

**ENVIRONMENTAL PROTECTION
AGENCY**
40 CFR Part 419
[OW-FRL-2606-1]
**Petroleum Refining Point Source
Category; Effluent Limitations
Guidelines and Pretreatment
Standards**
AGENCY: Environmental Protection
Agency (EPA).

ACTION: Proposed regulation.

SUMMARY: EPA proposes modifications to the regulation which limits effluent discharges to waters of the United States from facilities engaged in the refining and processing of petroleum. EPA agreed to propose these modifications in a settlement agreement which resolved the lawsuit brought against EPA by the Natural Resources Defense Council, Inc., challenging the final petroleum refining regulation promulgated by EPA on October 18, 1982.

The proposed modifications include: (1) Amendments to the "best available technology" (BAT) effluent limitations for process wastewater for the pollutants phenolic compounds, total chromium, and hexavalent chromium; (2) "best conventional pollutant technology" (BCT) effluent limitations for process wastewater; and (3) "best practicable technology" (BPT), BCT, and BAT effluent limitations for contaminated storm water runoff.

DATE: Comments on this proposal must be submitted on or before September 27, 1984.

ADDRESSES: Send comments to: Mr. Dennis Ruddy, Effluent Guidelines Division (WH-552), Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460, Attention: EGD Docket Clerk, Proposed Petroleum Refining Rules (WH-552).

The supporting information and all comments on this proposal will be available for inspection and copying at the EPA Public Information Reference Unit, Room 2922 (EPA Library). The EPA information regulation provides that a reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Mr. Dennis Ruddy, Effluent Guidelines Division, at (202) 382-7131.

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I. Legal Authority

The amendments to the regulation described in this notice are proposed under the authority of sections 301, 304, 307, 308, and 501 of the Clean Water Act (the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1251, et seq., as amended by the Clean Water Act of 1977, Pub. L. 92517). These changes are also proposed in response to the Settlement Agreement in *Natural Resources Defense Council, Inc. v. Environmental Protection Agency*, No. 83-1122 (D.C. Cir.).

II. Background
A. Prior Regulation

On October 18, 1982, EPA published final effluent limitations guidelines and standards for the petroleum refining point source category. That regulation provided final effluent limitations for "best available technology economically achievable" (BAT) and established final pretreatment standards for existing sources (PSES) and for new sources (PSNS). The Agency retained its previously promulgated "new source performance standards" (NSPS) and also did not modify its effluent limitations guidelines for "best practicable control technology currently available" (BPT). The Agency reserved coverage of "best conventional pollutant control technology" (BCT) effluent limitations guidelines. The preamble to the final regulation describes the history of the rulemaking. 47 FR 46434.

B. Challenges to the Prior Regulation

The Natural Resources Defense Council, Inc. ("NRDC") filed a petition to review the final petroleum refining regulation. *Natural Resources Defense Council, Inc. v. Environmental Protection Agency*, No. 83-1122 (D.C. Cir.). The American Petroleum Institute ("API") and seven individual oil companies (hereinafter referred to as "Interveners") intervened in the litigation.

C. Settlement Agreement

On April 17, 1984, EPA, NRDC, API and all other interveners to the litigation entered into a comprehensive Settlement Agreement which resolved all of the issues raised by the petitioner and all interveners. In the Settlement Agreement, EPA agreed to publish a notice of proposed rulemaking and to solicit comments regarding certain modifications to the final petroleum refining BAT effluent limitations guidelines. In addition, EPA agreed to propose BCT effluent limitations guidelines for four conventional pollutants and BPT, BAT and BCT effluent limitations guidelines for contaminated storm water runoff. Petitioner NRDC agreed that if EPA takes final action pursuant to and consistent with the Settlement Agreement that it will dismiss its lawsuit challenging the final petroleum refining regulation.

As part of the Settlement Agreement, the parties agreed to seek a judicial stay of the regulatory provisions to be modified. On July 24, 1984, the Court entered a stay of the effluent limitations for phenolic compounds, total chromium and hexavalent chromium for the following portions of the regulation pending the rulemaking: 40 CFR 419.13(a), 419.23(a), 419.33(a), 419.43(a), and 419.53(a).

