ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[MD063–3023b; FRL–6379–5]

Approval and Promulgation of Air Quality Implementation Plans; Maryland; Fuel Burning Equipment

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA proposes to approve the State Implementation Plan (SIP) revision submitted by the State of Maryland for the purpose of amending the text of COMAR 26.11.06.05—Sulfur Compounds from Other than Fuel Burning Equipment. The technical amendment removes the term ''fuel burning installations'' and replaces it with ''fuel burning equipment.'' The intent of the regulation is to exempt fuel burning equipment (boilers) from the general provisions found in this regulation because these units are specifically regulated under COMAR 26.11.09—Control of Fuel Burning Equipment, Stationary Internal Combustion Engines and Certain Fuel Burning Installation. In the Final Rules section of this **Federal Register**, EPA is approving the State's SIP submittal as a direct final rule without prior proposal because the Agency views this as a noncontroversial submittal and anticipates no adverse comments. A detailed rationale for the approval is set forth in the direct final rule. If no adverse comments are received in response to this action, no further activity is contemplated. If EPA receives adverse comments, the direct final rule will be withdrawn and all public comments received will be addressed in a subsequent final rule based on this proposed rule. EPA will not institute a second comment period on this action. Any parties interested in commenting on this action should do so at this time.

DATES: Comments must be received in writing by August 19, 1999.

ADDRESSES: Written comments should be addressed to Makeba A. Morris, Chief, Technical Assessment Branch, Mailcode 3AP22, U.S. Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, Pennsylvania 19103. Copies of the documents relevant to this action are available for public inspection during normal business hours at the Air Protection Division, U.S. Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, Pennsylvania 19103; Maryland Department of the Environment, 2500 Broening Highway, Baltimore, Maryland, 21224.

FOR FURTHER INFORMATION CONTACT: Artra B. Cooper, (215) 814–2096, at the EPA Region III address above, or by e-mail at cooper.artra@epamail.epa.gov.

SUPPLEMENTARY INFORMATION: For further information, please see the information provided in the direct final action, with the same title, located in the ''Rules and Regulations'' section of this **Federal Register** publication.

Dated: July 8, 1999.

Thomas Voltaggio,

Acting Regional Administrator, Region III.

[FR Doc. 99–18359 Filed 7–19–99; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 442

[FRL–6400–4]

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

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of data availability.

SUMMARY: On June 25, 1998 (63 FR 34685), EPA proposed technology-based effluent limitations guidelines, pretreatment standards, and new source performance 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 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, inland tank barges, closed-top hopper barges, ocean/sea tankers, and other similar tanks (excluding drums and intermediate bulk containers) used to transport materials or cargos that come into direct contact with the tank or container interior.

This notice presents a summary of data received in comments since the proposal and an assessment of the usefulness of the data in EPA's analyses; presents new data collected by EPA to support effluent limitations in the Barge/Chemical & Petroleum Subcategory; presents a change from the mass-based limits format of the proposal; presents a modified subcategorization approach; reviews technology options considered for regulation; and discusses other specific issues raised by commenters including: selection of pollutants proposed for regulation, the costs associated with the regulation, a low flow exclusion, and the applicability of the rule. EPA solicits public comment on any of the issues or information presented in this notice of data availability and in the administrative record supporting this notice.

DATES: Submit your comments by September 20, 1999.

ADDRESSES: Submit comments to Mr. John Tinger at the following address: US EPA, Engineering and Analysis Division (4303), 401 M. St. SW, Washington, DC 20460.

The data and analyses being announced today are available for review in the EPA Water Docket at EPA Headquarters at Waterside Mall, Room EB–57, 401 M. St. SW, Washington, DC 20460. For access to the docket materials, call (202) 260–3027 between 9:00 a.m. and 4:00 p.m. for an appointment. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For additional technical information, contact Mr. John Tinger at (202) 260–4992 or at the following e-mail address: Tinger.John@epa.gov. For additional economic information contact Mr. George Denning at (202) 260–7374 or at the following e-mail address: Denning.George@epa.gov.

SUPPLEMENTARY INFORMATION:

Contents of This Document

I. Purpose of This Notice

On June 25, 1998 (63 FR 34685), EPA proposed regulations for the Transportation Equipment Cleaning Point Source Category. EPA has received numerous comments and data submissions concerning the proposal. In this document, EPA is making these new data submissions available for comment. Additionally, EPA is providing a discussion of additional analyses performed relating to specific issues raised by commenters. EPA is also presenting a revised approach to several aspects of the proposal which received numerous comments. EPA solicits comment on all revised approaches that EPA will consider for final action.

II. Data Acquired Since the Proposal

Since proposal, EPA has obtained additional data and information from the industry, publicly owned treatment works (POTWs), and the Agency's continued data collection activities. The Agency has included these data, information, and the preliminary results of EPA's evaluation in sections 15 through 22 of the supporting record of this document, available for review in the Water Docket (see **ADDRESSES** section). The industry and POTW information and data submittals are related to cost of treatment, pass through of pollutants at POTWs, and site visit reports from several facilities visited since proposal. The specific data, information, and comments provided to EPA are discussed in detail throughout the following sections of this document.

The Agency collected treatment performance data from two additional Barge/Chemical & Petroleum facilities operating BPT/BAT treatment. The data consisted of effluent self monitoring data for conventional pollutants over a one year period from both facilities, and effluent self monitoring data for priority pollutants over a one year period from one facility, totaling approximately 190 effluent data points. The facilities also provided self monitoring data for chemical oxygen demand (COD) at the influent to biological treatment over the same time period. Complete site visit reports, raw data results, and statistical methodology are available for review in sections 17 and 21 of the supporting record of this document. EPA recalculated the BPT concentration-based effluent limitations and new source performance standards for biochemical oxygen demand (BOD) and total suspended solids (TSS) based on effluent data from these two facilities.

III. Concentration-Based Limitations

EPA proposed to establish mass-based rather than concentration-based limits for the TEC industry, specified as grams of pollutant per tank cleaned. Numerous stakeholders have identified potential difficulties with implementing mass-based limits as proposed. In proposing mass-based limits, the Agency envisioned that the allowable discharge by a facility would be based on the average number of tanks cleaned at that facility on an annual basis. One of the main difficulties with this approach is the high variability in the number of tanks cleaned by a facility. The nature of a service industry is such that a tank cleaning facility has little control over the number of tanks which are brought in to be cleaned on a daily, monthly, or yearly basis. It is similarly difficult to predict the number of tanks that a facility will clean in an upcoming year. The Agency agrees with commenters that this variation may make it difficult to develop appropriate mass-based limits for a facility.

Additionally, the Agency agrees with stakeholders who have stated that the amount of wastewater necessary to clean a tank is dependent on several factors which may make it difficult for a permitting authority to develop appropriate mass based limits. These factors may not have been fully accounted for in the Agency's calculation of the regulatory flow per tank which was used to establish mass-based limits. For example, the amount of water necessary to clean a tank depends on the cargos accepted (products such as molasses and tar will require more water), the type of tanks cleaned (a tank with an interior frame will require more water to clean), and the condition of the tank (some barges are only cleaned every few years and may have accumulated significant amounts of residue which would require greater volumes of water to clean). Because of the variation in the water volumes which may be necessary to clean a tank, EPA agrees that the regulatory flow per tank developed in the proposal may not be appropriate for some facilities. This in turn could lead to inappropriate calculations of mass-based limits, since mass-based limits are calculated on the basis of flow.

Based on these comments and due to the potential difficulties of implementing mass-based limits, EPA will consider promulgating concentration-based limits for the final regulation. Because of this possibility, EPA has presented revised effluent limitations, pretreatment standards and new source performance standards as concentration-based standards for all subcategories in tables at the end of this notice.

Although EPA will consider promulgating concentration-based limits, EPA believes that there would remain an economic incentive for facilities to use as little water as possible in their cleaning operations. In the cost model developed for the proposal, for example, EPA has assessed the cost to install water conservation measures as well as various end-of-pipe wastewater treatment technologies. EPA has determined that the compliance cost to the industry is generally less when water conservation measures are employed. EPA has therefore continued to cost wastewater flow reduction as a component of treatment options in the truck and rail subcategories, even though it may decide to promulgate concentration-based limits. For the Barge/Chemical & Petroleum Subcategory, however, EPA has eliminated costs for flow reduction because of the high variability in wastewater volumes required for barge cleaning.

EPA solicits comment on setting concentration-based limitations.

IV. Modification to Subcategorization Approach

In the proposal, the Agency solicited comment on an approach to subcategorization that would combine the chemical and petroleum subcategories.

The majority of stakeholders submitting comments supported combining the petroleum and chemical subcategories in order to facilitate implementation of the rule. Stakeholders have identified several specific examples of products and situations where it may be difficult to clearly determine whether a facility would be subject to the chemical or petroleum limitations. EPA agrees that the proposed definition of the petroleum and chemical subcategories are not as clear as the Agency would prefer.

