ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 437

[FRL–5610–1]

RIN 2040–AB78

Notice of Data Availability; Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards: Centralized Waste Treatment Category

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of data availability.

SUMMARY: On January 27, 1995, EPA proposed Clean Water Act effluent limitations and pretreatment standards to reduce the discharge of pollutants from the centralized waste treatment industry (60 FR 5464). This document describes new information the Agency has obtained since the proposal. This document also explains, based on this information, the Agency's revised estimates of the size and regulatory impacts of the proposed rulemaking on the proposed oils treatment and recovery subcategory of the industry. This document presents the preliminary results of EPA detailed analyses for the subcategory with the inclusion of the new information and the data developed from it. EPA originally estimated that there were 35 facilities in this subcategory. EPA now estimates that there are a total of 275 facilities in the subcategory. EPA further believes that the majority of the facilities treat dilute oily wastestreams rather than the concentrated wastestreams that were described in the proposal.

DATES: Comments on this notice are solicited and will be accepted until October 16, 1996.

ADDRESSES: Comments are to be submitted to Mr. Ed Terry at the following address: Engineering and Analysis Division (4303), EPA, 401 M Street, S.W., Washington, D.C. 20460.

The data and analyses being announced today are available for review in the EPA Water Docket at EPA Headquarters at Waterside Mall, room M2616, 401 M Street, SW, Washington, DC 20460, telephone (202) 260–3027. The Docket staff requests that interested parties call for an appointment before visiting the Docket. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For additional technical information, contact Mr. Ed Terry at the following address: Engineering and Analysis Division (4303), EPA, 401 M Street, S.W., Washington, D.C. 20460, telephone number (202) 260–7128. For information on economic impacts, contact Ms. Susan Burris at the same address, telephone number (202) 260–5379.

SUPPLEMENTARY INFORMATION:

Contents of This Document

I. Summary of Proposed Regulation and Purpose of Today's Notice

On January 27, 1995 (60 FR 5464), EPA proposed regulations to reduce discharges to navigable waters of toxic, conventional, and nonconventional pollutants in treated wastewater from facilities defined in the proposal as ''centralized waste treatment facilities.'' At proposal, these effluent limitations guidelines and pretreatment standards would apply to ''any facility that treats any hazardous or non-hazardous industrial waste received from off-site by tanker truck, trailer/roll-off bins, drums, barge or other forms of shipment.'' These facilities include both stand-alone waste treatment and recovery facilities that treat waste received from off-site as well as those facilities that treat on-site generated process wastewater with wastes received from off-site. Based on its review of the data on the types of waste accepted for treatment or recovery at such facilities, EPA concluded that different limitations and standards were appropriate for subcategories within the industry. The Agency preliminarily determined that three subcategories were appropriate for the centralized waste treatment (CWT) industry. These subcategories are: metal-bearing waste treatment and recovery, oily waste treatment and recovery, and organic waste treatment and recovery.

Today's notice focuses exclusively on the Oily Waste Treatment and Recovery subcategory, or ''oils subcategory,'' defined in the proposal as ''facilities that treat, and recover oil from oily waste received from off-site.'' At the time of proposal, EPA believed that the oils subcategory was comprised of 35 facilities treating predominantly concentrated oily wastes. Since proposal, EPA has learned that the data used to develop the proposal may have mischaracterized this portion of the CWT industry. EPA learned that there are approximately 240 previously unaccounted for facilities treating oily waste received from off-site, many of which accept dilute, not concentrated, oil wastestreams. Today's notice discusses these facilities and describes how the proposal limitations and standards, if promulgated, would affect such facilities. EPA is requesting comment on the accuracy of the information it has developed and its conclusions about the likely effect of the proposed limits and standards, if promulgated, on these facilities.

Based on information EPA received during the comment period as well as material obtained from communication with the industry and the National Oil Recyclers Association (NORA), EPA has revised its profile of the oils subcategory of the centralized waste treatment industry to take account of the newly identified facilities. Using this information in conjunction with questionnaire responses and sampling data used to develop the proposal, EPA has recharacterized this subcategory of this industry. EPA developed individual profiles for each of the newly identified facilities by modeling current

wastewater treatment performance and treated effluent discharge flow rates. Additional information on how EPA modeled these facilities is provided below. In addition, assuming the same treatment technology options identified at proposal, EPA has recalculated the projected costs of the proposed options under consideration, expected pollutant reductions associated with these options, and the projected economic impacts.

EPA is today announcing the availability of the new information and requesting comment on it. EPA is specifically requesting that individual facilities in the oils subcategory review the data developed for their facility to ensure that EPA has accurately characterized their operations. To the extent that actual wastewater treatment data is available, EPA is also soliciting that information.

As noted, EPA has developed a facility profile for each of the 240 oils subcategory facilities. EPA will use the data to decide what limitations and standards for the oils subcategory the Agency should promulgate. EPA tested the assumptions and models it used to generate the profiles against information already in the CWT rulemaking record to validate its initial conclusions about the 240 new facilities in the oils subcategory. In some cases, the results were consistent with that observed in EPA's available data base. In other cases, the results seem less certain. Given the use to which this data will be put, calculation of pollutant reductions and treatment option costs, EPA hopes that facilities will review the profiles to ensure their accuracy and that these profiles are representative of actual conditions at individual facilities.

In order to facilitate this effort, copies of the profiles for each of the newly identified facilities will be available at the Agency. Moreover, EPA will mail copies of this notice to each of the facilities and include the profile for that facility with the notice. This will provide that facility with an easy means of modifying the profile as necessary.