III. Proposed Amendments to the Petroleum Refining Point Source Category Regulation

The following are the changes to the petroleum industry regulation that EPA is proposing:

A. Best Available Technology Effluent Limitations Guidelines

On October 18, 1982 EPA published final effluent limitations guidelines for best available technology economically achievable (BAT) and final pretreatment standards for existing sources (PSES) and for new sources (PSNS) for the petroleum refining industry. 47 FR 46434. The Natural Resources Defense Council ("NRDC") filed a petition to review the October 18, 1982 regulation in the United States Court of Appeals for the District of Columbia Circuit. The American Petroleum Institute (API) and seven companies which own and operate petroleum refineries intervened in that proceeding. A number of issues were raised in settlement discussions among the parties in the lawsuit pertaining to the BAT effluent limitations guidelines. After extensive discussions, the petitioner, interveners and EPA entered a Settlement Agreement, which provides for specified revisions to the BAT

effluent limitations guidelines. Those revisions are set forth in today's proposal.

In October 1982 EPA promulgated BAT effluent limitations for the following pollutants: (1) Non-conventional pollutants; chemical oxygen demand (COD), phenolic compounds (4AAP), ammonia (as N) and sulfide; and (2) toxic pollutants: total chromium and hexavalent chromium. The model technology for these regulations was flow equalization, initial oil and solids removal, advanced oil and solids removal, biological treatment and filtration or other final "polishing steps."

The Agency is now proposing to amend the BAT effluent limitations guidelines for total chromium, hexavalent chromium and phenolic compounds (4AAP). EPA is proposing to add flow reduction to the model treatment technology for the BAT effluent limitations guidelines and to base the effluent limitations for each of these three pollutants on a more recent data base, rather than the one it relied upon in the October 18, 1982 BAT promulgation. That rulemaking utilized the same data base used by the Agency when it established best practicable control technology currently available (BPT) effluent limitation guidelines for the petroleum refining point source category. BPT level of control for this industry was promulgated on May 9, 1974 (39 FR 16560) and subsequently amended on May 20, 1975 (40 FR 21939). The BAT effluent limitation guidelines for other pollutants would remain unchanged.

The BAT effluent limitations guidelines for total chromium being proposed today are based upon the revised 1979 flow model developed by the Agency to predict refinery flows, rather than the BPT 1974 flow model used in the October 1982 BAT promulgation. The effluent limitations for total chromium proposed today were derived by applying this updated flow model to concentrations for total chromium observed from plant sampling in 1976-1977.

BAT effluent limitations guidelines for hexavalent chromium and phenolic compounds being proposed today were derived using the 1982 Development Document concentrations and the revised 1979 flow model to more accurately represent effluent reductions for these pollutants which the industry was generally achieving in 1979 or could technologically be generally achieving in 1979 or could technologically achieve by the final BAT compliance date. BAT for hexavalent chromium being proposed today is based upon Option 7 (discharge flow reduction of 37.5 percent

from the revised 1979 model flow). BAT for phenolic compounds (4AAP) being proposed today is based upon option 8 (a reduction of 20 percent from the revised 1979 model flow).

Under today's proposal the BAT effluent limitations guidelines for each of these three pollutants would be substantially more stringent than the BAT effluent limitations guidelines promulgated in 1982. The total allowable discharge of total chromium to the nation's navigable waters would be reduced by approximately 288,000 pounds per year, a 66% annual reduction beyond discharge levels allowable under the existing BAT effluent limitations guidelines; the total allowable discharge of hexavalent chromium would be reduced by approximately 19,300 pounds per year, a 56% annual reduction beyond discharge levels allowable under existing BAT; the total allowable discharge of phenolic compounds (4AAP), would be reduced by approximately 75,000 pounds per year, a 43% annual reduction beyond discharge levels allowable under existing BAT. These reductions are based on data in the Agency's refined BAT model. The refined flow model is included in the record for this rulemaking proposal in a report entitled "Petroleum Refining Industry, Refinements to 1979 Proposed Flow Model."

EPA believes that approximately one half of refineries which directly discharge pollutants to navigable waters already are complying with the effluent limitations being proposed today. Further, EPA believes that these effluent limitations are economically achievable for the industry.

In the preamble to the October 18, 1982 promulgated regulations for this industry, EPA estimated that capital costs of \$112 million and \$37 million (1979 dollars) in annualized costs would be required in order for petroleum refiners to comply with option 7, one of the BAT control treatment options considered by the Agency (47 FR 46438). Likewise, EPA estimated that capital costs of \$77 million and annualized costs of \$25 million (1979) dollars would be required in order for petroleum refiners to comply with option 8, another of the BAT control treatment options considered by the Agency (47 FR 46438).

The revised limitations being proposed today for phenolic compounds, hexavalent chromium and total chromium are not based on either option 7 or option 8 alone. The effluent limitations for phenolic compounds are based upon option 8. The effluent limitations for hexavalent chromium are based upon option 7. The effluent

limitations for total chromium, while somewhat more stringent than the BPT effluent limitations for total chromium, are less stringent than those based upon option 8.