One option to address this would be for EPA to clarify the definitions of the petroleum and chemical subcategories, and therefore to clarify the definitions of

''petroleum'' and ''chemical'' cargos. In this instance, EPA would have to make the definitions much more specific to address the numerous applicability issues raised in comments by amending the definition or by specifically listing a significant number of products. EPA believes that this may not be the best approach because it may increase confusion by creating a set of unwieldy definitions which still may not be able to address all potential regulatory circumstances.

In addition, many parties requested that EPA simplify the TEC rule so as to create as little ambiguity as possible. Of particular concern to affected parties was that EPA provide unambiguous, straightforward definitions which provide clear direction for implementation. Therefore, EPA does not believe that augmenting the definition of the petroleum and chemical subcategories would be the best option.

Due to concerns with implementing the subcategorization approach as proposed and the support for this change by commenters, EPA will consider combining the petroleum and chemical subcategories. EPA believes that this approach may provide the most unambiguous and implementable subcategorization scheme.

However, EPA realizes that combining these subcategories would have the consequence of bringing 37 petroleum facilities which the Agency had previously concluded did not merit regulation under coverage of the TEC rule. In the proposal, EPA tentatively decided not to establish limits for the petroleum subcategories due to the low pollutant loadings associated with this segment of the industry. One of the greatest differences in wastewater characteristics between the chemical and petroleum subcategories was the amount of wastewater generated from tank cleaning. Generally, petroleum facilities generate significantly less water than chemical facilities. For example, 288 truck chemical facilities generated 708 million gallons per year of interior cleaning wastewater (average of 2.5 million gallons per facility per year), compared to 34 truck petroleum facilities which generated 2.5 million gallons per year (average of 74,000 gallons per facility per year). For the rail facilities, 38 chemical grade facilities generated 91 million gallons per year (average of 2.4 million gallons per facility per year) compared to three petroleum facilities which generated 2,800 gallons per year (average of 930 gallons per facility per year). The low pollutant loadings associated with the petroleum subcategories can be predominantly attributed to the low wastewater volumes generated from cleaning petroleum products. As discussed in Section V of this notice, EPA is also considering a low flow exclusion of 100,000 gallons per year of regulated TEC process wastewater. As stated above, one reason for not regulating facilities in the petroleum subcategories was due to the low pollutant loads generated by this subcategory. Twenty eight of the 37 facilities in the proposed Truck/Petroleum and Rail/Petroleum Subcategories discharge less than 100,000 gallons of wastewater per year. These facilities also generate much less than 1% of the industry loadings calculated for proposal. Thus, EPA continues to believe that the majority of petroleum facilities do not merit regulation. EPA believes that the approach of excluding facilities on the basis of flow rather than on the basis of cargo would result in a more implementable regulation, and that these changes would be consistent with the rationale and conclusions reached in the proposal.

The combined result of the revised subcategorization approach and low flow exclusion is that one model facility (representing nine facilities) excluded at proposal would be added to the Truck/Chemical & Petroleum Subcategory. This model facility was evaluated as a small business in the impacts analysis and Small Business Regulatory Enforcement Fairness Act (SBREFA) panel report and review (section 12, DCN T10301 of the proposed record) and dischargers approximately 200,000 gallons per year of TEC wastewater. This facility does not experience closure as a result of compliance costs in the Truck/Chemical & Petroleum Subcategory. In addition, one model facility (representing 11 facilities) previously regulated in the Truck/Chemical Subcategory would be excluded from the regulation.

In the Rail/Chemical & Petroleum Subcategory, two model facilities (representing 8 facilities) previously covered at proposal would be excluded from the regulation if EPA adopts the low flow exclusion. The complete revised costs, loads, and impacts for the subcategories are discussed in section IX of this document.

In addition to combining the chemical and petroleum subcategories, EPA will also consider combining the Truck/Food, Rail/Food, and Barge/Food Subcategories. In the proposal, subcategorization was necessary because the truck, rail, and barge facilities had different regulatory flows per tank which resulted in different mass-based limits for each subcategory. However, if EPA decides to promulgate concentration-based limits, subcategorization by transportation mode is unnecessary and EPA will likely promulgate one set of limits for all food subcategories.

EPA solicits comments on the alternative subcategorization approach that combines the chemical and petroleum subcategories for rail and truck cleaning facilities.

V. Low Flow Exclusion

In the proposal, EPA considered establishing a minimum flow level for defining the scope of the regulation. EPA conducted an analysis of the loads discharged by low flow facilities, but concluded that these facilities discharged proportional loadings and therefore EPA did not propose a low flow exclusion.

Several commenters noted that the lowest flow level EPA considered for an exclusion was 2,000 gallons per day. They suggested that the Agency consider a flow exclusion based on a lower level of wastewater generation. The commenters noted that several POTWs have successfully implemented low flow exclusions of 300 to 500 gallons per day. In order to address these comments, EPA conducted an analysis to determine the effect of a low flow exclusion at 100,000 gallons per year of regulated TEC process wastewater. This equates to approximately 400 gallons per day (assuming 250 days of operation), as was suggested by the commenters. EPA believes that an exclusion based on annual flow is more appropriate than daily flow due to the potential daily variation in wastewater generation rates.

Based on this analysis, EPA found that 28 of 37 facilities in the proposed Truck/Petroleum and Rail/Petroleum Subcategories would qualify for the low flow exclusion. Additionally, 11 indirect discharging Truck/Chemical facilities and eight indirect discharging Rail/Chemical facilities would qualify for the exclusion. One model direct discharging Barge/Chemical & Petroleum facility (representing three facilities) would be excluded because the majority of wastewater generated at this facility is subject to another categorical standard, and the facility generates a small amount of TEC wastewater incidental to its main business.

As discussed in section IV, EPA will consider combining the chemical and petroleum subcategories for the Truck and Rail segments of the industry. EPA therefore analyzed the low flow exclusion in terms of this combined

subcategorization. EPA determined that the loads from the facilities discharging less than 100,000 gallons per year generated much less than 1% of the total loads for the entire truck and rail subcategories.

Due to the very low loadings associated with facilities discharging less than 100,000 gallons per year, EPA will consider adopting a low flow exclusion from this regulation for the TEC guideline. Additionally, EPA has received comments from commercial and manufacturing facilities that may clean a small number of tanks which may not clearly qualify for the exclusion of manufacturing facilities. EPA believes that the adoption of a low flow exclusion will have the benefit of providing flexibility to these facilities which may be unsure of their regulatory status under the TEC guideline.

EPA envisions that the low flow exclusion would apply to any facility which discharges less than 100,000 gallons per year of regulated TEC process wastewater. Regulated TEC wastewater includes only wastewater generated from a regulated TEC subcategory. Process wastewater includes all wastewaters associated with cleaning the interiors of tanks including, but not limited to: tank trucks; rail tank cars; intermodal tank containers; inland tank barges; and ocean/sea tankers used to transport commodities or cargos that come into direct contact with the tank or container interior. TEC process wastewaters also include wastewater generated from washing vehicle exteriors, equipment and floor washings, and TEC-contaminated stormwater. The revised costs and loads discussed in section IX of this document reflect the deletion of model facilities that discharge less than 100,000 gallons per year of regulated TEC process wastewater.

Facilities discharging less than 100,000 gallons per year of regulated 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.

EPA requests comment on the low flow exclusion from this regulation of 100,000 gallons per year. EPA additionally requests comment on alternative low flow exclusions between 100,000 and 500,000 gallons per year. EPA notes that an exclusion set at 200,000 gallons per year would exclude the one remaining model facility in the Truck/Chemical & Petroleum Subcategory that EPA did not originally intend to regulate as part of the proposed Truck/Petroleum Subcategory. EPA will analyze the economic and environmental effects of an exclusion set at this flow level and may consider such an exclusion for the final rule.

VI. Revision of Pollutant Loading Estimates

In the proposal, the Agency calculated pollutant loadings for each regulatory option in each subcategory based on the set of pollutants effectively removed by the treatment technology. These loadings were then used for evaluating the various technology options in each subcategory.

In order to determine the list of pollutants effectively removed, EPA used a set of editing criteria to identify pollutants of interest in the subcategory, and to determine which pollutants were effectively treated by the regulatory option. In general, pollutants were only included in the analysis if they were detected in raw wastewater samples from more than one facility, were detected at an average concentration at least five times the minimum level of quantification (ML), and were removed by 50% or more in the proposed treatment option. These criteria were used to ensure that the pollutants were present at treatable concentrations in raw wastewaters, and that the presence of the pollutant was representative of the industry's wastewater, as described in section VIII.C of the proposal.

In the proposal, EPA described that it used a modified set of editing criteria for pesticide and herbicide pollutants than was used for the other pollutants. Due to the relative toxicity of some pesticides and herbicides even at low levels, the Agency proposed that any pesticide or herbicide detected in any raw wastewater sample be considered a pollutant of interest. No other editing criteria were used to determine if a pesticide or herbicide was a pollutant of interest for the industry.