In its proposal, EPA proposed limitations and standards for the oils subcategory based on two treatment systems comprised of various treatment technologies that the Agency identified. These were emulsion breaking followed by (1) ultrafiltration and (2) ultrafiltration, carbon adsorption, and reverse osmosis. These wastewater treatment schemes were identified based on the data EPA had collected for facilities treating highly concentrated, hazardous oily wastes. As explained further below, EPA believes that the newly identified facilities treat largely non-hazardous, dilute oily wastes. In addition, EPA has learned that a number of these facilities are using dissolved air flotation (DAF) systems to treat their wastewater. Consequently, EPA will be sampling some of these facilities as part of its assessment of appropriate limitations and standards for the oils subcategory. EPA is particularly interested in obtaining information on the use of DAF in treatment of oily wastes and requests any data and information which commenters may have on this issue. This will be used in the Agency's reconsideration of the achievable effluent limitations and pretreatment standards.

II. Post-Proposal Data Gathering for the Oily Waste Treatment and Recovery Subcategory

Since the January 27, 1995 proposal, EPA has obtained a more inclusive list of facilities that may fall into the oils subcategory. EPA gathered and evaluated technical data and economic data from various sources, including comments to the January 27, 1995 proposal, facility lists in the 1995 Environmental Information Directory, membership lists from the National Oil Recyclers Association, information from EPA Regions, and Dun and Bradstreet. EPA has compiled a list of an additional 240 facilities that may be included in the oils subcategory. Some of these facilities began operation after the Waste Treatment Industry Questionnaire, the primary source of information for the 1995 proposal was conducted. Others were in operation in 1989, the base year for the questionnaire, but had not been identified by EPA as centralized waste treatment facilities. EPA believes that many of the newly identified facilities were created or altered their oily waste treatment services in response to provisions of 40 CFR 279, promulgated on September 10, 1992 (Standards for the Management of Used Oil, which covers the handling and fate of used oils under the Solid Waste Disposal Act and CERCLA). For the analyses presented in today's notice, EPA determined that new facilities created after 1989 should be included in the data base for development of the regulation because of the tremendous growth rate of the industry.

EPA is also conducting further sampling in order to better characterize the incoming waste receipts and type and concentrations of wastewater constituents resulting from treatment of oily wastes and wastewaters. EPA is sampling and evaluating the use of additional treatment technologies including Dissolved Air Flotation (DAF) and plans to re-examine the technology basis and proposed limitations and treatment standards for the oils subcategory based on the results of this additional sampling.

III. Facility Specific Information

In developing these effluent limitations guidelines and pretreatment standards, EPA considers impacts on the entire industry as well as individual subcategories. Having learned of the additional facilities treating oily wastes, not previously considered in development of the proposal, EPA needed to develop information of both a technical and economic nature for the newly identified facilities and then incorporate this into the data base used for developing final limitations and standards. EPA had several options. One method to obtain the required information would be to send a questionnaire to the 240 facilities. EPA rejected this option since questionnaires are burdensome for the facilities and time consuming to the EPA to develop, conduct, and analyze.

The option EPA has recently adopted is to generate data for each of the additional 240 facilities using modeling assumptions developed from newly obtained information and the data base for the proposal. EPA has then taken the data for each of the 240 facilities and used the information to re-evaluate the proposed limits and standards for the oils subcategory. The following sections explain how EPA developed this information.

A. Wastewater Discharge Flow Estimates

In lieu of sending out questionnaires to the newly identified facilities to collect technical and economic information, EPA used data from secondary sources to estimate several facility characteristics such as wastewater discharge flow. For most of the facilities, information about total facility revenue and employment were available from public sources (such as Dun and Bradstreet). Using these two pieces of information, EPA used statistical procedures to match the newly identified facilities to similar facilities that provided information about facility operations in 1989 in response to EPA's ''Waste Treatment Industry Questionnaire.'' This matching enabled EPA to estimate the flow of treated wastewater from each of the newly identified facilities. Where EPA had actual estimates of flow from the facility or public sources, EPA used the actual values. This methodology is described in more detail in the record accompanying this notice.

B. Baseline Treatment Technology

In developing the 1995 proposal, EPA evaluated the treatment technologies being used at the 35 facilities that EPA had identified as belonging to the oils subcategory. EPA determined that the vast majority of these facilities utilized emulsion breaking with either acid and/or heat to separate the oil and water fractions. A few facilities utilized other types of treatment systems in addition to emulsion breaking, such as Dissolved Air Flotation (DAF). A few facilities only utilized gravity separation; these facilities only accepted unstable oil-water emulsions. However, very few facilities utilized the technologies for the two co-proposed options—identified as Option 2 and Option 3 in the 1995 proposal. Under Option 2, the proposed numerical effluent limitations and standards were based on the use of ultrafiltration in the wastewater treatment system. Under Option 3, the proposed limitations and standards were based on the use of carbon adsorption and reverse osmosis in addition to the Option 2 technology.

Based on information from NORA and from other secondary sources, EPA discovered that the newly identified oils facilities utilize technologies similar to those identified by questionnaire respondents. EPA has found little evidence that the newly identified facilities utilize the technologies associated with the proposed options for limitations and standards. In modeling and costing technology improvements necessary for the newly identified facilities to achieve the effluent limitations and standards for the proposed options, EPA assumes that none of the facilities have ultrafiltration, carbon adsorption or reverse osmosis currently in place. Baseline treatment for these newly identified facilities is assumed to be emulsion breaking.