The Agency has reevaluated the costs of compliance for today's proposed changes to the BAT effluent limitations and estimates that the total industry costs of compliance would not exceed those previously calculated for option 8. EPA estimates that no more than 61 petroleum refineries will have to incur aggregate capital costs no greater than \$77 million and annualized costs no greater than \$25 million (1979 dollars). These costs translate to an average increase of no greater than one half cent per gallon of refinery product. No refinery closures are anticipated by the Agency. Refinery capacity and consumption would remain unaffected. Given these factors, the Agency believes that its earlier heavy reliance on costs as the basis for rejecting more stringent effluent controls in this industry was inappropriate, and that the effluent limitations guidelines for total chromium, hexavalent chromium and phenolic compounds (4AAP) being proposed today, rather than the effluent limitations guidelines promulgated in 1982, are appropriate for this industry as the BAT level of control. The revised proposed BAT numerical limitations are contained in the proposed regulation.

B. Best Conventional Pollutant Technology Effluent Limitations Guidelines

As part of the Settlement Agreement EPA agreed to propose best conventional pollutant control technology ("BCT") effluent limitations guidelines for the petroleum refining industry. The 1977 Amendments to the Clean Water Act ("CWA") added section 301(b)(2)(E) of the Act establishing BCT for discharge of conventional pollutants from existing industrial point sources. Conventional pollutants are those defined in Section 304(a)(4) [biochemical oxygen demanding pollutants (BOD₅), total suspended solids (TSS), fecal coliform and pH], and any additional pollutants defined by the Administrator as "conventional." The Administrator designated oil and grease as a conventional pollutant on July 30, 1979, 44 FR 44501.

BCT is not an additional limitation but replaces BAT for the control of conventional pollutants. In addition to other factors specified in section 304(b)(4)(B) the Act requires the BCT limitations be assessed in light of a two part "cost reasonableness" test.

American Paper Institute v. EPA, 660 F.2d 954 (4th Cir. 1981). The first test compares the cost for private industry to reduce its conventional pollutants with the costs to publicly owned treatment works for similar levels of reduction in their discharge of these pollutants. The second test examines the cost-effectiveness of additional industrial treatment beyond best practicable control technology currently available (BPT). EPA must find that limitations are "reasonable" under both tests before establishing them as BCT. In no case may BCT be less stringent than BPT.

EPA published a proposed BCT methodology on October 29, 1982. (47 FR 49176). This proposed BCT methodology explains the details of the two part cost-reasonableness test, i.e., the "POTW test" and the "industry cost test". Today's proposed BCT effluent limitations guidelines for the petroleum refining industry are based on the proposed BCT methodology. EPA is proposing that BCT be set equal to BPT for the petroleum refining industry.

EPA considered two levels of technology for incremental control beyond BPT of total suspended solids (TSS) and oil and grease. These technology levels are recycle/reuse and recycle/reuse followed by granular media filtration. These technologies are already in use at certain sites in the petroleum refining industry. These technologies were selected as candidate BCT technologies because the Agency believes they represent the first levels of control beyond BPT which could effect reductions in conventional pollutant loadings in this industry. Filtration alone was not selected as a candidate BCT technology because it is one of the existing BPT treatment technologies. However, the Agency decided to consider the combination of recycle/reuse plus filtration as a candidate BCT technology. This is because the decreased hydraulic loading resulting from recycle/reuse results in the need for smaller and less costly filtration equipment than that included in the BPT treatment model. The BCT cost test was then performed on the combination of recycle/reuse and filtration as a double-check on the effects of the less costly filtration step.

In order to determine whether these candidate technologies are "cost-reasonable", EPA developed one model plant representative of a typical plant in each of the five BPT subcategories. The five BPT subcategories are:

- A—Topping
- B—Cracking
- C—Petrochemical
- D—Lube

E—Integrated

Then EPA calculated the incremental (beyond BPT) conventional pollutant removals and the incremental costs associated with these technologies for each model plant. Based on this information, cost-per-pound ratios were calculated for each of the five BPT subcategories.

EPA evaluated reductions in total suspended solids (TSS), biochemical oxygen demand (BOD₅), and oil and grease for each of these technology levels. However, oil and grease was not considered for the BCT calculations for recycle/reuse for this industry. Additionally, BOD₅ was not considered for the BCT calculations for filtration for this industry. This is in accordance with the proposed BCT methodology in order to avoid "double counting" of the amount of pollutants removed by a candidate BCT technology.