Many commenters were concerned that the pesticides and herbicides account for a large portion of the toxic loads in the Truck/Chemical and Rail/Chemical Subcategories. Several commenters disagreed with the adoption of modified screening criteria and questioned whether these pesticides and herbicides were actually present in raw wastewaters. Specifically, several of the pesticides and herbicides which contributed a significant portion of the toxic loadings were detected at only one or two facilities, and/or were found at levels only slightly above the ML. Also, commenters noted in several instances that the laboratory results from the primary and secondary columns differed by more than a factor of three, thereby resulting in a ''best obtainable'' qualification of these data. Notably, the detects for coumaphos and azinphos ethyl, which accounted for 74% of the pound equivalent removals in the Truck/Chemical Subcategory Option II, both had this data qualifier. In these instances, commenters argued that the presence of the pesticides and herbicides in the analytical samples may be the result of matrix interference due to the low quantification levels.

Consequently, EPA reviewed the data to confirm that the target analytes were appropriately identified and quantified. EPA reviewed laboratory calculations; compared the database, summary hard copy, and raw data results for transcription errors; double checked all QC data; and evaluated the chromatograms and other raw data. EPA concluded that all calculations were correct and no transcription errors were present among the raw data, summary level, and database results. Blank results showed no signs of contamination, and all calibration verification and ongoing precision and recovery results were within acceptable limits. In addition, surrogate standards, which are spiked into each of the field samples, generated acceptable recoveries. An evaluation of the chromatograms for these samples confirmed that azinphos ethyl and coumophos were appropriately identified within the respective retention time windows of both the primary and secondary columns. The results of this analysis, including the chromatograms, are available for review in section 17.2 of the supporting record for this document.

In instances where the values obtained from the primary and secondary columns differed, the final result reported in the database and used for all Agency calculations is the lower of the two values. This only affected raw wastewater values because effluent wastewater concentrations were generally found below the quantification level, and were therefore set at the ML. Therefore, EPA has consistently used the lowest of the potential sampling values for determining the raw wastewater concentrations, and has used the highest of the potential sampling values for effluent concentrations. This is a conservative approach that likely results in a low bias in subsequent pollutant reduction estimates.

Although the Agency has confirmed the presence of these analytes in wastewater samples, the Agency agrees with commenters that there are concerns about the level of certainty that can be achieved when such low quantification levels are involved. This is a particular concern due to the significant impact that pesticide and

herbicide removals had on the calculation of toxic loadings. Therefore, the Agency is considering applying the same editing criteria to pesticides and herbicides as were established in the proposal for all other pollutants.

In this case, EPA would only consider those pollutants detected at more than one wastewater characterization sample and at an average concentration at least five times the ML as a potential pollutant effectively removed. Although EPA has concluded that pollutants such as azinphos ethyl and coumophos are indeed present in TEC wastewaters, EPA also believes that it may be appropriate to utilize the same criteria for pesticide/herbicide pollutants as were used in the proposal for all non-pesticide/herbicide parameters.

EPA has therefore re-evaluated its list of pollutants effectively removed for each subcategory, applying the applicable criteria to pesticides and herbicides. Under this approach, several pesticides and herbicides would be deleted from the list of pollutants effectively removed. This would in turn significantly decreased the toxic pound equivalents attributed to raw and treated TEC wastewaters.

In section VIII of the proposal, EPA also discussed analytical results for dioxins and furans in raw wastewater for the TEC industry. EPA did not include dioxins and furans in the loadings calculations because EPA assumed that these were isolated, site-specific instances. EPA received several comments disagreeing with the Agency's assumption. In response to this, EPA re-evaluated the presence of dioxins and furans in wastewater based on the standard editing criteria described above. EPA found that several pollutants met the editing criteria to be considered a pollutant effectively removed, and EPA has therefore included several dioxin and furan removals in the loadings calculations.

The revised removals of toxic pound equivalents by each technology option are presented in section IX of this document. EPA solicits comment on the revised methodology for calculating pollutant removals.

VII. Discussion of Applicability Issues

A. Coverage of IBCs

In the proposal, EPA indicated that it did not intend to regulate wastewater generated from Intermediate Bulk Containers (IBCs) for several reasons discussed in the preamble and in the report prepared by the Small Business Advocacy Review Panel. IBCs were defined in the proposal as portable containers with 450 liters (119 gallons) to 3000 liters (793 gallons) capacity. Although EPA did not have data to calculate the loads associated with IBC cleaning, EPA assumed that the loadings generated from IBC cleaning were not a significant portion of the loadings of the TEC industry. EPA based this assumption on several data comparisons. First, based on responses to the 1994 detailed questionnaire (section 6.3. DCN T09842 of the proposed record), EPA estimated that 84,500 IBCs per year were cleaned by the TEC industry. This accounted for only 3% of the units cleaned at TEC facilities. Second, EPA assumed that wastewater generated from IBCs is similar to that of the drum reconditioning industry. EPA reasoned that IBCs were being used as a replacement for 55 gallon drums, and that the cargos being transported in IBCs were similar to those being transported in drums. Therefore, resulting IBC wastewater would be expected to be similar to that of drum reconditioning wastewater. EPA had conducted The Preliminary Data Summary for the Drum Reconditioning Industry (EPA 440/1–89/101 September 1989), and EPA concluded at that time that the industry did not merit national regulation. Drum reconditioning facilities were therefore not considered within the scope of the TEC guideline, and EPA concluded that IBCs should also be excluded from the scope of this guideline.

EPA has received comments which have both agreed and disagreed with the Agency's proposal to exclude IBCs from the scope of the TEC regulation. The most significant comments received on the IBC issue have described the changes in the industry since EPA's data collection efforts. In 1989, the Preliminary Data Summary for the Drum Reconditioning Industry did not collect any data on IBCs because so few IBCs were being used by the industry. By 1994, according to responses to the detailed questionnaire for the TEC industry, over 84,000 IBCs were being cleaned at TEC facilities. Data submitted by commenters have shown that IBC cleanings have increased dramatically in each year since EPA's survey. Based on data provided in comments, EPA now believes that there are up to several million IBCs being cleaning annually.

In the preamble, EPA solicited comment on the loads associated with IBC cleaning, and on the assumption that IBC wastewater was similar to drum reconditioning wastewater. Although no commenters provided data on the raw wastewater characteristics of IBC cleaning wastewater, several commenters did provide information on the amount of heel associated with IBCs as compared to that from drums and tank trucks. As several commenters noted, most IBCs are cleaned at facilities which have historically cleaned either drums or tank trucks, and IBC wastewater is therefore commingled with drums or tank truck cleaning wastewater. For this reason, EPA was unable to obtain wastewater sampling data which would be representative of wastewater generated solely from cleaning IBCs.

In terms of the amount of heel contained in an IBC, one commenter who supports coverage of IBCs said that IBCs typically contain between 0.5 to two gallons of heel. In comparison, a tank truck typically contains one to two gallons of heel, but may contain up to five to 10 gallons of heel for more viscous products. Another commenter who supports no regulation for IBCs noted that IBCs that have carried hazardous waste must contain less than one gallon of residue to be processed by a reconditioner, less than one inch of heel (typically 1.6 gallons) for more viscous products for containers less than 110 gallons, or less than 0.3% residue for containers greater than 110 gallons (approximately 0.83 gallons for a 275-gallon IBC) to be considered RCRA empty.

The 1994 questionnaire for the TEC industry gave similar results, with tank trucks containing <1 to 9 gallons of heel for non-food grade products, and IBCs containing <1 to 2 gallons of heel. EPA has not received any comments on whether or not the cargos transported in IBCs are similar or dissimilar to those transported by drum or tank truck. Based on site visits and conversations with the National Tank Truck Carriers Association, EPA believes that all truck facilities which clean IBCs treat IBC and tank washwater in the same wastewater treatment system, indicating that IBC and tank washwater contain similar constituents in terms of treatability. Personnel at these sites also indicated that they see no significant difference in the types of cargos transported in IBCs or tank trucks. EPA believes that all drum reconditioning facilities that clean IBCs also treat IBC and drum washwater in the same wastewater treatment system.

Based on the increase in IBC cleaning and on the heel generation rate from IBCs, EPA no longer believes that wastewater generated from IBC cleanings represents an insignificant amount of pollutant loadings.

The Association of Container Reconditioners argued that IBCs should be considered industrial packaging units and should be regulated similarly to drums because IBCs are closer in nature

to drums than to tank trucks. The commenter argued that IBCs (typically 275 gallons) are closer in volume to drums (55 gallons) than tank trucks (typically 3,000 gallons), and that IBCs are replacing drums, not tank trucks, in the industry because of their increased efficiency and ability to be re-used. The commenter further stated that this designation is consistent with policies developed by the Department of Transportation, which includes IBCs with drums as industrial packaging units.

EPA agrees that IBCs are more similar to drums than transportation equipment, and continues to believe that wastewater generated from IBC cleaning is outside the scope of this guideline. However, EPA does agree with commenters that IBC wastewater may represent more loadings than was originally considered at proposal. Due to this, EPA is conducting a preliminary evaluation of the industrial repackaging industry, which includes cleaning drums and IBCs, to determine if this industry merits development of national categorical wastewater regulation at a later date. Wastewater generated from IBC cleaning will remain subject to limitations and standards established on a case by case basis using best professional judgement by the permitting authority.