C. Final Treated Effluent Characterization

In developing the proposal, establishing the quantities of pollutants currently being discharged in the final treated effluent from oils facilities was a difficult task. As a result of EPA's sampling at a few oils facilities, EPA determined that the wastewater discharge from these facilities are characterized by as many as 100 pollutant parameters. Unfortunately, very few of the original 35 facilities could provide monitoring data for this wide list of parameters. Additionally, most of these facilities mixed oily wastewater with other centralized waste treatment (CWT) wastewaters, industrial wastewater or stormwater prior to their monitoring point. This made it extremely difficult to characterize the effluent from oils treatment only.

As discussed previously, EPA found chemical emulsion breaking to be baseline treatment for this subcategory. Therefore, current discharge performance is the concentration of pollutants following chemical emulsion breaking multiplied by the facility discharge flow. EPA determined the concentration of pollutants resulting from chemical emulsion breaking during the sampling program conducted prior to proposal. This sampling program is discussed in more detail in the Development Document for the Proposed Effluent Limitations Guidelines and Standards for the Centralized Waste Treatment Industry (EPA 821–R–95–006, January 1995, NTIS #PB95–187985). EPA is currently conducting additional sampling at some of the newly identified facilities to supplement the earlier data and plans to publish the sampling results for comments before promulgation.

For this notice, EPA estimated current discharge concentrations for the newly identified facilities in the same manner as that used for the proposal. Table I summarizes the concentrations of the parameters that EPA is using to characterize wastewater pollutant concentrations for each of the newly identified oils facilities.

TABLE I.—OILS SUBCATEGORY CURRENT WASTEWATER POLLUTANT CONCENTRATIONS

Pollutant	Pollutant concentration (mg/L)
Conventional:	
BOD_5	7,164
Oil and Grease	29,396
TSS	7,209
Metals:	
Aluminum	48.93
Antimony	1.34
Arsenic	0.22
Barium	2.53
Boron	239.36
Cadmium	0.24
Chromium	2.20
Cobalt	0.72
Copper	15.79
Iron	232.26
Lead	8.15
Manganese	7.39
Molybdenum	3.05
Nickel	26.44
Silver	1.08
Tin	2.10
Titanium	0.38
Zinc	42.00
Organics:	
1,1,1-Trichloroethane	3.64
2-Butanone	20.10
2-Propanone	221.07
4-Chloro-3-Methylphenol	22.31
Benzene	8.25
Benzoic Acid	16.81
Ethyl Benzene	6.61
Hexanoic Acid	5.38
Methylene Chloride	1.47
m-Xylene	11.37
n-Decane	91.78
n-Docosane	3.03
n-Dodecane	70.39
n-Eicosane	42.69
n-Hexacosane	3.08
n-Hexadecane	153.22
n-Octadecane	95.36
n-Tetradecane	282.72
o+p-Xylene	5.19
Phenol	4.59
Tetrachloroethene	2.16
Toluene	33.95
Tripropyleneglycol Methyl Ether	86.47

IV. Revised Description of the Oily Waste Treatment and Recovery Subcategory

EPA's original description of the oils subcategory was based on Questionnaire responses for 1989. The following description reflects the Agency's current, revised thinking on how the oils subcategory should be characterized.

A. Overview

At the time of proposal, 35 facilities were estimated to be in the oils subcategory. EPA now believes there are a total of 275 oils facilities. These facilities accept a variety of wastes, oil, and oily wastewater for treatment and/or recovery. Types of wastes accepted for treatment include but are not limited to: lubricants, used petroleum products, used oils, oil spill clean-up, bilge water, tank cleanout, off-spec fuels, and underground storage tank remediation waste. Many facilities pre-treat the oily wastes for contaminants such as water and then blend the resulting oil residual to form a product—usually fuel.

At the time of proposal, EPA believed that 85 percent of oils facilities were primarily accepting concentrated, difficult to treat stable oil-water emulsions. As such, EPA's sampling program prior to proposal focused on facilities that treated the more concentrated and difficult to treat stable oil-water emulsions. New information indicates that the majority of the newly identified facilities are treating less concentrated wastestreams. At facilities that EPA recently visited, EPA found

that many of the wastestreams treated for oil content were fairly dilute and consisted of less than 10 percent oils. In contrast, at the time of the proposal, EPA believed that oily wastestreams were more concentrated and mainly consisted of more than 10 percent oils. While EPA still believes some facilities are accepting the more concentrated wastes, the dilute wastestreams increasingly represent the more significant portion of the incoming wastes.

Further, at proposal, only three of the facilities included in the data base for this subcategory were identified as solely accepting wastes classified as non-hazardous under RCRA. The remaining facilities accepted either hazardous wastes alone or a combination of hazardous and non-hazardous wastes. In contrast, EPA believes that the vast majority of the newly identified facilities only accept wastestreams that would be classified by RCRA as non-hazardous.

Additionally, for the 1995 proposal, EPA decided not to propose nationally applicable effluent limitations guidelines and standards for fuel blending which was defined as ''the process of mixing organic waste for the purpose of generating fuel for reuse.'' The 1989 Preliminary Data Summary for the Solvent Recycling Industry (EPA 440/1–89/102, September 1989, NTIS #PB90–126467), which included fuel blending operations, stated that 81 percent of the industry achieved zero discharge of process wastewater primarily through incineration, fuel blending, and contract hauling. EPA chose to exclude fuel blending operations from the CWT rulemaking because EPA believed, based on information obtained in the Waste Treatment Industry Questionnaire, that fuel blending was essentially a ''dry'' process and did not generate any wastewater. The oily waste treatment industry's compliance with the Standards for the Management of Used Oil (40 CFR 279) seems to have increased the number of facilities that treat oily wastes for the purpose of recovering used oils and fuels for use in fuel blends. As such, EPA believes that the majority of the newly identified facilities perform fuel blending operations as part of their waste treatment services. EPA solicits comments on fuel blending operations in general as well as those in conjunction with waste oil recovery and treatment. EPA solicits information on the fuel blending process, wastewater generated as a result of fuel blending operations, and the applicability of the proposed rule to such operations.