The recycle/reuse technology option identified for BCT was evaluated in the range of from 20 to 40 percent reduction in discharge flow. The cost per pound ranges from \$41.00 to \$0.77 (1977 dollars) in the first part of the proposed BCT cost reasonableness test (the "POTW test"). Accordingly, the Agency found that the addition of recycle/reuse technology fails the first part of the proposed BCT cost reasonableness test in all five subcategories (\$0.30 per pound in 1977 dollars).

The Agency also found that the addition of recycle/reuse plus filtration fails the first part of the proposed BCT cost reasonableness test in all five subcategories. The recycle/reuse portion of this option was evaluated in the range of from 20 to 40 percent reduction in discharge flow. The cost per pound (1977 dollars) ranges from \$21.00 to \$0.58, compared to the benchmark of \$0.30 per pound (1977 dollars).

Therefore, the Agency is proposing that BCT be set equal to BPT for the five subcategories in this industry.

A more complete discussion of the selection of the candidate BCT technologies, the details of the first part of the proposed BCT cost reasonableness test ("POTW test"), and the basis for decision on this proposal are contained in the administrative record of this rulemaking.

C. Effluent Limitations Guidelines for Contaminated Storm Water Runoff

In the October 18, 1982 rulemaking the Agency withdrew storm water effluent limitations guidelines for BPT, BAT and NSPS, because they were remanded by the U.S. Court of Appeals in *American Petroleum Institute v. EPA*, 540 F.2d 1023 (10th Cir. 1976).

Since that remand there has been some confusion on the part of permit writers and others as to whether storm water runoff ("runoff") effluent limitations should be contained in permits. There are two kinds of such runoff, i.e., contaminated and uncontaminated. The purpose of this rulemaking is to establish BPT, BCT and BAT effluent limitations guidelines for contaminated storm water runoff. These proposed contaminated runoff effluent limitations would be included in petroleum refinery permits in addition to process wastewater effluent limitations. NSPS for contaminated runoff is being reserved for future rulemaking.

In today's proposal EPA is defining contaminated runoff, for purposes of these regulations only, to be runoff which comes into contact with any raw material, intermediate product, finished product, by-product or waste product located on petroleum refinery property. Any other storm water runoff at a refinery is considered uncontaminated. In today's proposal, EPA also is proposing to amend the definition of the term "runoff" currently found in 40 CFR 419.11(b) to clarify that it means the flow of storm water resulting from precipitation coming into contact with petroleum refinery property. Contaminated runoff constitutes an additional source of pollution which must be managed during periods of precipitation along with process wastewater from refinery operations. The regulations being proposed today do not establish numerical effluent limitations for uncontaminated runoff. Effluent limitations, including but not limited to allocations, for uncontaminated runoff may be established by the permit writer based on his/her best professional judgment.

The Agency believes that the best practicable control technology currently available, the best conventional pollutant control technology and the best available technology economically achievable for treatment of contaminated runoff are the same as the technologies identified for treatment of process wastewater. The Agency has not identified any feasible technologies capable of achieving pollutant reductions for contaminated runoff from refineries to any greater degree than those which are achievable by the process wastewater treatment facility.

The Agency believes that the conventional pollutant oil and grease and the nonconventional pollutant parameter total organic carbon (TOC) are appropriate measures to determine whether pollutant loadings in contaminated runoff would be

measurably reduced by the model treatment technologies used to develop these proposed regulations. Under today's proposal for BPT, wastewater consisting solely of contaminated runoff may be discharged directly without treatment if it does not exceed 15 mg/l oil and grease and 110 mg/l TOC, based upon an analysis of any single grab or composite sample. Under today's proposal for BCT, wastewater consisting solely of contaminated runoff may be discharged directly without treatment, if it does not exceed 15 mg/l oil and grease and under today's proposal for BAT, wastewater consisting solely of contaminated runoff may be discharged directly without treatment if it does not exceed 15 mg/l oil and grease or 110 mg/l TOC. If contaminated runoff (whether or not it exceeds 15 mg/l oil and grease or 110 mg/l TOC) is commingled or treated with process wastewater, or if wastewater consisting solely of contaminated runoff which exceeds 15 mg/l oil and grease or 110 mg/l TOC is not commingled or treated with any other type of wastewater, then such runoff would be subject to the alternative BPT/BCT/BAT effluent limitations guidelines for contaminated runoff being proposed today, as appropriate. These oil and grease and TOC numerical effluent limitations are based on the concentrations expected from the properly designed and operated model treatment facilities.