One issue that was raised in comments by the National Tank Truck Carriers Association (NTTC) as a result of EPA proposing to exclude IBCs was the issue of market competition. NTTC argues that tank truck cleaners would suffer a competitive disadvantage from the IBC cleaning business if tank trucks were required to comply with the regulation but IBCs were not covered by the regulation. The commenter argued that a tank truck facility would be subject to effluent guidelines and that IBC wastewater generated at the facility would therefore also be subject to the guidelines, thereby increasing the cost of IBC cleaning at tank truck facilities as compared to the cost at drum reconditioning facilities. EPA agrees that most tank truck facilities commingle wastewater generated from IBC and tank cleaning for treatment, and that IBC wastewater would therefore be subjected to guidelines established for the TEC industry. NTTC further argues that a facility not subject to the TEC guideline, such as a drum reconditioning facility, is not subject to national effluent guidelines and therefore may not incur a similar cost increase for IBC cleaning. EPA realizes that, even if the Agency decides to establish effluent limitations, guidelines and standards for the container reconditioning industry, there may be an interim period where wastewater from IBC cleaning at tank truck facilities may incur additional costs while wastewater from IBC cleaning at drum reconditioning facilities would not incur this cost. This may have an impact on the market for IBC cleaning if the costs are significant.

EPA conducted a market analysis based on the TEC cost model, data submitted in comments, and data gathered by EPA since the proposal. The complete analysis can be found in section 20 of the regulatory record in support of this document. EPA does not have sufficient data to compare the number of IBC cleanings conducted by TEC affected tank truck facilities to the number of IBC cleanings conducted at facilities unaffected by the guideline. Therefore, EPA relied on an analysis of the incremental compliance cost of IBC cleaning that would result from this rule, and compared that to the potential market effects that this increase would have on TEC facilities.

In order to determine the incremental cost per gallon of wastewater treated as a result of the TEC regulation, EPA divided the facility-specific annualized compliance costs by the facility's annual baseline wastewater flow. The incremental cost for IBC cleaning was determined by assuming that 100 gallons of wastewater generated per IBC cleaning would be treated at the facility's treatment system. EPA estimated 100 gallons per cleaning based on facility site visits, comments received on the proposal, and the 308 Detailed Questionnaire. The incremental costs are a result of the additional operation and maintenance costs associated with this wastewater flow. This is consistent with an assumption that the primary business of TEC facilities is cleaning tank trucks, and that capital equipment for wastewater pollutant control is installed for, and effluent monitoring is performed for, tank truck cleaning. Based on this analysis, EPA estimates that the average cost increase incurred by tank truck facilities to clean an IBC as a result of this regulation would be $0.38 per IBC. This represents a cost increase of less than 1% for IBC cleaning at TEC facilities, assuming an average cost per cleaning of $65 to $100.

For a sensitivity analysis, EPA also looked at the total post-tax annualized compliance costs (including annualized capital and monitoring costs in addition to operating and maintenance costs) to determine an upper bound estimate of incremental IBC cleaning costs. For this analysis, EPA found that the full compliance costs of installing capital equipment and monitoring requirements to treat IBC wastewater would increase by a maximum of $1.10 per cleaning, representing less than 2% cost increase for the most conservative assumption.

Based on this analysis, EPA believes that the cost increase to clean IBCs will not have a significant impact on the competitive ability of tank truck carriers to compete for the IBC cleaning market.

EPA solicits comment on the assumptions, methodology, and conclusions of the market analysis conducted by EPA on the effect of not including IBCs within the scope of the TEC regulation. EPA solicits any information on the price of IBC cleaning, the volume of wastewater generated from IBCs, the economic importance of IBC cleaning to affected facilities, and the relative market shares of different types of facilities engaged in IBC cleaning.

B. Overlap With Other Guidelines

EPA has received numerous comments from industrial facilities that are concerned that they may be affected by the TEC guideline. In the proposal, EPA noted that there may be instances when the TEC guideline may overlap with other categorical effluent guidelines.

In the proposal, EPA explained that it does not intend to cover manufacturing facilities which clean their own transportation equipment and treat the wastewater in their treatment system. EPA has outlined its rationale for the exclusion of manufacturing facilities in the proposal. This rationale includes: (1) That wastewater generated from tank cleaning operations at manufacturing facilities is typically a very small percentage of the total flow, (2) that tank cleaning wastewater is typically included in the coverage of the applicable categorical standard, and (3) that the characteristics of the tank cleaning wastewater are similar in treatability to the wastewater generated at the rest of the facility.

EPA has proposed to define the exclusion for manufacturing facilities by excluding those facilities covered, or proposed to be covered, under other Clean Water Act categorical standards. This has excluded most manufacturing facilities in operation, including facilities covered under Organic Chemicals, Plastics and Synthetic Fibers (OCPSF) (40 CFR part 414); Centralized Waste Treatment (CWT) (proposed 40 CFR part 437, 60 FR 5464, January 27,1995; supplemental proposal 64 FR 8, January 13, 1999); Dairy Products Processing Point Source Category (40 CFR part 405); Inorganic Chemicals Manufacturing Point Source Category

(40 CFR part 415); and Petroleum Refining Point Source Category (40 CFR part 415).

Based on the data collected in preliminary studies for certain industries (e.g., Chemical Formulators, Packagers, and Repackagers, Paint Formulators), EPA determined that development of effluent guidelines was not necessary. TEC wastewaters generated by these facilities in these industries are excluded from the applicability of this rule.

In addition, EPA further qualified the exclusion by stating that the exclusion applies only to facilities which clean ''tanks containing cargos or commodities generated or used on-site, or by a facility under the same corporate structure.'' EPA used this qualifier to ensure that a manufacturing facility does not become a commercial TEC operation without being subject to this rulemaking, and that the excluded facility only cleans those cargos which are compatible with the existing wastewater treatment system.

Based on comments received on the proposed rule, EPA believes that it should consider making the exclusion somewhat broader in order to encompass TEC activities which fall within EPA's rationale for exclusion, yet which may fall outside the definition of ''on-site'' or ''same corporate structure.'' Commenters have identified several areas which EPA intends to address in this exclusion: product stewardship activities, tolling or contract manufacturing operations, and manufacturing agreements that are part of divestitures, partnerships, or joint-ventures.

Several commenters to the proposed rule indicated that product stewardship activities are intended to promote recycling and reuse of products, and to reduce the environmental impact of chemical products. Product stewardship activities may include taking back: spent, used, or unused products; containers (i.e., those used for shipping) with product residues; off-specification products; and waste materials from use of products. Where possible, these materials are recovered and reused in chemical processes at the manufacturing plants. Returned materials that are not reusable, or residues that remain after reuse, are usually treated or disposed in the existing on-site wastewater treatment system, incinerator, or placed in an appropriately regulated landfill.

Tolling or contract manufacturing operations are described by commenters as an arrangement used in the chemical industry to enable a company to contract with a second company (i.e., a ''toller'') to engage in specified production activities on behalf of the first company. Toll manufacturers often perform one step in a customer's multi-step process, such as production of an intermediate, and are often an integral part of the supply chain for the customer's final product. Raw materials used by toll manufacturers are often provided by the primary manufacturer and the toller returns the intermediate along with any by-products and waste materials.

Commenters also provided input on manufacturing agreements that are part of divestitures, partnerships, or joint-ventures. Commenters felt that manufacturing complexes that have individual operating units or have created joint venture partnerships under separate legal ownership should still be considered ''on-site'' for the purposes of the TEC rulemaking, provided: The facilities continue to manufacture the same products and generate the same wastewater destined for the same on-site treatment system, including TEC wastewater. Any infrastructure operations such as waste treatment and TEC operations continue to be provided to the new company per an agreement established at the time of divestiture or formation of the joint venture partnership.

In each of these cases, commenters believe that the wastewaters generated from performing TEC activities is very similar to that generated by the primary manufacturing facility. If TEC wastewaters are returned to the primary manufacturing facility, or TEC wastewaters are generated from cleaning tanks containing materials returned to the primary manufacturer, these facilities should be considered under the control of the primary manufacturer and excluded from the TEC regulation.

EPA believes that these activities satisfy the proposed exclusion rationale because: (1) TEC wastewater comprises a very small percentage of flow, (2) TEC wastewater is typically included in the coverage of the applicable categorical standard, and (3) TEC wastewater characteristics are similar in treatability to wastewater generated by other facility operations. Therefore, EPA will consider excluding TEC wastewater generated at manufacturing facilities which have resulted from product stewardship activities, tolling or contract manufacturing operations, and manufacturing agreements that are part of divestitures, partnerships, or joint-ventures.

However, EPA is rejecting the comment that all manufacturing facilities simply be excluded from the TEC guideline. EPA does not believe that a manufacturing facility which accepts off site cargos for cleaning should be excluded because the wastewater generated from these cargos may not be compatible with the treatment system in place and may not be compatible with the existing discharge limitations established for that facility. Additionally, this blanket exclusion could allow a manufacturing facility to become a for-profit tank cleaner without comparable environmental controls.