B. Wastewater Flow and Discharge

Table II summarizes the original estimates of wastewater flow and the revised estimates developed by including the newly identified facilities for the oils subcategory. At the time of proposal, EPA estimated that four of the 35 facilities were direct dischargers. The remainder were indirect dischargers, discharging to Publicly Owned Treatment Works (POTWs). During EPA's recent data gathering for oils facilities, however, EPA has not identified any new facilities that are direct dischargers. Therefore, for the newly identified oils facilities, EPA assumes that all facilities are indirect dischargers. EPA now believes that there are four direct dischargers and 271 indirect dischargers.

TABLE II.—SUMMARY OF WASTEWATER DISCHARGES FROM OILS SUBCATEGORY

	Original	Revised
Total Annual Direct Discharge (million gallons)	64.2	64.2
Total Annual Indirect Discharge (million gallons)	162.5	946.8
Total Annual Discharge (million gallons)	226.7	1,011.1
Median Annual Flow (million gallons)	2.2	2.1
Average Annual Flow (million gallons)	6.5	3.7
Number of Facilities	35	275

V. Costs of Technology Options

The Agency has estimated the cost for each of the newly identified oils facilities to achieve each of the effluent limitations and standards proposed in the January 27, 1995 Federal Register Notice. These estimated costs are summarized in this section. The general methodology used to calculate the costs for the newly identified facilities was the same as that used for the proposal. A detailed discussion of this methodology can be found in the Development Document accompanying the proposal and in the Detailed Costing Document for the Centralized Waste Treatment Industry (EPA 821–R–95–002, January 1995, NTIS #PB95–187001).

All cost estimates in this section are expressed in 1995 dollars. The cost components reported in this section represent estimates of the investment cost of purchasing and installing equipment, the annual operating and maintenance (O & M) costs associated with the equipment, additional costs for monitoring, land costs, and costs for facilities to modify existing RCRA permits. Even though EPA has assumed that the newly-identified facilities accept only non-hazardous wastes, EPA assumed that all facilities have an existing RCRA permit and that the proposed technology changes would require permit modifications. EPA made this assumption because EPA has identified non-hazardous facilities which have a RCRA permit. EPA recognizes that use of this assumption will necessarily overstate the costs of treatment for facilities treating non-hazardous wastes which do not have a RCRA permit. The land costs and the permitting costs have been included in the capital costs. The monitoring costs are included in the O & M costs. Total annualized costs include (1) the costs of capital and land annualized over 20 years at 7 percent, and (2) the annual O & M costs.

For comparison purposes, the cost estimates calculated for the original proposal for the oils subcategory have been included in today's notice. The costs presented in the original proposal were expressed in 1993 dollars. EPA adjusted the cost estimates from proposal by applying the McGraw-Hill Company Engineering News Record Construction Costs Indices for the appropriate years.

A. BPT Costs

The Agency estimated the cost of complying with the proposed effluent limitations based on the best practicable control technology currently available (BPT) for both of the proposed options—Option 2 and Option 3. BPT limitations are expected to apply to the four direct discharging facilities in this subcategory. BPT costs presented in this notice including the newly identified facilities are the same as the costs presented in the original proposal because EPA has assumed that all of the newly identified facilities are indirect dischargers and therefore not subject to BPT. The capital expenditures for Option 2 are estimated to be $1.07 million with annual O&M costs of $0.82 million; for Option 3, the capital expenditures are estimated to be $4.03 million with annual O&M costs of $8.56 million. To the extent that any of the newly identified facilities are direct dischargers, they would incur costs in complying with BPT and these figures would be an underestimate.

B. BCT Costs

In the 1995 proposal, the Agency estimated that there would be no incremental cost of compliance for

limitations based on the best conventional pollutant control technology (BCT) because the technology is identical to BPT. This is still the case for any newly identified facilities which are direct dischargers.

C. BAT Costs

In the 1995 proposal, the Agency estimated that there would be no incremental cost of compliance for limitations based on the best available technology economically achievable (BAT) because the technology is identical to BPT. This is still the case for the newly identified facilities which are direct dischargers.

D. PSES Costs

The Agency estimated the cost for compliance with pretreatment standards for existing sources (PSES) using the same assumptions and methodology used to estimate cost of implementing BPT. Table III summarizes the capital expenditures, annual O&M costs, and total annualized costs for implementing PSES for the original 35 facilities as well as the revised estimates including the newly identified oils facilities. For PSES Option 2, EPA estimates capital expenditures of $45.72 million, annual O&M costs of $31.38 million, and total annualized costs of $35.31 million. For PSES Option 3, EPA estimates capital expenditures of $120.1 million, annual O&M costs of $173.85 million, and total annualized costs of $203.05 million.