The effluent limitations guidelines in today's BPT proposal for contaminated runoff are based on the same concentrations and variability factors used to develop the Agency's existing BPT process wastewater effluent limitations guidelines.

Today's BAT proposal for contaminated runoff is based upon the same concentrations and variability factors used to develop the Agency's existing BAT process wastewater effluent limitations guidelines, except those for total chromium, which are based upon the same concentrations and variability factors used for today's proposed BAT effluent limitations guidelines for process wastewater.

Today's proposed BAT effluent guidelines for phenolic compounds (4AAP) for contaminated runoff are based on the same concentrations used for today's existing BAT effluent limitations guidelines for process wastewater and the same variability factors used for the Agency's existing BAT effluent limitations guidelines. EPA has determined that this approach is appropriate in this proposal because of the specifics of each data base available to the Agency. If EPA used the variability factors from today's

proposed BAT effluent limitations guidelines, less stringent BAT contaminated runoff numerical effluent limitations for phenolic compounds (4AAP) would be derived than under today's proposed BPT contaminated runoff numerical effluent limitations for phenolic compounds (4AAP). The more stringent effluent limitations clearly are achievable and as a matter of law BAT cannot be less stringent than BPT.

Today's BCT proposal for contaminated runoff is based on the same concentrations and variability factors used for today's proposed BCT process wastewater effluent limitations guidelines.

The Agency believes that the costs attributable to today's proposal will be minimal, while providing for reductions in refinery pollutant discharges. This is because the Agency believes the industry as a whole already is (a) treating contaminated runoff with process wastewater or (b) is discharging contaminated runoff below today's proposed threshold for treatment. This proposal does not cover contaminated runoff which is commingled with non-process wastewater streams. EPA believes that such instances are infrequent, and accordingly, they are left to the permit writer's discretion.

Unlike the effluent limitations guidelines for process wastewater for this industry which are mass-based, today's proposed effluent limitations guidelines for contaminated runoff are concentration-based. This is because storm water volumes are not related to any measurement of refinery production. However, under today's proposal permit effluent limitations for contaminated runoff are to be established on a mass basis. The mass-based effluent limitations for each regulated pollutant for contaminated runoff in a petroleum refining permit are the product of (1) the respective effluent guideline concentration for that pollutant; and (2) the measured or calculated contaminated runoff volume.

Under today's proposal permit writers are given flexibility in determining refinery storm water volumes on a case by case basis. The following factors are among those appropriate for permit writers to consider in determining what contaminated runoff volume to use in calculating mass-based effluent limitations for refinery permits: (a) Measured difference between dry weather and wet weather discharge flow from the treatment facility where contaminated runoff is the only runoff present in the treatment facility; and (b) volume of contaminated runoff water calculated from the product of (1)

measurement of land area where precipitation would become contaminated, and (2) an historical measure of precipitation for the particular refinery location.

Once the mass based effluent limitation is derived, it may be incorporated into a refinery permit in one of three ways. The proper choice depends on site-specific factors, such as local rainfall patterns and the design of runoff holding facilities.

The first method is a continuous allocation. This presents the problem of providing an allocation when no runoff is present and is appropriate only where precipitation patterns are relatively constant through the year or when holding facilities are used to bleed runoff into the treatment facility over most or all of the year. The second method is a variable allocation based on measurement or calculation of actual contaminated runoff volume. While this is the most ideal method, it may present compliance measurement and enforcement complexities. The third method is dual wet weather/dry weather limitations triggered by either time of year, precipitation events, or actual contaminated runoff volume. The method of determining contaminated runoff volume used to calculate the effluent limitations will vary depending on the method used and the design of any runoff holding facilities. Therefore, it is left to the permit writer to select an appropriate method under today's proposal.

These proposed regulations do not address uncontaminated runoff which is discharged through the process wastewater treatment facility. This is because the Agency believes that introducing uncontaminated runoff to the process wastewater treatment system may result in the discharge of an increased mass of pollutants to the environment compared to the mass of pollutants discharged if no uncontaminated runoff were present in the process wastewater treatment system. Therefore, the Agency does not want to encourage this practice on a national basis.