Although EPA is not providing a blanket exclusion for manufacturing facilities, EPA will consider a low flow exclusion of 100,000 gallons per year for TEC wastewaters as discussed in section V. EPA believes the exclusion would provide some flexibility to manufacturing facilities which clean small numbers of tanks which may not fit into the strict definition given for the exclusion of tank cleaning operations at manufacturing facilities.

EPA is considering the following language to exclude these manufacturing facilities: ''The final TEC limitations do not apply to wastewaters associated with tank cleanings operated in conjunction with other industrial or commercial operations so long as the facility only cleans tanks that have contained raw materials, by-products and finished products that are associated with the facility's on-site processes.'' On-site means the contiguous and non-contiguous property within the established boundary of a facility.

With regard to the overlap with the Metal Products and Machinery (MP&M) guideline, EPA has also received numerous comments, many of them asking the Agency to more clearly distinguish an MP&M facility from a TEC facility.

In the proposal, EPA stated that facilities which are predominately engaged in MP&M operations and clean barges, railcars, or tank trucks as part of those activities are proposed to be regulated by the MP&M guideline and are excluded from this guideline. EPA has received numerous comments asking EPA to more clearly define what is meant by ''predominantly engaged.''

One commenter suggested that EPA use flow as a basis for the determination; facilities should be covered under the guideline that generates the largest flow volume. Although this would be a relatively straightforward definition, EPA does not believe that flow volume represents the best method for determining TEC or MP&M applicability. EPA believes that the activities performed at the site (both tank cleaning and maintenance and repair), and the objective of those

activities, have a more significant impact on the total final effluent loads and wastewater characteristics than the actual flow volume generated.

However, EPA does agree with commenters that the Agency needs to further clarify when a facility is to be subject to the TEC guidelines or the MP&M guidelines. Therefore, EPA has attempted to further define wastewaters subject to the TEC guideline, according to the following:

Wastewater generated from cleaning tank interiors for the purposes of maintenance and repair on the tank is considered MP&M process wastewater and is subject to the MP&M guideline. Facilities which clean tank interiors solely for the purposes of repair and maintenance would be solely regulated under the MP&M 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. If EPA promulgates a 100,000 gallons per year low flow exclusion, only facilities which discharge more than 100,000 gallons per year of TEC process wastewater would be 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 are 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.

At the time of proposal, EPA included all facilities which would potentially be covered by the MP&M guideline in the analysis of costs and impacts due to the uncertainty of the classification of these facilities. Based on the new definition, which EPA believes more clearly defines an MP&M facility, EPA has collected additional data on those facilities which indicated in the 308 survey that they perform a predominant amount of MP&M activities. Based on this data, EPA determined that several facilities proposed to be covered by the TEC rule would now not be affected by the TEC rule. These facilities have been excluded from EPA's analyses, the results of which are described in section IX of this document.

EPA solicits comment on the revised applicability language of the rule, including the definition ''MP&M generated wastewaters.''

VIII. Modification to Pollutants Selected for Regulation

In the proposal, EPA solicited, and has received, numerous comments from stakeholders on the pollutants selected for regulation in each subcategory. EPA is considering several changes based on the comments received. The tables in section X present limitations and standards for the revised set of pollutants EPA will consider for regulation. EPA solicits comment on the list of analytes being considered for regulation in all subcategories.

A. Oil and Grease and Non-Polar Material as Indicator Parameters

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 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 (now referred to as ''non-polar materials'' measured as SGT–HEM) as indicator pollutants for straight chain hydrocarbons proposed for regulation. In the proposal, EPA proposed to regulate HEM for direct discharging facilities, and SGT–HEM for indirect discharging facilities. As discussed in section XIII.G of the proposal, EPA recognizes the distinction between edible oils (such as animal fats and vegetable oils) included in the HEM analysis, and petroleum based oils as measured by the SGT–HEM analysis. As discussed in section VIII.B of this document, EPA has deemed 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 HEM and SGT–HEM, and that their regulation would be redundant and would impose additional, unnecessary costs on the industry. EPA agrees with the commenters that HEM and SGT–HEM are good indicator parameters for a number of pollutants proposed for regulation. EPA believes that the following pollutants would be adequately controlled through the regulation of HEM and SGT–HEM: n-Hexadecane, n-Tetradecane, n-Decane, n-Docosane, n-Dodecane, n-Eicosane, n-Octadecane, n-Tetracosane, and n-Tetradecane. EPA has primarily made this determination based on the similar chemical structure of these parameters which indicate that they will behave similarly in a treatment system. EPA believes that HEM and SGT–HEM are the best indicators for demonstrating treatment effectiveness for this range of pollutants with similar chemical characteristics.

EPA has reviewed the treatment effectiveness data collected in support of this regulation, and has found that the treatment effectiveness of these parameters is strongly correlated to the treatment effectiveness of HEM and SGT–HEM. In cases where HEM and SGT–HEM were effectively controlled, all of the previously discussed pollutants were treated to very low levels, often at the detection limit. For example, PSES/PSNS Option II in the Rail/Chemical & Petroleum Subcategory, consisting of oil/water separation and dissolved air flotation. This system achieved a 98% removal for HEM and 97% removal for SGT–HEM. Treatment effectiveness for the straight chain hydrocarbons listed above averaged 98% across the same system and were all treated to non-detect levels. Treatment effectiveness in the Barge/Chemical & Petroleum Subcategory demonstrated similar results.

Additionally, EPA reviewed data collected for the Effluent Limitations Guidelines and Pretreatment Standards for the Industrial Laundries Point Source Category (62 FR 242, December 17, 1997, proposed 40 CFR part 441), which conducted a characterization study of the HEM and SGT–HEM test methods. This study was performed to determine what individual constituents are measured by the analytical methods, and is available for review in section 16 of the regulatory record for the Industrial Laundries Effluent Guideline. This data demonstrates that the previously mentioned pollutants were found to be measured by the HEM and SGT–HEM test methods, thus supporting EPA's conclusion that HEM and SGT–HEM are good indicators of these pollutants.

B. Pass Through of SGT–HEM

EPA received one comment which disagreed with the Agency's pass through conclusion for SGT–HEM. The commenter stated that SGT–HEM is adequately treated by POTWs or does not pass through and thus should not be regulated.

In the proposal, EPA did not have actual data for removals of SGT–HEM in a POTW. Instead, EPA relied on the methodology developed in the Industrial Laundries proposal, which

calculated a removal rate based on SGT–HEM constituents. One commenter, the County Sanitation Districts of Los Angeles County, disagreed with this approach and submitted five days of influent and effluent SGT–HEM using Method 1664. This information was also submitted and evaluated for the Proposed Effluent Limitations, Guidelines, and Standards for the Industrial Laundries Point Source Category (62 FR 242, December 17, 1997).

Of the five days of data, only three of the days contained usable paired data for calculating SGT–HEM removals. Two of the five days of data could not be used because one day had an effluent value greater than the influent value, and the other day did not have a reported influent concentration. A limitation of the three remaining paired data sets that were used to calculate the percent removal for SGT–HEM was that the sets did not result in a precise estimate, but only a lower bound estimate. Because the effluent concentrations were below the method detection level, a percent removal could only be calculated as ''greater than'' some value. The greater than values ranged from 37.5 percent to 73.7 percent. For the purpose of this document, EPA used the daily data with the highest influent concentration, resulting in a percent removal estimate of 74 percent for the revised pass-through evaluation.

The percent removal for SGT–HEM using one day of data from LA County (the day with the highest influent concentration) is 74 percent, compared to 65 percent POTW removal used in the proposed rule. This value is still significantly lower than the 99% removal achieved by preferred BPT treatment technologies evaluated in the Rail/Chemical & Petroleum and Barge/Chemical & Petroleum Subcategories.

EPA believes SGT–HEM has been demonstrated to pass through, and that SGT–HEM is a good indicator parameter for a number of toxic and nonconventional pollutants as discussed in section VIII.B. In addition, the use of a relatively inexpensive monitoring method for SGT–HEM justifies regulating SGT–HEM rather than individually regulating the host of pollutants controlled by such a limitation.

Additionally, several commenters from industry as well as POTW representatives have requested that EPA use oil and grease and SGT–HEM as indicator parameters for a number of other pollutants. As discussed above, EPA has reviewed the data from sampling episodes, and believes that the data clearly demonstrates a correlation between oil and grease and the pollutants listed in section VIII.B. Therefore, EPA believes that SGT–HEM does pass through a POTW, and furthermore that HEM and SGT–HEM can be used as effective indicator parameters.

IX. Technology Options

In the proposal, EPA considered establishing 11 sets of effluent limitations, pretreatment standards or new source performance standards for six subcategories. EPA received many comments suggesting that EPA simplify the proposal in order to ease the implementation burden of the rule. In this document, EPA has described several regulatory alternatives, including the use of concentration-based limits, a low flow exclusion, combining the chemical and petroleum subcategories and combining the Truck/Food, Rail/Food, and Barge/Food Subcategories, which EPA believes will simplify the TEC rule. EPA has also considered the effects of clarification of scope in evaluating costs and loadings and in evaluating the proposed technology options.

