraction of oil and grease (Silica Gel Treated Hexane-Extractable Material) measured by Method 1664.

(10) *TSS* means total suspended solids.

(11) *Zinc* means total zinc.

(c) The parameters regulated in this part and listed with approved methods of analysis in Table IC at 40 CFR 136.3, are as follows:

(1) Fluoranthene.

(2) Phenanthrene.

§ 442.3 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.

Subpart A—Tank Trucks and Intermodal Tank Containers Transporting Chemical and Petroleum Cargos

§ 442.10 Applicability.

This subpart applies to discharges resulting from the cleaning of tank trucks and intermodal tank containers which have been used to transport chemical or petroleum cargos.

§ 442.11 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, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BPT:

(a) Effluent Limitations

Regulated parameter	Maximum daily [1]	Maximum monthly avg. [1]
BOD_5	61	22
TSS	58	26
Oil and grease (HEM)	36	16
Copper	0.84	.....
Mercury	0.0031	.....
pH	([2])	([2])

[1] Mg/L (ppm)

[2] Within 6 to 9 at all times.

§ 442.12 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, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BCT: Limitations for BOD_5, TSS, oil and grease (HEM) and pH are the same as the corresponding limitation specified in § 442.11.

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

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BAT: Limitations for copper, mercury, and oil and grease (HEM) are the same as the corresponding limitation specified in § 442.11.

§ 442.14 New source performance standards (NSPS).

Any new point source subject to this subpart must achieve the following performance standards: Standards for BOD_5, TSS, oil and grease (HEM), copper, mercury, and pH are the same as the corresponding limitation specified in § 442.11.

§ 442.15 Pretreatment standards for existing sources (PSES).

(a) Except as provided in 40 CFR 403.7 and 403.13 or in paragraph (b) of this section, no later than August 14, 2003, any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must achieve PSES as follows:

TABLE—PRETREATMENT STANDARDS

Regulated parameter	Maximum daily [1]
Non-polar material (SGT–HEM)	26
Copper	0.84
Mercury	0.0031

[1] Mg/L (ppm).

(b) As an alternative to achieving PSES as defined in paragraph (a) of this section, any existing source subject to paragraph (a) of this section may have a pollution prevention allowable discharge of wastewater pollutants, as defined in § 442.2, if the source agrees to control mechanism with the control authority as follows:

(1) The discharger shall prepare a Pollutant Management Plan that satisfies the requirements as specified in paragraph (b)(5) of this section, and the

discharger shall conduct its operations in accordance with that plan.

(2) The discharger shall notify its local control authority prior to renewing or modifying its individual control mechanism or pretreatment agreement of its intent to achieve the pollution prevention allowable discharge pretreatment standard by submitting to the local control authority a certification statement of its intent to utilize a Pollutant Management Plan as specified in paragraph (b)(1) of this section. The certification statement must be signed by the responsible corporate officer as defined in 40 CFR 403.12(l);

(3) The discharger shall submit a copy of its Pollutant Management Plan as described in paragraph (b)(1) of this section to the appropriate control authority at the time he/she applies to renew, or modify its individual control mechanism or pretreatment agreement; and

(4) The discharger shall maintain at the offices of the facility and make available for inspection the Pollutant Management Plan as described in paragraph (b)(1) of this section.

(5) The Pollutant Manager Plan shall include:

(i) procedures for identifying cargos, the cleaning of which is likely to result in discharges of pollutants that would be incompatible with treatment at the POTW;

(ii) for cargos identified as being incompatible with treatment at the POTW, the Plan shall provide that heels be fully drained, segregated from other wastewaters, and handled in an appropriate manner;

(iii) for cargos identified as being incompatible with treatment at the POTW, the Plan shall provide that the tank be prerinsed or presteamed as appropriate and the wastewater segregated from wastewaters to be discharged to the POTW and handled in an appropriate manner, where necessary to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW;