In the case of BPT, the effluent limitations guidelines being proposed today are for the following pollutants: (1) conventional pollutants total suspended solids (TSS), oil and grease, five-day biochemical oxygen demand (BOD₅) and pH; (2) nonconventional pollutants phenolic compounds (4AAP), chemical oxygen demand (COD) and total organic carbon (TOC); and (3) toxic pollutants total chromium and hexavalent chromium. In the case of BAT, the effluent limitations guidelines

being proposed today are for: (1) Nonconventional pollutants phenolic compounds (4AAP), chemical oxygen demand (COD) and total organic carbon (TOC); and (2) toxic pollutants total chromium and hexavalent chromium. In the case of BCT, the effluent limitations guidelines being proposed today are for the conventional pollutants TSS, oil and grease, BOD₅ and pH. In the case of COD, there may be instances where extremely high chloride levels (greater than 1,000 mg/l) will interfere with the COD analytical method. In this event, the Agency believes that TOC is an acceptable substitute parameter for COD. A TOC limitation shall be based upon effluent data from the particular refinery which correlates TOC to BOD₅. Where adequate correlation data are not available, the permitting authority may establish a TOC limitation on a ratio of 2.2 to 1 to the applicable BPT/BCT effluent limitations for BOD₅. This ratio is based upon effluent data analyzed by the Agency.

No effluent limitations guidelines for contaminated runoff are being proposed for the nonconventional pollutants ammonia (as N) and sulfide regulated under existing BPT and BAT levels of control.

IV Environmental Impact of the Proposed Modifications to the Petroleum Refining Industry Regulation

EPA's estimates of the reduction in industry-wide direct discharges of phenolic compounds, hexavalent chromium, and total chromium for process wastewater from those allowed under the final petroleum industry regulation to those allowed by this proposed modification are presented below.

REDUCTIONS IN ALLOWABLE DISCHARGE
[Pounds per year]

Pollutant	Reduction
Total chromium.....	286,000
Hexavalent chromium.....	19,300
Phenolic compounds.....	75,000

V Solicitation of Comments

EPA invites public participation in this rulemaking and requests comments on the proposals discussed or set out in this notice. The Agency asks that any deficiencies in the record of this proposal be pointed to with specificity and that suggested revisions or corrections be supported by data.

VI. Executive Order 12291

Under Executive Order 12291, EPA must judge whether a regulation is

"major" and therefore subject to the requirement of a Regulatory Impact Analysis. This proposed regulation is not major because it does not fall within the criteria for major regulations established in Executive Order 12291

VII. Regulatory Flexibility Analysis

Under the Regulatory Flexibility Act, 5 U.S.C. 601 et seq., EPA must prepare a Regulatory Flexibility Analysis for all proposed regulations that have a significant impact on a substantial number of small entities. The Agency does not believe that today's proposed amendments will have a significant impact on any segment of the petroleum refining industry, large or small. The Agency is not, therefore, preparing a formal analysis for this regulation.

VIII. OMB Review

This regulation was submitted to the Office of Management and Budget for review as required by Executive Order 12291.

IX. List of Subjects in 40 CFR Part 419

Petroleum, Water pollution control, Wastewater treatment and disposal.

Dated: August 13, 1984.
William D. Ruckelshaus,
Administrator.

For the reasons set out in the preamble, EPA is proposing to amend 40 CFR Part 419 as follows:

PART 419—[AMENDED]

1. The authority citation for Part 419 continues to read as follows:

Authority: Secs. 301, 304 (b), (c), (e), and (g), 308 (b) and (c), 307 (b) and (c), 308, and 501, Federal Water Pollution Control Act as amended (the Act); 33 U.S.C. 1311, 1314 (b), (c), (e), and (g), 1316 (b) and (c), 1317 (b) and (c), 1318, and 1361; 86 Stat. 816, Pub. L. 92-500; 91 Stat. 1557, Pub. L. 95-217.

2. Section 419.11 is amended by revising paragraph (b) and adding paragraph (g) to read as follows:

§ 419.11 Specialized definitions.

(b) The term "runoff" shall mean the flow of storm water resulting from precipitation coming into contact with petroleum refinery property.

(g) The term "contaminated runoff" shall mean runoff which comes into contact with any raw material, intermediate product, finished product, by-product or waste product located on petroleum refinery property.

3. Sections 419.12, 419.22, 419.32, 419.42, and 419.52 are amended by removing the paragraph heading and the

word "reserved" in paragraph (e) and adding the following text:

§ 419.— Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

(e) Effluent Limitations for Contaminated Runoff.

The following effluent limitations constitute the quantity and quality of pollutants or pollutant properties controlled by this paragraph and attributable to contaminated runoff, which may be discharged after the application of the best practicable control technology currently available by a point source subject to this subpart.

(1) If wastewater consists solely of contaminated runoff and is not commingled or treated with process wastewater, it may be discharged if it does not exceed 15 mg/l oil and grease and 110 mg/l total organic carbon (TOC) based upon an analysis of any single grab or composite sample.