A. Truck/Chemical & Petroleum Subcategory

As mentioned previously, EPA will consider combining the proposed Truck/Chemical and Truck/Petroleum Subcategories. EPA will also consider a low flow exclusion of 100,000 gallons per year. The results presented in this section reflect these potential changes.

EPA is re-evaluating the proposed options in this subcategory in response to comments received on the proposal. The major changes that have affected this analysis include revising the list of pollutants effectively removed and adjusting the cost model. Revisions to the cost model were made based on comments received and based on a thorough review of the model by EPA. The complete list of revisions to the cost model can be found in section 19.1 of the regulatory record. In summary, EPA increased several cost factors, increased capital and annual costs for activated carbon, increased the size (and associated costs) of equalization tanks, corrected several cost model inaccuracies identified in the proposal rulemaking record, 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 due to the selection of indicator parameters (further discussed in section VIII.B) to replace specific pollutants proposed for regulation, and use of less expensive analytical methods.

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

In the proposal, EPA evaluated the following treatment options:

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

Option II: Flow Reduction, 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 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 and only costs for additional monitoring 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 is not considering any changes to the option selected for this subcategory. The revised concentration-based limits for Option II are presented in section X of this document.

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

In the proposal, EPA evaluated two treatment options, consisting of:

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

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

In response to comment, EPA is presenting the following additional option in this notice:

Option A: Flow Reduction, Equalization, Oil/Water Separation.

Option A was determined to have a post tax annualized cost of $5.5 million ($8.6 million pre-tax) for 286 affected facilities. Option I cost $9.1 million

($14.3 million pre-tax) and Option II cost $19.9 million ($31.2 million pre-tax) annualized.

EPA projects that there will be no adverse economic impacts for any option when a positive cost pass through assumption is made. However, EPA has also looked at the conservative assumption of no cost pass through, which resulted in seven closures at Option II and no closures at Option I.

Option A is projected to remove 1,700 toxic pound-equivalents, while Option I removes 26,000 and Option II removes 42,000 toxic pound-equivalents.

EPA does not believe that the lower cost Option A demonstrated significant removals of toxics to justify its selection as a regulatory option. Option A was considerably less cost effective than Option I. Additionally, EPA received comments from pretreatment authorities, including the Association of Metropolitan Sewerage Agencies (AMSA), which argued that oil/water separation alone is not effective for achieving concentration standards for the pollutants which may be discharged by tank cleaning operations.

Option II was not demonstrated to achieve significant reductions incremental to Option I for any pollutant proposed for regulation. The majority of the additional pound-equivalent removals achieved at Option II were due to the removal of a pesticide not proposed for regulation and not contributing to the monetized benefits. EPA estimates that implementation of Option I will result in monetized benefits of $2.7 million to $9.4 million (1994 dollars) annually. EPA estimates that Option II will not result in any significant additional benefits incremental to Option I.

EPA proposed to establish PSES and PSNS on Option II. Due to the high costs and potential economic impacts associated with Option II, and due to the significant removals of regulated parameters achieved by Option I, EPA will consider establishing PSES and PSNS based on Option I.

The pretreatment standards that would result based on Option I technology are presented in section X of this document. EPA solicits comment on the revised costs, benefits, and economic impacts associated with these options.

B. Rail/Chemical & Petroleum Subcategory

As mentioned previously, EPA will consider combining the proposed Rail/Chemical and Rail/Petroleum Subcategories. EPA will also consider a low flow exclusion of 100,000 gallons per year. The results presented in this section reflect these potential changes.

EPA is re-evaluating the proposed options in this subcategory in response to comments received on the proposal. The major changes that have affected this analysis include revising the list of pollutants effectively removed and adjusting the cost model. Revisions to the cost model were made based on comments received and based on a thorough review of the model by EPA. The complete list of revisions to the cost model can be found in section 19.1 of the regulatory record. In summary, EPA increased several cost factors, corrected several cost model inaccuracies identified in the proposal rulemaking record, 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 due to the selection of indicator parameters (further discussed in section VIII.B) to replace specific pollutants proposed for regulation, and use of less expensive analytical methods.

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

In the proposal, EPA evaluated three treatment options, consisting of:

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

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

Option III: Flow Reduction, 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 to establish Option III for NSPS.

As discussed in section VIII.B.1.c of the proposal, EPA evaluated the costs, loads, and impacts of one model direct discharging facility which currently has equalization, pH adjustment, biological treatment and a filter press in place. Because EPA is considering adopting concentration based standards, the model facility no longer incurs costs for flow reduction. EPA estimates that the cost of implementing Option I is for monitoring costs only, totaling approximately $7,000 annually; and that Option II costs $57,000 annualized, and Option III costs $85,000 annualized.

All parameters proposed for regulation, with the exception of oil and grease and N-Dodecane, were treated to the same level at Options I, II and III. As discussed in section VIII.B., EPA is no longer considering regulating N-Dodecane. For oil and grease, EPA would transfer effluent limitations from BPT biological treatment operated in the Barge/Chemical & Petroleum Subcategory because EPA does not have treatment data for a biological system operated in the Rail/Chemical & Petroleum Subcategory. Therefore, the effluent limitation established for oil and grease would be based on biological treatment which has been demonstrated to achieve significant removals. Effluent limitations for oil and grease based on Options II or III would not be significantly different than those established for Option I, and EPA therefore projects no additional benefits for Option III incremental to Option I.

EPA believes that there are few additional pollutant removals to be achieved by establishing NSPS based on Option III. EPA will therefore consider establishing NSPS equivalent to BPT, BCT, and BAT at Option I.

EPA solicits comment on establishing NSPS equivalent to BAT for the Rail/Chemical & Petroleum Subcategory. The revised concentration-based limits for Option I are presented in section X of this document.

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

In the proposal, EPA considered three options for PSES and PSNS:

Option I—Flow Reduction, Oil/Water Separation.

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

Option III—Flow Reduction, 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 preamble, 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 the Rail/Chemical facilities would not be able to absorb the cost of installing Option II levels of treatment without incurring significant economic impacts.

EPA received several comments on the pollutant control technologies

proposed for the Rail/Chemical 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 Subcategory wastewaters. Additionally, many commenters have expressed concern about the discrepancy in treatment technology proposed for the rail and truck facilities. Several commenters have 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.

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, many of the rail facilities included in this analysis will qualify for the low flow exclusion for TEC wastewater. Many of these facilities which discharge low volumes of TEC wastewater would not be affected by the TEC rule if EPA adopts a low flow exclusion. EPA has therefore removed these facilities from its analysis, which has in turn affected the total costs, loads, and economic impacts of the technology options.

EPA estimates that Option I will have an annualized cost of $0.54 million ($0.82 million pre-tax), Option II will cost $0.93 million ($1.4 million pre-tax), and Option III will cost $1.5 million ($2.3 million pre-tax). EPA projects that Option I and Option II will result in annual benefits of $51,000 to $270,000.

For Options I, II, and III, EPA anticipates no closures at even the most conservative assumption of no cost pass through, and anticipates no revenue or employment impacts when a positive cost pass-through is assumed for Options I or II. For the most conservative zero cost pass through assumption, EPA calculates that Option II would result in 18 facilities experiencing revenue impacts of 1% and six facilities experiencing impacts of 3%. The less costly Option I would result in 15 facilities experiencing revenue impacts of 1% and no facilities experiencing impacts of 3%. At both options, six of the facilities experiencing 1% revenue impacts are small businesses. Option III would result in 22 facilities experiencing revenue impacts of 1% and 20 facilities experiencing impacts of 3%. At Option III, nine of the facilities experiencing 1% impacts and six of the facilities experiencing 3% impacts are small businesses.

EPA also considers the cost effectiveness of each option. The preamble to the proposal describes EPA's cost effectiveness analysis in section X. EPA uses cost effectiveness to evaluate the relative efficiency of each option in removing toxic pollutants. Option I is projected to remove 6,500 pound-equivalents, Option II will remove 7,100 pound-equivalents, and Option III will remove 7,600 pound-equivalents. The average cost effectiveness of Option I is $83 (1981 dollars) per pound-equivalent removed. The incremental cost effectiveness of moving from Option I to Option II is $533 per pound-equivalent removed, and the incremental cost effectiveness of moving from Option II to Option III is $1,282 per pound-equivalent removed.

EPA will consider establishing PSES and PSNS based on Option II. Option II achieves a significant reduction in toxic loadings and results in no facility closures. Furthermore, EPA believes it is appropriate to establish similar levels of control for the Rail/Chemical & Petroleum Subcategory and the Truck/Chemical & Petroleum Subcategory, and will therefore consider establishing PSES and PSNS at Option II, which is analogous to Option I in the Truck/Chemical & Petroleum Subcategory.

In addition, EPA notes that the total costs for Option II presented today are roughly equivalent to the costs estimated for Option I at proposal. This is primarily due to EPA reducing the burden of the regulation through reduced monitoring requirements and the consideration of a low flow exclusion.