(iv) all spent cleaning solutions, including interior caustic washes, interior presolve washes, interior detergent washes, interior acid washes, and exterior acid brightener washes shall be segregated from other wastewaters and handled in an appropriate manner, where necessary to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW;

(v) provisions for appropriate recycling or reuse of cleaning agents;

(vi) provisions for minimizing the use of toxic cleaning agents (solvents, detergents, or other cleaning or brightening solutions);

(vii) provisions for appropriate recycling or reuse of segregated wastewaters (including heels and prerinse/pre-steam wastes);

(viii) provisions for off-site treatment or disposal, or effective pre-treatment of segregated wastewaters (including heels, prerinse/pre-steam wastes, spent cleaning solutions);

(ix) information on the volumes, content, and chemical characteristics of cleaning agents used in cleaning or brightening operations; and

(x) provisions for maintaining appropriate records of heel management procedures, prerinse/pre-steam management procedures, cleaning agent management procedures, operator training, and proper operation and maintenance of any pre-treatment system;

§ 442.16 Pretreatment standards for new sources (PSNS).

(a) Except as provided in 40 CFR 403.7 and 403.13 or in paragraph (b) of this section, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must achieve PSNS as follows:

TABLE—PRETREATMENT STANDARDS

Regulated parameter	Maximum daily [1]
Non-polar material (SGT–HEM)	26
Copper	0.84
Mercury	0.0031

[1] Mg/L (ppm).

(b) As an alternative to achieving PSNS as defined in paragraph (a) of this section, any existing source subject to paragraph (a) of this section may have a pollution prevention allowable discharge of wastewater pollutants, as defined in § 442.2, if the source agrees to a control mechanism with the control authority as follows:

(1) The discharger shall prepare a Pollutant Management Plan that satisfies the requirements as specified in paragraph (b)(5) of this section, and the discharger shall conduct its operations in accordance with that plan.

(2) The discharger shall notify its local control authority prior to obtaining, renewing, or modifying its individual control mechanism or pretreatment agreement of its intent to achieve the pollution prevention allowable discharge pretreatment standard by submitting to the local control authority a certification statement of its intent to utilize a Pollutant Management Plan as specified in paragraph (b)(1) of this section. The certification statement must be signed by the responsible corporate officer as defined in 40 CFR 403.12(l);

(3) The discharger shall submit a copy of its Pollutant Management Plan as described in paragraph (b)(1) of this section to the appropriate control authority at the time he/she applies to renew, or modify its individual control mechanism or pretreatment agreement; and

(4) The discharger shall maintain at the offices of the facility and make available for inspection the Pollutant Management Plan as described in paragraph (b)(1) of this section.

(5) The Pollutant Management Plan shall include:

(i) Procedures for identifying cargos, the cleaning of which is likely to result in discharges of pollutants that would be incompatible with treatment at the POTW;

(ii) For cargos identified as being incompatible with treatment at the POTW, the Plan shall provide that heels be fully drained, segregated from other wastewaters, and handled in an appropriate manner;

(iii) For cargos identified as being incompatible with treatment at the POTW, the Plan shall provide that the tank be prerinsed or presteamed as appropriate and the wastewater segregated from wastewaters to be discharged to the POTW and handled in an appropriate manner, where necessary to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW;

(iv) All spent cleaning solutions, including interior caustic washes, interior presolve washes, interior detergent washes, interior acid washes, and exterior acid brightener washes shall be segregated from other wastewaters and handled in an appropriate manner, where necessary to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW;

(v) Provisions for appropriate recycling or reuse of cleaning agents;

(vi) Provisions for minimizing the use of toxic cleaning agents (solvents, detergents, or other cleaning or brightening solutions);

(vii) Provisions for appropriate recycling or reuse of segregated wastewaters (including heels and prerinse/pre-steam wastes);

(viii) Provisions for off-site treatment or disposal, or effective pre-treatment of

segregated wastewaters (including heels, prerinse/pre-steam wastes, spent cleaning solutions);

(ix) Information on the volumes, content, and chemical characteristics of cleaning agents used in cleaning or brightening operations; and

(x) Provisions for maintaining appropriate records of heel management procedures, prerinse/pre-steam management procedures, cleaning agent management procedures, operator training, and proper operation and maintenance of any pre-treatment system;

Subpart B—Rail Tank Cars Transporting Chemical and Petroleum Cargos

§ 442.20 Applicability.