(2) If contaminated runoff is commingled or treated with process wastewater, or if wastewater consisting solely of contaminated runoff which exceeds 15 mg/l oil and grease or 110 mg/l TOC is not commingled or treated with any other type of wastewater, the quantity of pollutants discharged shall not exceed the quantity determined by multiplying the flow of contaminated runoff as determined by the permit writer times the concentrations listed in the following table:

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed

	Metric units (kilograms per 1,000 cubic meters of flow)	
BOD ₅	48.	26.
TSS.....	33.	21.
COD ²	360.	180.
Oil and grease.....	15.	8.
Phenolic compounds (4AAP).....	0.35	0.17
Total chromium.....	0.73	0.43
Hexavalent chromium.....	0.062	0.028
pH.....	(¹)	(¹)

	English units (pounds per 1,000 gallons of flow)	
BOD ₅	0.40	0.22
TSS.....	0.28	0.18
COD ²	3.0	1.5
Oil and grease.....	0.13	0.007
Phenolic compounds (4AAP).....	0.0029	0.0014
Total chromium.....	0.0050	0.0035
Hexavalent chromium.....	0.00052	0.00023
pH.....	(¹)	(¹)

¹ Within the range 6.0 to 9.0.
² In any case in which the applicant can demonstrate that the chloride ion concentration in the effluent exceeds 1,000 mg/L (1,000 ppm), the permitting authority may substitute TOC as a parameter in lieu of COD. A TOC effluent limitation

shall be based on effluent data from the particular refinery which correlates TOC to BOD. If in the judgment of the permitting authority, adequate correlation data are not available, the effluent limitations for TOC shall be established at a ratio of 2.2 to 1 to the applicable effluent limitations for BOD.

4. Sections 419.13, 419.23, 419.33, 419.43, and 419.53 are amended by removing the entries and effluent limitations for phenolic compounds, total chromium, and hexavalent chromium from the tables in paragraph (a).

5. Sections 419.13, 419.23, 419.33, 419.43, and 419.53 are amended by redesignating paragraph (e) as (f), redesignating paragraph (d) as (e), redesignating paragraph (c) as (d), and revising the redesignated paragraph (f) to read as follows:

§ 419.— Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

* * * * *

(f) Effluent Limitations for Contaminated Runoff. The following effluent limitations constitute the quantity and quality of pollutants or pollutant properties controlled by this paragraph and attributable to contaminated runoff, which may be discharged after the application of the best available technology economically achievable by a point source subject to this subpart.

(1) If wastewater consists solely of contaminated runoff and is not commingled or treated with process wastewater, it may be discharged if it does not exceed 110 mg/l total organic carbon (TOC) based upon an analysis of any single grab or composite sample.

(2) If contaminated runoff is commingled or treated with process wastewater, or if wastewater consisting solely of contaminated runoff which exceed 110 mg/l TOC is not commingled or treated with any other type of wastewater, the quantity of pollutants discharged shall not exceed the quantity determined by multiplying the flow of contaminated runoff as determined by the permit writer times the concentrations listed in the following table:

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Metric units (kilograms per 1,000 cubic meters of flow)		
Phenolic compounds (4AAP)	0.35	0.17

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Metric units (kilograms per 1,000 cubic meters of flow)		
Total chromium	0.03	0.21
Hexavalent chromium	0.002	0.023
COD ¹	300	183
English units (pounds per 1,000 gallons of flow)		
Phenolic compounds (4AAP)	.0023	.014
Total chromium	.0033	.018
Hexavalent chromium	.0002	.0023
COD ¹	3.0	1.5

¹ In any case in which the applicant can demonstrate that the chloride ion concentration in the effluent exceeds 1000 mg/l (1000 ppm), the permitting authority may substitute TOC as a parameter in lieu of COD. A TOC effluent limitation shall be based on effluent data from the particular refinery which correlates TOC to BOD. If in the judgment of the permitting authority, adequate correlation data are not available, the effluent limitations for TOC shall be established at a ratio of 2.2 to 1 to the applicable effluent limitations for BOD.

6. Sections 419.13, 419.23, 419.33, and 419.53 are amended by adding a new paragraph (c) to read as follows:

§ 419.— Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

* * * * *

(c)(1) In addition to the provisions contained above pertaining to COD, ammonia and sulfide any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

For each of the regulated pollutant parameters listed below, the effluent limitation for a given refinery is the sum of the products of each effluent limitation factor times the applicable refinery process feedstock rate, calculated as provided in 40 CFR 122.45(b). Applicable production processes are presented in Appendix A, by process type. The process identification numbers presented in this Appendix A are for the convenience of the reader. They can be cross-referenced in the *Development Document for Effluent Limitations Guidelines, New Source Performance Standards, and Pretreatment Standards for the Petroleum Refining Point Source Category* (EPA 440/1-82/014), Table III-7, pp. 49-54.