EPA notes that the cost of Option II presented in today's notice is nearly 70% higher than the costs for Option I presented today, and the corresponding increase in pound-equivalents removed is approximately 10%. Option II is also associated with some additional economic impacts not incurred at Option I. Notwithstanding the reasons described above supporting Option II, EPA will also consider establishing PSES and PSNS based on Option I.

EPA solicits comment on the revised costs, benefits, and economic impacts associated with this subcategory and on the appropriate technology basis for pretreatment standards for new and existing sources. The revised concentration-based limits for Option II are presented in section X of this document.

C. Barge/Chemical & Petroleum Subcategory

EPA is re-evaluating the proposed options in this subcategory due to changes in the industry since proposal and due to comments received on the proposal. At the time of proposal, EPA noted that there was only one identified facility discharging to a POTW. Since the proposal, several model facilities that previously discharged to surface waters have begun discharging or plan to discharge wastewater to a POTW. EPA is also considering several changes in response to comment that include revising the list of pollutants effectively removed and adjusting the cost model. As discussed in section II of this notice, EPA has also collected data from two additional facilities operating BAT treatment. EPA has used this data, which represents each facilities performance over a one year period, to develop Long Term Averages (LTAs) and variability factors for BOD and TSS.

Revisions to the cost model were made based on comments received and based on a thorough review of the model by EPA. Additionally, the cost model has been adjusted to reflect the changes in long term averages for BOD and TSS. The complete list of revisions to the cost model can be found in section 19.1 of the regulatory record. In summary, EPA increased several cost factors, corrected several cost model inaccuracies identified in the proposal rulemaking record, revised the methodology to credit treatment in place, and removed flow reduction. EPA also significantly reduced the monitoring costs associated with compliance due to the selection of indicator parameters (further discussed in section VIII.B) to replace specific pollutants proposed for regulation, and use of less expensive analytical methods.

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

The Agency's engineering assessment of BPT consisted of the following options:

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

Option II: Flow Reduction, 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 revised annualized costs for Option I at $82,000 ($134,000 pre-tax) and

Option II at $316,000 ($494,000 pre-tax). The costs to the industry have decreased significantly for several reasons. One, EPA is no longer costing flow reduction as a required component of the regulation because EPA may not establish mass based limits. Two, several model facilities which did not employ biological treatment at proposal have switched discharge status; and three, EPA has reduced the monitoring burden of the rule due to the use of indicator parameters. EPA determined that neither Option will result in any closures, revenue, or employment losses.

EPA estimates that both Option I and Option II removes 19,000 pounds of BOD and TSS. Based on the treatment technologies in place at the model facilities, EPA believes at this time that the regulation will not result in significant incremental removals of toxic pollutants. EPA predicts that Option II would not result in any additional removal of toxic pounds because most pollutants are already treated to very low levels, often approaching or at non-detect levels, by the technology utilized by Option I. EPA therefore continues to believe that BPT, BCT, BAT, and NSPS should be based on Option I levels of control. The revised concentration-based limits for Option I are presented in section X of this document.

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

The Agency's engineering assessment of PSNS consisted of the following options:

Option I—Flow Reduction, Oil/Water Separation, Dissolved Air Flotation, and In-Line Filter Press.

Option II—Flow Reduction, Oil/Water Separation, Dissolved Air Flotation, In-Line Filter Press, Biological Treatment, and Sludge Dewatering.

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

EPA proposed Option II for PSNS. EPA did not propose PSES standards 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 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 being achieved by the model indirect discharging Barge/Chemical & Petroleum facilities. EPA was able to evaluate effluent discharge concentrations of BOD, TSS, and Oil & 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 conventionals, EPA believes that all model indirect discharging facilities are meeting the levels of control that would be established under PSNS. Although EPA does not generally establish technology based pretreatment standards for conventionals, EPA believes that these parameters demonstrate a level of control similar to the systems being proposed for NSPS at Option II, and that the effluent concentrations of other pollutants of interest would also be controlled similarly.

Therefore, EPA estimates that the cost of implementing PSES standards equivalent to PSNS would be solely for increased monitoring costs, totaling approximately $60,000 annually. EPA believes that all indirectly discharging facilities have sufficient treatment in place to prevent pass through or interference and are predicted to be meeting standards that would be established under PSES. EPA predicts that there would be no incremental removals or benefits associated with establishing PSES standards. EPA therefore believes that it will continue to establish PSNS standards based on Option II, and that it will continue not to establish PSES standards.

EPA solicits comment on the conclusion that all indirect discharging Barge/Chemical & Petroleum facilities have treatment in place sufficient to prevent pass through or interference at a POTW.

D. Food Subcategory

EPA proposed to establish separate subcategories for the Barge/Food, Truck/Food, and Rail/Food subcategories due to the differences in 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 will consider establishing concentration-based instead of mass-based limits, and EPA will therefore consider establishing one set of concentration limits for all food grade facilities. EPA is continuing to consider Option II as BPT, BCT, BAT, and NSPS.

BPT, BCT, BAT and NSPS for the Truck/Food, Rail/Food, and Barge/Food Subcategories

EPA considered the following BPT options for the food subcategories:

Option I—Flow Reduction and Oil/Water Separation.

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

The revised costs, loads, economic impacts, cost reasonableness, and environmental benefits for BPT, BCT, and BAT have not changed significantly since the proposal, and EPA is therefore not considering any changes to the options selected for the food subcategories.

The revised concentration-based limits for Option II are presented in section X of this document.

X. Presentation of Concentration-Based Limitations

The following tables present the numerical standards that would be adopted based on the revisions described in this section and throughout this document. The data and methodology is located in section 21 of the regulatory record. The data and methodology is the same as proposed with several exceptions. One, EPA has calculated concentration instead of mass-based limits. Two, EPA has used data from two additional Barge/Chemical & Petroleum facilities in the calculation of BOD and TSS limits, as discussed in section II of this document. Third, EPA has used the pollutant-specific variability factor where available, and then calculated fraction and group 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. EPA requests comment on this conclusion and on the revision to its methodology.

Fourth, EPA has used technology transfer to establish PSES standards for SGT–HEM 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, TSS, and oil and grease 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 will consider transferring effluent limitations for BOD, TSS, and oil and grease from a biological system in the Barge/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 facilities were 65 mg/L and 61 mg/L, whereas the average raw wastewater concentration for this subcategory was measured to be 1,600 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 will consider transferring 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 DAF and achieved 98% removal of HEM for wastewater that had an influent concentration of 1,994 mg/L. EPA believes that technology transfer of SGT–HEM would establish limitations that would be achievable for all facilities in the Truck/Chemical & Petroleum Subcategory. As discussed in section VIII, EPA will consider using HEM (for direct dischargers) and SGT–HEM (for indirect dischargers) as indicator pollutants for several other constituents in the Truck/Chemical & Petroleum Subcategory.

The proposed mass-based standards were published in the **Federal Register** Notice of Proposed Rulemaking (63 FR 34685) and the associated concentration-based standards were presented in appendix E.1 through E.7 of the Statistical Support Document of Proposed Effluent Limitations Guidelines and Standards for the Transportation Equipment Cleaning Industry. Concentration based limits are again presented in the tables below for the purposes of review and comment. In sections XV and XVI of the proposal, EPA outlined its requirements for submission of additional monitoring data which may be used in support of this guideline. EPA will continue to analyze monitoring data, statistical methodologies, and pass-through analysis for regulated pollutants prior to the final promulgation of effluent limitations and pretreatment standards.

TABLE 1-TRUCK/CHEMICAL & PETROLEUM SUBCATEGORY: BPT, BCT, BAT, AND NSPS CONCENTRATION-BASED LIMITATIONS FOR DISCHARGES TO SURFACE WATERS

Pollutant or pollutant property	[mg/L]	
	Maximum for any one day	Monthly average
BOD_5	61	22
TSS	58	26
Oil and Grease (HEM)	36	16
pH	Shall be in the range of 6.0 to 9.0 pH units	
Chromium	0.055	N/A
Copper	0.14	N/A
Zinc	0.037	N/A
Bis (2-ethylhexyl) phthalate	0.032	N/A

TABLE 2—TRUCK/CHEMICAL & PETROLEUM SUBCATEGORY: PSES AND PSNS CONCENTRATION-BASED LIMITATIONS FOR DISCHARGES TO POTWS

Pollutant or pollutant property	[mg/L] Maximum for any one day
Non-polar Material (SGT-HEM)	26.
pH	Shall be in the range of 6.0 to 9.0 pH units.
Chromium	0.055.
Copper	0.143.
Zinc	0.037
Bis (2-ethylhexyl) phthalate	0.032.