This subpart applies to discharges resulting from the cleaning of rail tank cars which have been used to transport chemical or petroleum cargos.

§ 442.21 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, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BPT:

TABLE—EFFLUENT LIMITATIONS

Regulated parameter	Maximum daily [1]	Maximum monthly avg.[1]
BOD_5	61	22
TSS	58	26
Oil and grease (HEM)	36	16
Fluoranthene	0.076	
Phenanthrene	0.34	
pH	(2)	(2)

[1] Mg/L (ppm).
[2] Within 6 to 9 at all times.

§ 442.22 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, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BCT: Limitations for BOD_5, TSS, oil and grease (HEM) and pH are the same as the corresponding limitation specified in § 442.21.

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

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BAT: Limitations for fluoranthene, phenanthrene, and oil and grease (HEM) are the same as the corresponding limitation specified in § 442.21.

§ 442.24 New source performance standards (NSPS).

Any new point source subject to this subpart must achieve the following performance standards: Standards for BOD_5, TSS, oil and grease (HEM), fluoranthene, phenanthrene and pH are the same as the corresponding limitation specified in § 442.21.

§ 442.25 Pretreatment standards for existing sources (PSES).

(a) Except as provided in 40 CFR 403.7 and 403.13 or in paragraph (b) of this section, no later than August 14, 2003 any existing source subject to this subpart which introduces pollutants into a publicly owned treatment works must achieve PSES as follows:

TABLE—PRETREATMENT STANDARDS'

Regulated parameter	Maximum daily[1]
Non-polar material (SGT–HEM)	26
Fluoranthene	0.076
Phenanthrene	0.34

[1] Mg/L (ppm).

(b) As an alternative to achieving PSES as defined in paragraph (a) of this section, any existing source subject to paragraph (a) of this section may have a pollution prevention allowable discharge of wastewater pollutants, as defined in § 442.2, if the source agrees to a control mechanism with the control authority as follows:

(1) The discharger shall prepare a Pollutant Management Plan that satisfies the requirements as specified in paragraph (b)(5) of this section, and the discharger shall conduct its operations in accordance with that plan.

(2) The discharger shall notify its local control authority prior to renewing or modifying its individual control mechanism or pretreatment agreement of its intent to achieve the pollution prevention allowable discharge pretreatment standard by submitting to the local control authority a certification statement of its intent to utilize a Pollutant Management Plan as specified in paragraph (b)(1) of this section. The certification statement must be signed by the responsible corporate officer as defined in 40 CFR 403.12(l);

(3) The discharger shall submit a copy of its Pollutant Management Plan as described in paragraph (b)(1) of this section to the appropriate control authority at the time he/she applies to renew, or modify its individual control mechanism or pretreatment agreement; and

(4) The discharger shall maintain at the offices of the facility and make available for inspection the Pollutant Management Plan as described in paragraph (b)(1) of this section.

(5) The Pollutant Management Plan shall include:

(i) Procedures for identifying cargos, the cleaning of which is likely to result in discharges of pollutants that would be incompatible with treatment at the POTW;

(ii) For cargos identified as being incompatible with treatment at the POTW, the Plan shall provide that heels be fully drained, segregated from other wastewaters, and handled in an appropriate manner;

(iii) For cargos identified as being incompatible with treatment at the POTW, the Plan shall provide that the tank be prerinsed or presteamed as appropriate and the wastewater segregated from wastewaters to be discharged to the POTW and handled in an appropriate manner, where necessary to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW;

(iv) All spent cleaning solutions, including interior caustic washes, interior presolve washes, interior detergent washes, interior acid washes, and exterior acid brightener washes shall be segregated from other wastewaters and handled in an appropriate manner, where necessary to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW;