TABLE III.—COST OF COMPLYING WITH PSES FOR THE OILS SUBCATEGORY

Proposed option	Original estimates ($ millions)				Revised estimates ($ millions)			
	Number of facilities	Capital costs	Annual O&M costs	Total annualized costs	Number of facilities	Capital costs	Annual O&M costs	Total annualized costs
Oils—Option 2	31	4.42	2.49	3.12	271	45.72	31.38	35.31
Oils—Option 3	31	13.65	22.58	25.59	271	120.1	173.85	203.05

VI. Pollutant Reductions

The Agency estimated the reduction in the mass of pollutants that would be discharged from the newly identified oils facilities after the implementation of the regulation proposed in January 1995. The methodology used to estimate the pollutant reductions in this notice is the same as that used for the proposal. A detailed discussion of this methodology can be found in The Development Document for Proposed Effluent Limitations Guidelines and Standards for the Centralized Waste Treatment Industry (EPA 821–R–95–006, January 1995, NTIS #PB95–187985.

A. Conventional Pollutant Reductions

EPA has calculated how much the proposed BPT and BCT limitations would reduce the total quantity of conventional pollutants that are discharged by the oils facilities. The information presented in this notice applies to the oils subcategory only. If a facility could be classified in more than one subcategory, then only reductions related to the oils portion have been included in this discussion. The estimated conventional pollutant reductions due to BPT and BCT limitations including the newly identified facilities are the same as the reductions estimated in the original proposal since all of the newly identified facilities are assumed to be indirect dischargers and not subject to BPT and BCT limitations. The Agency estimates that the proposed regulations will reduce BOD_5 discharges by approximately 1.9 million pounds per year for Option 2 and by approximately 2.6 million pounds per year for Option 3; TSS discharges by approximately 3.9 million pounds per year for both Options 2 and 3; and oil and grease discharges by approximately 14.4 million pounds per year for Option 2 and 15.7 million pounds per year for Option 3.

B. Priority and Non-Conventional Pollutant Reductions

EPA applied the same methodology used to estimate conventional pollutant reductions attributable to application of BPT/BCT control technologies to estimate priority and non-conventional pollutant reductions for each facility for the oils subcategory. Because EPA proposed BAT limitations equivalent to BPT, there are no additional pollutant reductions associated with the BAT limitations.

1. Direct Dischargers and BAT

The estimated reductions in pollutants directly discharged in treated final effluent from the oils subcategory resulting from implementation of BPT and BAT are summarized in Table IV. For convenience in reviewing today's notice, this table provides the same information that was presented in the proposal. EPA does not estimate that any of the newly identified facilities are direct dischargers. The Agency estimates that proposed BPT and BAT regulations will reduce direct facility discharges of priority and non-conventional pollutants by 0.85 million pounds per year for Option 2 and 0.93 million pounds per year for Option 3.

TABLE IV.—REDUCTION IN DIRECT DISCHARGE OF PRIORITY AND NON-CONVENTIONAL POLLUTANTS FOR THE OILS SUBCATEGORY

Proposed option	Metal compounds (pounds/year)	Organic compounds (pounds/year)
Option 2	294,543	556,627
Option 3	319,847	610,937

2. Indirect Dischargers and PSES

The estimated reductions in pollutants indirectly discharged to POTWs resulting from implementation of PSES for the oils subcategory are summarized in Table V. For comparison purposes, the table includes the pollutant reductions originally estimated at the time of proposal as well as the estimated pollutant reductions including the newly identified facilities. The Agency estimates that proposed PSES regulations including the newly identified facilities will reduce indirect facility discharges to POTWs by 12.7 million pounds per year for Option 2 and 13.6 million pounds per year for Option 3.

TABLE V. REDUCTION IN INDIRECT DISCHARGE OF PRIORITY AND NON-CONVENTIONAL POLLUTANTS FOR THE OILS SUBCATEGORY

Proposed option	Original estimates (pounds/year)		Revised estimates (pounds/year)	
	Metal compounds	Organic ompounds	Metal compounds	Organic compounds
Oils—Proposed Option 2	709,834	1,341,439	4,212,333	8,509,688
Oils—Proposed Option 3	771,668	1,474,708	4,667,589	8,932,084

VII. Revised Economic Impacts

A. Overview

As explained in Section IV.A, EPA believes that the vast majority of newly identified facilities only accept RCRA non-hazardous wastestreams. Although the economic analysis assumes separate markets for oily waste management services (one for hazardous oily wastes and one for non-hazardous oily wastes), the following discussion focuses on the economic impacts for facilities exclusively managing non-hazardous oily waste.

The Agency has estimated the economic and financial impacts expected to result from the proposed limitations and standards for all of the newly identified oils facilities. This analysis includes an assessment of projected changes in the prices and quantities of oily waste treatment services, employment, facility profitability, and impacts on companies owning these facilities (including small business impacts). Today's notice summarizes the results of these analyses. For all the analyses, dollar values from other years were adjusted to 1995 values using a cost adjustment factor.

Additional information about the economic analysis, including a detailed description of the model and method, is available in Economic Impacts of Effluent Limitations Guidelines and Standards for the Centralized Waste Treatment Industry: Revised Impacts of Oils Option 2 and Oils Option 3 (EPA 821–R–95–001, January 1995, NTIS #PB95–187985).

B. Data Sources and Assumptions for Revised Economic Analyses

In developing and running the models for the non-hazardous waste market, EPA utilized five main sources of data: information obtained from Dun and Bradstreet, information from the National Oil Recyclers Association (NORA), information from comments to the 1995 proposal, information from site visits conducted after the proposal at a limited number of oils facilities, and information obtained from the Waste Treatment Industry Questionnaire. The Agency solicits comment on the representativeness of the data used and the accuracy of the assumptions made in modeling facility operations for the new facilities.