TABLE 3—RAIL/CHEMICAL & PETROLEUM SUBCATEGORY: BPT, BCT, BAT AND NSPS CONCENTRATION-BASED LIMITATIONS FOR DISCHARGES TO SURFACE WATERS

Pollutant or pollutant property	[mg/L]	
	Maximum for any one day	Monthly average
BOD_5	61	22
TSS	58	26
Oil and Grease (HEM)	36	16
pH	Shall be in the range of 6.0 to 9.0 pH units	
Fluoranthene	0.076	N/A
Phenanthrene	0.341	N/A

TABLE 4.—RAIL/CHEMICAL & PETROLEUM SUBCATEGORY: PSES AND PSNS CONCENTRATION-BASED LIMITATIONS FOR DISCHARGES TO POTWS

Pollutant or pollutant property	[mg/L] Maximum for any one day
Non-polar Material (SGT–HEM)	26.
pH	Shall be in the range of 6.0 to 9.0 pH units.
Fluoranthene	0.076.

TABLE 5.—BARGE/CHEMICAL & PETROLEUM SUBCATEGORY: BPT, BCT, BAT, AND NSPS CONCENTRATION-BASED LIMITATIONS FOR DISCHARGES TO SURFACE WATERS

Pollutant or pollutant property	[mg/L]	
	Maximum for any one day	Monthly average
BOD_5	61	22
TSS	58	26
Oil and Grease (HEM)	36	16
pH	Shall be in the range of 6.0 to 9.0 pH units	
Cadmium	0.014	N/A
Chromium	0.42	N/A
Copper	0.10	N/A
Lead	0.11	N/A
Nickel	0.58	N/A
Zinc8.3	N/A	
1-Methylphenanthrene	0.11	N/A
Bis (2-ethylhexyl) phthalate	0.071	N/A

TABLE 6.—BARGE/CHEMICAL & PETROLEUM SUBCATEGORY: PSNS CONCENTRATION-BASED LIMITATIONS FOR DISCHARGES TO POTWS

Pollutant or pollutant property	[mg/L] Maximum for any one day
Non-polar Material (SGT-HEM)	22.
pH	Shall be in the range of 6.0 to 9.0 pH units.
Cadmium	0.014.
Chromium	0.42.
Copper	0.10.
Lead	0.11.
Nickel	0.58.
Zinc	8.3.
1-Methylphenanthrene	0.11.
Bis (2-ethylhexyl) phthalate	0.071.

TABLE 7.—FOOD SUBCATEGORY: BPT, BCT AND NSPS CONCENTRATION-BASED LIMITATIONS FOR DISCHARGES TO SURFACE WATERS

Pollutant or pollutant property	[mg/L]	
	Maximum for any one day	Monthly average
BOD_5	56	24
TSS	225	86
Oil and Grease (HEM)	20	8.8
pH	Shall be in the range of 6.0 to 9.0 pH units.	

XI. Solicitation of Comments

1. EPA solicits comment on setting concentration-based limitations. (Section III).

2. EPA solicits comments on the alternative subcategorization approach that combines the chemical and petroleum subcategories for rail and truck cleaning facilities. (Section IV).

3. EPA requests comment on the low flow exclusion from the TEC regulation of 100,000 gallons per year and on alternative low flow exclusions in the range of 100,000 to 500,000 gallons per year. (Section V).

4. EPA solicits comment on the revised methodology for calculating pollutant removals. (Section VI).

5. EPA solicits comment on the assumptions, methodology, and

conclusions of the market analysis conducted by EPA on the effect of not including IBCs within the scope of the TEC regulation. EPA solicits any information on the price of IBC cleaning, the volume of wastewater generated from IBCs, the economic importance of IBC cleaning to affected facilities, and the relative market shares of different types of facilities engaged in IBC cleaning. (Section VII.A).

6. EPA solicits comment on the revised applicability language of the rule, including the definition ''MP&M generated wastewaters''. (Section VII.B).

7. EPA solicits comment on the revised costs, benefits, and economic impacts associated with establishing PSES and PSNS at Option I for the Truck/Chemical & Petroleum Subcategory. (Section IX.A.2).

8. EPA solicits comment on establishing NSPS equivalent to BAT for the Rail/Chemical & Petroleum Subcategory. (Section IX.B.1).

9. EPA solicits comment on establishing PSES and PSNS at Option II, or alternatively at Option I, for the Rail/Chemical & Petroleum Subcategory. (Section IX.B.2).

10. EPA solicits comment on the conclusion that all indirect discharging Barge/Chemical & Petroleum facilities have treatment in place sufficient to prevent pass through or interference at a POTW. (Section IX.C.2).

11. EPA solicits comment on using HEM and SGT-HEM as indicator parameters and on the pass-through of SGT-HEM. (Section VIII.B and VIII.C).

12. EPA solicits comment on the list of analytes being considered for regulation in all subcategories. (Section VIII).

Dated: July 12, 1999.

J. Charles Fox,

Assistant Administrator for Water.

[FR Doc. 99–18478 Filed 7–19–99; 8:45 am]

BILLING CODE 6560–50–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 15

[ET Docket 99–231; FCC 99–149]

Spread Spectrum Devices

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: This document proposes to revise the rules for frequency hopping systems operating in the 2.4 GHz band (2400–2483.5 MHz) to allow for wider operational bandwidths. We also propose to refine the method for measuring the processing gain of direct sequence systems. This action is taken to facilitate the continued development and deployment of spread spectrum technology, particularly for high data rate wireless applications.

DATES: Comments must be filed on or before October 4, 1999, and reply comments must be filed on or before November 2, 1999.

ADDRESSES: Address all comments concerning this proposed rule to the Commission's Secretary, Magalie Roman Salas, Office of the Secretary, Federal Communications Commission, 445 12th Street SW, Washington, DC 20554.

FOR FURTHER INFORMATION CONTACT: Neal McNeil, Office of Engineering and Technology, (202) 418–2408, TTY (202) 418–2989, e-mail: nmcneil@fcc.gov.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's *Notice of Proposed Rule Making,* ET Docket 99–231, FCC 99–149, adopted June 21, 1999, and released June 24, 1999. The full text of this document is available for inspection and copying during regular business hours in the FCC Reference Center, (Room TW–A306) 445 12th Street SW, Washington, DC. The complete text of this document also may be purchased from the Commission's duplication contractor, International Transcription Service, Inc., (202) 857–3800, 1231 20th Street, NW, Washington, DC 20036.

Summary of Notice of Proposed Rulemaking

1. *Frequency Hopping Systems.* Section 15.247 of the Commission's rules, permits frequency hopping spread spectrum systems to operate in the 2.4 GHz band with a maximum output power of 30 dBm (1 watt). The rules specify that frequency hopping systems operating in this spectrum must use a minimum of 75 hopping channels with each channel having a 20 dB bandwidth not exceeding 1 MHz. The average time of occupancy on any frequency must not be greater than 0.4 second within a 30 second period.

2. The Home RF Working Group (''HRFWG'') filed a request that the Commission interpret section 15.247 to allow frequency hopping systems in the 2.4 GHz band to operate with 3 MHz and 5 MHz bandwidths. HRFWG proposes to allow systems with bandwidths of up to 3 MHz to operate with output power no more than 25 dBm and channel occupancy time no greater than 0.05 second per hop. Each of the 75 channels will be used at least once during a 3.75 sec period. Like existing 1 MHz systems, the average time of occupancy on any channel will not be greater than 0.4 second within a 30 second period. HRFWG's proposal will allow systems using 5 MHz channels to operate with output power no more than 23 dBm and channel occupancy time no greater than 0.02 second per hop. Each of the 75 hopping channels will be used at least once during a 1.5 second period. Again, the average occupancy time on any channel will remain 0.4 second or less per 30 second period.

3. We do not believe these proposed rule changes will result in any significant increase in interference to direct sequence spread spectrum systems. We recognize that spectrum occupancy of frequency hopping systems in the 2.4 GHz band will increase as a result of the proposed changes. The existing rules require a minimum of 75 hopping channels each with a bandwidth of no more than 1 MHz. Given the 83.5 MHz of spectrum available in the 2.4 GHz band, no frequency is used more than once in the hop sequence. However, if the channel bandwidth is increased to 3 MHz or 5 MHz, overlapping channels will be needed to accommodate 75 hops. Accordingly, the average time of occupancy on any one frequency will increase. However, it appears that the proposed reduction in output power and time of occupancy would offset any potential increase in interference. Further, we observe that manufacturers of direct sequence systems that are concerned about interference can improve the robustness of their systems by increasing processing gain.

4. *Direct Sequence Processing Gain.* Under section 15.247(e) of the Commission's rules, direct sequence systems are required to exhibit a processing gain of at least 10 dB. The 10 dB minimum was established to ensure that a system is, in fact, spread spectrum in nature. Generally, systems employing a spreading rate of at least 10 chips/symbol meet the 10 dB processing gain requirement. The number of chips per symbol refers to the ratio of spreading imposed by the direct sequence high speed spreading code.

5. The Commission allows processing gain to be determined by either of two methods. The first is a direct measurement taken from the demodulated output of the receiver. The processing gain is calculated as the ratio, in dB, of the signal-to-noise ratio with the system spreading code turned off to the signal-to-noise ratio with the system spreading code turned on. Alternatively, in cases where the design of the system does not permit de-activation of the spreading code, an