(v) Provisions for appropriate recycling or reuse of cleaning agents;

(vi) Provisions for minimizing the use of toxic cleaning agents (solvents, detergents, or other cleaning or brightening solutions);

(vii) Provisions for appropriate recycling or reuse of segregated wastewaters (including heels and prerinse/pre-steam wastes);

(viii) Provisions for off-site treatment or disposal, or effective pre-treatment of segregated wastewaters (including heels, prerinse/pre-steam wastes, spent cleaning solutions);

(ix) Information on the volumes, content, and chemical characteristics of cleaning agents used in cleaning or brightening operations; and

(x) Provisions for maintaining appropriate records of heel management

procedures, prerinse/pre-steam management procedures, cleaning agent management procedures, operator training, and proper operation and maintenance of any pre-treatment system;

§ 442.26 Pretreatment standards for new sources (PSNS).

(a) Except as provided in 40 CFR 403.7 and 403.13 or in paragraph (b) of this section, any new source subject to this subpart which introduces pollutants into a publicly owned treatment works must achieve PSNS as follows:

TABLE—PRETREATMENT STANDARDS

Regulated parameter	Maximum daily[1]
Non-polar material (SGT–HEM)	26
Fluoranthene	0.076
Phenanthrene	0.34

[1] Mg/L (ppm).

(b) As an alternative to achieving PSNS as defined in paragraph (a) of this section, any new source subject to paragraph (a) of this section may have a pollution prevention allowable discharge of wastewater pollutants, as defined in § 442.2, if the source agrees to a control mechanism with the control authority as follows:

(1) The discharger shall prepare a Pollutant Management Plan that satisfies the requirements as specified in paragraph (b)(5) of this section, and the discharger shall conduct its operations in accordance with that plan.

(2) The discharger shall notify its local control authority prior to obtaining, renewing, or modifying its individual control mechanism or pretreatment agreement of its intent to achieve the pollution prevention allowable discharge pretreatment standard by submitting to the local control authority a certification statement of its intent to utilize a Pollutant Management Plan as specified in paragraph (b)(1) of this section. The certification statement must be signed by the responsible corporate officer as defined in 40 CFR 403.12(l);

(3) The discharger shall submit a copy of its Pollutant Management Plan as described in paragraph (b)(1) of this section to the appropriate control authority at the time he/she applies to obtain, renew, or modify its individual control mechanism or pretreatment agreement; and

(4) The discharger shall maintain at the offices of the facility and make available for inspection the Pollutant Management Plan as described in paragraph (b)(1) of this section.

(5) The Pollutant Management Plan shall include:

(i) procedures for identifying cargos, the cleaning of which is likely to result in discharges of pollutants that would be incompatible with treatment at the POTW;

(ii) for cargos identified as being incompatible with treatment at the POTW, the Plan shall provide that heels be fully drained, segregated from other wastewaters, and handled in an appropriate manner;

(iii) for cargos identified as being incompatible with treatment at the POTW, the Plan shall provide that the tank be prerinsed or presteamed as appropriate and the wastewater segregated from wastewaters to be discharged to the POTW and handled in an appropriate manner, where necessary to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW;

(iv) all spent cleaning solutions, including interior caustic washes, interior presolve washes, interior detergent washes, interior acid washes, and exterior acid brightener washes shall be segregated from other wastewaters and handled in an appropriate manner, where necessary to ensure that they do not cause or contribute to a discharge that would be incompatible with treatment at the POTW;

(v) provisions for appropriate recycling or reuse of cleaning agents;

(vi) provisions for minimizing the use of toxic cleaning agents (solvents, detergents, or other cleaning or brightening solutions);

(vii) provisions for appropriate recycling or reuse of segregated wastewaters (including heels and prerinse/pre-steam wastes);

(viii) provisions for off-site treatment or disposal, or effective pre-treatment of segregated wastewaters (including heels, prerinse/pre-steam wastes, spent cleaning solutions);

(ix) information on the volumes, content, and chemical characteristics of cleaning agents used in cleaning or brightening operations; and

(x) provisions for maintaining appropriate records of heel management procedures, prerinse/pre-steam management procedures, cleaning agent management procedures, operator training, and proper operation and maintenance of any pre-treatment system;

Subpart C—Tank Barges and Ocean/Sea Tankers Transporting Chemical and Petroleum Cargos

§ 442.30 Applicability.