EPA has assumed that the volume of waste and wastewater received from off-site for treatment and/or recovery is evenly split between oily waste from which oil is recovered and oily wastewater which is treated. For facilities that recover oil, EPA has assumed that 60 percent of the incoming volume is recovered as oil and the remainder is wastewater. Combining these assumptions, EPA assumed that the total volume of incoming waste receipts at a facility is 1.25 times the estimated discharge flow to the POTW. These assumptions were based on information from NORA, site visits and previous questionnaire responses.

The Agency estimated operating costs, revenues, and profits at each facility, based on confidential cost and price data obtained from commenters, and on each facility's estimated quantity of waste received from off site. Each facility is assumed to charge $0.35 per gallon to accept incoming waste receipts from off site, and to sell recovered oil for $0.12 per gallon. Since no data are available from secondary sources to enable the Agency to include other revenue or cost at each facility, the Agency's analysis is limited to costs, revenues, and profits from oily waste CWT operations only.

Demand for oily waste management services is assumed to be relatively unresponsive to changes in price. Thus, when the price of CWT services increases, EPA's analysis assumes that most generators continue to send their waste to CWTs, and pay a higher price.

C. Changes to Economic Analysis Methodology Since Proposal

The economic analysis of Oils Option 2 and Oils Option 3 includes impacts on 243 non-hazardous oily waste CWT facilities. This analysis includes the 240 newly identified oily waste CWTs, plus the three non-hazardous oils facilities from the pre-proposal analysis.

The Agency believes that the waste managed by the 243 non-hazardous oily waste management CWTs is fundamentally different from the waste managed at CWTs also accepting hazardous waste. Thus, facilities managing non-hazardous oily waste offer services that are not perfect substitutes for the services offered by facilities managing hazardous oily waste. In other words, there are two separate markets for the two types of oily waste CWT services. For this reason, the Agency has chosen to develop two separate market models: one for hazardous oily waste CWT services and one for non-hazardous oily waste CWT services. For both markets, the Agency has assumed that there are six regional markets, corresponding to the Northeast, Southeast, Upper Midwest, Lower Midwest, Northwest, and Southwest of the United States. There the similarities between the models end.

The model used to analyze the economic impacts on hazardous waste CWTs is described in detail in the proposal and in EPA's Economic Impact Analysis of Proposed Effluent Limitation Guidelines and Standards for the Centralized Waste Treatment Industry (EPA 821–R–95–001, January 1995, NTIS #PB95–106821). A brief description of the hazardous model follows in order to contrast the model used to analyze impacts on non-hazardous oily waste CWTs.

The hazardous oily waste CWT model assumed six regional markets in which a few facilities offered centralized waste treatment services. Within each region, markets are assumed to be imperfectly competitive: facilities are aware of their competitors' actions and determine how much waste to accept at a given market price based on their assumptions about how their competitors will respond. Perhaps because of a desire to avoid triggering additional RCRA corrective action requirements by closing a facility, companies managing hazardous oily waste have tended to keep unprofitable CWT facilities in operation for extended periods of time. For this reason, the model does not assume that facilities

becoming unprofitable due to the proposed rule will close; rather, it tallies the number of facilities becoming unprofitable (as well as those becoming more profitable).

Unlike the hazardous waste markets, each of the six regional markets for non-hazardous oily waste CWT services includes from 15 to 70 facilities offering to supply these services. With so many facilities, it is not possible for each facility to keep track of all of its competitors' activities. Neither is it possible for any one facility to have a significant impact on market price. Thus, the analysis assumes that the market for non-hazardous oily waste CWT services is competitive. Rather than making a strategic decision when faced with new market conditions, non-hazardous oils CWTs determine the profit-maximizing quantity of waste to treat, given a new market price. Unlike the hazardous waste oils CWTs, these facilities do not share the same concerns about RCRA corrective action; they are all estimated to be profitable at baseline and are assumed to close if unprofitable.

D. Revised Economic Impacts for Oils Options 2 and 3

1. Impacts on Non-Hazardous Oily Waste CWT Facilities and Markets

Facilities complying with Option 2 and Option 3 may need to obtain land, install capital equipment, and employ more labor and materials. These compliance activities will increase the cost of treating oily waste and oily wastewater at CWT facilities. The costs incurred by oily waste management facilities are described in Section V. In this section, EPA describes expected facility responses to the increased costs, and the resulting impacts on the markets for oily waste management services, industry and facility profitability, and employment.

Facilities are assumed to respond to changes in their costs and in the market price for treatment services by selecting the profit-maximizing quantity of waste to treat. All non-hazardous oily waste CWT facilities are assumed to incur compliance costs under both Option 2 and Option 3. Overall, the quantity of waste accepted by each facility declines; market supply falls and market price rises. Facilities become less profitable and some close. Because they are accepting less waste, they need fewer employees, and employment declines. Table VI summarizes the results of this analysis.

TABLE VI.—IMPACTS OF OILS OPTION 2 AND OPTION 3 ON CWTS MANAGING NON-HAZARDOUS OILY WASTE

	Changes from baseline	
	Absolute	Percent
Market Impacts		
Option 2:		
Market Price ($1995/gallon)	0.03	8.5
Quantity Treated (10^3 gallons/year)	−20,158	−2.0
Option 3:		
Market Price ($1995/gallon)	0.12	34.4
Quantity Treated (10^3 gallons/year)	−71,210	−7.1
Industry Impacts		
Option 2:		
Average Change in Operating Profits (10^3)	−12	−1.0
Facilities Becoming Unprofitable	3	1.2
Change in Employment	−721	−9.6
Option 3:		
Average Change in Operating Profits (10^3)	−166	−14.5
Facilities Becoming Unprofitable	30	12.3
Change in Employment	−2,024	−26.9

Under Option 2, the price charged to generators of oily waste increases substantially, and the quantity of oily waste treated decreases slightly. This relatively large increase in price and moderate decrease in the quantity of waste treated reflect the fact that supply and demand curves for oily waste CWT services are both relatively unresponsive to changes in price. Thus, when the costs of the facilities increase, they are able to pass most of the increased cost along to their customers. While the price charged to the generators for oily waste CWT services is projected to increase significantly, this does not represent a significant burden to the average manufacturer, for whom CWT services is a very small share of total manufacturing costs. Three oily waste CWT facilities, which are predicted to incur very high compliance costs, are predicted to close as a result of Option 2. Employment is estimated to decline by more than 700 employees. Under Option 3, the impacts are considerably higher. Thirty facilities are projected to close and employment is projected to decline by more than 2,000 employees, from a base of approximately 7,530.

2. Small Business Impacts

As was the case for proposal, the Agency has defined small business according to the Small Business Administration's definition for SIC code 4953 (Refuse Systems). Small businesses owning CWTs are those having less than $6 million in annual sales. Of the 243 non-hazardous oils facilities, the Agency has determined that 99 are owned by small businesses. Of the remaining facilities, 90 are owned by businesses that are not small. The Agency has been unable to determine the size of the companies owning the remaining 54 facilities because no company ownership data are available from publicly available financial databases. For this notice, the Agency's analysis of impacts on small businesses is limited to impacts on the 99 facilities known to be owned by small companies.

The impacts of the proposed regulation on small businesses are summarized in Table VII. Total annualized compliance costs for these facilities average $125,000 per facility under Option 2 and $567,000 per facility under Option 3. Under Option 2, total annualized compliance costs

represent 9% of baseline facility revenues for the facilities owned by small businesses; under Option 3, they are 39 percent. Profits for small businesses owning oily waste CWT facilities are projected to decline by 2.0% as a result of Option 2 and by 15.4% as a result of Option 3. No facilities owned by small businesses are projected to close as a result of Option 2, but two are projected to close as a result of Option 3. Employment at facilities owned by small businesses is projected to decline by 6.7 percent under Option 2 and by nearly 23 percent under Option 3.

TABLE VII.—SMALL BUSINESS IMPACTS OF THE PROPOSED REGULATION

	Changes from baseline	
	Absolute	Percent
Option 2:		
Average Change in Operating Profits ($10³)	−20	−2.0
Facility Closures	0	0
Change in Employment	−86	−6.7
TAC as a Share of Baseline Revenue	.....	8.8
Option 3:		
Average Change in Operating Profits ($10³)	−160	−15.4
Facility Closures	2	2.0
Change in Employment	−293	−22.8
TAC as a Share of Baseline Revenue	.....	39.9

E. Cost-Effectiveness of Option 2 and Option 3

EPA's cost-effectiveness analysis compares the costs of complying with the control options to their effectiveness in removing pollutants from surface waters. Cost-effectiveness ratios are expressed as dollars per pound-equivalent removed, where a ''pound-equivalent'' is a pound of pollutant weighted by its relative toxicity. The estimated pollutant reductions (see Section VI) for indirect dischargers are also adjusted to reflect pollutant removals by the POTW. Total cost-effectiveness is calculated as the ratio of the total annualized costs to the pound equivalents removed. Cost-effectiveness can also be presented incrementally between options, comparing incremental costs to incremental removals from option to option. To permit comparison with cost-effectiveness results for effluent limitation guidelines and standards for other industries, the total annualized costs of Option 2 and Option 3 were converted to 1981 dollar values.

Table VIII details the results of the revised cost-effectiveness analysis for Option 2 and Option 3. The results reported include costs and removals for the entire oils subcategory and thus include hazardous oily waste CWTs as well as the non-hazardous oily waste CWTs. Since no new direct dischargers have been identified, the cost-effectiveness results for direct dischargers remain unchanged since proposal. At the time of proposal, EPA's cost effectiveness results for indirect discharging oils facilities were lower than the results presented in Table VIII. Total and incremental cost-effectiveness of Option 2 was $13.79 per pound-equivalent removed. For option 3, total cost-effectiveness was $111.37 per pound equivalent removed, and incremental cost-effectiveness was $6,692.49 per pound equivalent removed.

TABLE VIII.—COST EFFECTIVENESS OF OPTION 2 AND OPTION 3

	Total annualized costs ($1981/yr)	Removals (lb-eq/yr)	Total cost-effectiveness ($/lb-eq)	Incremental cost-effectiveness ($/lb-eq)
Direct Dischargers:				
Option 2	628,218	113,500	5.53	5.53
Option 3	6,143,526	119,256	51.52	958.18
Indirect dischargers:				
Option 2	22,861,383	950,144	24.06	24.06
Option 3	131,454,856	969,858	135.54	5,508.44

VIII. Solicitation of Data and Comments

A. Introduction and General Solicitation

EPA invites and encourages public participation in this rulemaking. The Agency asks that comments address any perceived deficiencies in the record of this notice and that suggested revisions or corrections be supported by data. EPA is requesting that individual facilities in the oils subcategory review the data developed for their facility to ensure that EPA has accurately characterized their operations.

The Agency invites all parties to coordinate their data collection activities with EPA to facilitate mutually beneficial and cost-effective data submissions. EPA is interested in participating in study plans, data collection and documentation. Please refer to the **FOR FURTHER INFORMATION** section at the beginning of this notice for technical contacts at EPA.