This subpart applies to discharges resulting from the cleaning of tank barges or ocean/sea tankers which have been used to transport chemical or petroleum cargos.

§ 442.31 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, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BPT:

TABLE—EFFLUENT LIMITATIONS

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
BOD_5	61	22
TSS	58	26
Oil and grease (HEM)	36	16
Cadmium	0.020	.....
Chromium	0.42	.....
Copper	0.10	.....
Lead	0.14	.....
Mercury	0.0013	.....
Nickel	0.58	.....
Zinc	8.3	.....
pH	([2])	([2])

[1] Mg/L (ppm).
[2] Within 6 to 9 at all times.

§ 442.32 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, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BCT: Limitations for BOD_5, TSS, oil and grease (HEM) and pH are the same as the corresponding limitation specified in § 442.31.

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

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BAT: Limitations for cadmium, chromium, copper, lead, mercury, nickel, and zinc are the same as the corresponding limitation specified in § 442.31.

§ 442.34 New source performance standards (NSPS).

Any new point source subject to this subpart must achieve the following performance standards: Standards for BOD_5, TSS, oil and grease (HEM), cadmium, chromium, copper, lead, mercury, nickel, zinc and pH are the same as the corresponding limitation specified in § 442.31.

§ 442.35 Pretreatment standards for existing sources (PSES).

Except as provided in 40 CFR 403.7 and 403.13, any existing source subject to this subpart must achieve the following pretreatment standards:

TABLE—PRETREATMENT STANDARDS

Regulated parameter	Maximum daily[1]
Non-polar material (SGT–HEM)	26
Cadmium	0.020
Chromium	0.42
Copper	0.10
Lead	0.14
Mercury	0.0013
Nickel	0.58
Zinc	8.3

[1] Mg/L (ppm).

§ 442.36 Pretreatment standards for new sources (PSNS).

Except as provided in 40 CFR 403.7, any new source subject to this subpart must achieve the following pretreatment standards: Standards for non-polar materials (SGT–HEM), cadmium, chromium, copper, lead, mercury, nickel and zinc are the same as the corresponding standard specified in § 442.35.

Subpart D—Tanks Transporting Food Grade Cargos

§ 442.40 Applicability.

This subpart applies to discharges resulting from the cleaning of tank trucks, intermodal tank containers, rail tank cars, tank barges and ocean/sea tankers which have been used to transport food grade cargos. If wastewater generated from cleaning tanks used to transport food grade cargos is mixed with wastewater resulting from cleaning tanks used to transport chemical or petroleum cargos, then the combined wastewater is subject to the provisions established for the corresponding tanks (i.e., truck, railcar or barge) in Subparts A, B, or C of this part.

§ 442.41 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, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BPT:

TABLE—EFFLUENT LIMITATIONS

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
BOD_5	56	24
TSS	230	86
Oil and grease (HEM)	20	8.8
pH	([2])	([2])

[1] Mg/L (ppm).
[2] Within 6 to 9 at all times.

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

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BCT: Limitations for BOD_5, TSS, oil & grease (HEM) and pH are the same as the corresponding limitation specified in § 442.41.

§ 442.43 Effluent limitations attainable by the application of best available technology economically achievable (BAT). [Reserved]

§ 442.44 New source performance standards (NSPS).

Any new point source subject to this subpart must achieve the following performance standards: Standards for BOD_5, TSS, oil and grease (HEM) and pH are the same as the corresponding limitation specified in § 442.41.

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