All information that you provide to EPA in your comments may be made public by EPA without further notice to you if not claimed as Confidential Business Information (CBI). Any information submitted, other than effluent data, may be claimed as CBI, as described in 40 CFR Section 2.203 (b):

(b) Method and time of asserting business confidentiality claim. A business which is submitting information to EPA may assert a business confidentiality claim covering the information at the time it is submitted to EPA, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as 'trade secret,' 'proprietary,' or 'company confidential.' Allegedly

confidential portions of otherwise non-confidential documents should be clearly identified by the business, and may be submitted separately to facilitate identification and handling by EPA. If the business desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state.

Information covered by a claim of confidentiality will be disclosed by EPA only to the extent, and by means of the procedures, set forth in 40 CFR Part 2, Subpart B. In general, submitted information protected by a business confidentiality claim may be disclosed to other employees, officers, or authorized representatives of the United States concerned with carrying out the Clean Water Act and Clean Air Act, or when relevant to any proceeding under these Acts.

B. Specific Data and Comment Solicitations

EPA requests comments and data on the following issues:

1. Estimation of Oils Subcategory Size

Based on data gathered from various sources for today's notice, EPA has revised its estimate of the number of facilities in the oils subcategory. EPA estimates that there are 275 facilities in the oils subcategory. A portion of these facilities may have been considered as part of the Preliminary Data Summary for the Solvent Recycling Industry rather than part of the Preliminary Data Summary for the Hazardous Waste Treatment Industry (EPA 440/1–89/100, September 1989, NTIS #PB90–126517). EPA solicits general comments on this revised estimate as well as specific information on the number, name, and location of facilities within the industry.

2. Waste Receipt Characterization

At the time of proposal, EPA believed that the vast majority of oils facilities treated concentrated, stable oil-water emulsions. As such, EPA's sampling program prior to proposal focused on facilities which accepted these types of wastes. EPA no longer believes that the majority of wastewater receipts are comprised of concentrated (>10% oil) wastestreams. EPA requests information on the type of oily waste (stable, unstable, % water, etc.) accepted for treatment by the oils subcategory as well as constituents found in the incoming wastes and wastewaters.

3. Wastewater Discharge Flow Rates

For this notice, EPA estimated the annual discharge flow rate at each of the newly identified facilities based on publicly available information on total facility revenue and employment. Additionally, EPA assumed that all of these facilities discharge to Publicly Owned Treatment Works (POTWs) rather than to surface waters. EPA solicits information on the actual annual wastewater discharge flow rate at each of the oils facilities as well as the destination of the wastewater discharge.

4. Wastewater Treatment Technologies

EPA assumed that all of the newly-identified oils facilities have chemical emulsion breaking to treat wastes and wastewaters accepted for treatment. EPA additionally assumed that none of the newly-identified facilities utilize any of the technologies that form the basis for the proposed options. EPA solicits information on these assumptions. Facilities should provide detailed information on the types of treatment technologies employed in both their oil recovery and wastewater treatment operations.

5. Characterization of Wastewater Resulting From Various Treatment Technologies

EPA has proposed chemical emulsion breaking as the baseline wastewater treatment technology for this subcategory. In order to provide a broader picture of the pollutant removal effectiveness, EPA is seeking additional information on the concentrations of pollutants in wastewater resulting from treatment by chemical emulsion breaking and gravity separation. Additionally, as noted previously, EPA will be sampling at some oils subcategory facilities that use dissolved air flotation (DAF) to treat oily wastewaters. EPA is particularly interested in data on the chemical composition of wastewaters resulting from treatment by DAF. To the extent that actual wastewater treatment data is available for DAF, EPA is also soliciting that information.

6. Final Effluent Characterization

EPA has very limited data on the level of constituents currently being discharged in the treated final effluent resulting solely from the treatment of oily wastes and wastewaters at oils facilities. For the proposal and today's notice, EPA has assumed that all facilities have the same constituents and concentrations of constituents in their discharges. EPA requests discharge monitoring data from facilities prior to commingling with other centralized waste treatment wastewater, non-contaminated stormwater, or other sources of wastewater.

7. Fuel Blending

In EPA's 1995 proposal, EPA chose not to propose nationally applicable effluent limitations guidelines and standards for fuel blending operations defined as ''the process of mixing organic waste for the purpose of generating fuel for reuse.'' New information indicates that the majority of the newly identified facilities perform fuel blending operations as part of their waste treatment services. EPA solicits comments on fuel blending operations in general as well as those in conjunction with waste oil recovery and treatment. EPA solicits information on the fuel blending process, wastewater generated as a result of fuel blending operations, and the applicability of the proposed rule to such operations.

8. RCRA Permits

EPA has identified non-hazardous oils facilities which have obtained or applied for RCRA permits. As such, EPA assumed that all of the newly identified facilities had the potential to have a RCRA permit, and EPA included the cost of permit modifications in the capital component of complying with the proposed options. EPA recognizes that use of this assumption will necessarily overstate the costs of treatment for those non-hazardous facilities which do not have a RCRA permit. EPA solicits comment on why non-hazardous facilities would obtain a RCRA permit and the extent of RCRA permits in the non-hazardous portion of this industry.

9. Assumptions for Revised Economic Analysis

EPA used various sources of information to make assumptions used in modeling the baseline conditions for the newly identified oils facilities. EPA made assumptions concerning the relationship between the volume of incoming waste and wastewaters being treated in oil recovery and wastewater treatment, the percent of oil recovered, the relationship between incoming waste receipts and final treated effluent flow rates, the charge to generators for the CWT service, the price of recovered oil, and the market structure. EPA solicits comments on the accuracy of the assumptions used.

Dated: September 9, 1996.

Robert Perciasepe,

Assistant Administrator for Water.

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