Pollutant or pollutant property and process type	BAT effluent limitation factor	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Metric units (kilograms per 1,000 m ³ of feedstock)		
Phenolic compounds (4AAP):		
Crude	0.037	0.009
Cracking and coking	0.419	0.102
Asphalt	0.226	0.055
Lube	1.055	0.257
Reforming and alkylation	0.377	0.092
Total chromium:		
Crude	0.030	0.011
Cracking and coking	0.340	0.118
Asphalt	0.183	0.064
Lube	0.855	0.297
Reforming and alkylation	0.205	0.106
Hexavalent chromium:		
Crude	0.0019	0.0009
Cracking and coking	0.0218	0.0093
Asphalt	0.0117	0.0053
Lube	0.0543	0.0243
Reforming and alkylation	0.0196	0.0088

Pollutant or pollutant property and process type	BAT effluent limitation factor	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
English units (pounds per 1,000 bbl of feedstock)		
Phenolic compounds (4AAP):		
Crude	0.013	0.003
Cracking and coking	0.147	0.036
Asphalt	0.079	0.019
Lube	0.263	0.090
Reforming and alkylation	0.132	0.032
Total chromium:		
Crude	0.011	0.004
Cracking and coking	0.119	0.041
Asphalt	0.064	0.022
Lube	0.253	0.104
Reforming and alkylation	0.107	0.037
Hexavalent chromium:		
Crude	0.0007	0.0003
Cracking and coking	0.0076	0.0034
Asphalt	0.0041	0.0019
Lube	0.0192	0.0087
Reforming and alkylation	0.0069	0.0031

(2) See the comprehensive example in Subpart D, § 419.43(c)(2).

7 Section 419.43 is amended by adding a new paragraph (c) to read as follows:

§ 419.43 Effluent limitation guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

* * * * *

(c)(1) In addition to the provisions contained above pertaining to COD, ammonia and sulfide any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

For each of the regulated pollutant parameters listed below, the effluent limitation for a given refinery is the sum of the products of each effluent limitation factor times the applicable

refinery process feedstock rate, calculated as provided in 40 CFR 122.45(b). Applicable production processes are presented in Appendix A, by process type. The process identification numbers presented in this Appendix A are for the convenience of the reader. They can be cross referenced in the *Development Document for Effluent Limitations Guidelines, New Source Performance Standards, and Pretreatment Standards for the Petroleum Refining Point Source Category* (EPA 440/1-82/014), Table III-7, pp. 49-54.

Pollutant or pollutant property and process type	BAT effluent limitation factor	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed

	Metric units (kilograms per 1,000 m ³ of feedstock)	
Phenolic compounds (4AAP):		
Crude.....	0.037	0.009
Cracking and coking.....	0.419	0.102
Asphalt.....	0.226	0.055
Lube.....	1.055	0.257
Reforming and alkylation.....	0.377	0.092
Total chromium:		
Crude.....	0.030	0.011
Cracking and coking.....	0.340	0.118
Asphalt.....	0.183	0.064
Lube.....	0.855	0.297
Reforming and alkylation.....	0.305	0.106
Hexavalent chromium:		
Crude.....	0.0019	0.0009 ^a
Cracking and coking.....	0.0218	0.0098
Asphalt.....	0.0117	0.0053
Lube.....	0.0549	0.0248
Reforming and alkylation.....	0.0196	0.0088

	English units (pounds per 1,000 bbl of feedstock)	
Phenolic compounds (4AAP):		
Crude.....	0.013	0.003
Cracking and coking.....	0.147	0.036
Asphalt.....	0.079	0.019
Lube.....	0.359	0.090
Reforming and alkylation.....	0.132	0.032
Total chromium:		
Crude.....	0.011	0.004
Cracking and coking.....	0.119	0.041
Asphalt.....	0.064	0.022
Lube.....	0.299	0.104
Reforming and alkylation.....	0.107	0.037
Hexavalent chromium:		
Crude.....	0.0007	0.0003
Cracking and coking.....	0.0076	0.0034
Asphalt.....	0.0041	0.0019
Lube.....	0.0192	0.0087
Reforming and alkylation.....	0.0069	0.0031

(2) Example Application of Effluent Limitations Guidelines as Applicable to Phenolic Compounds, Hexavalent Chromium, and Total Chromium.

The following example presents the derivation of a BAT phenolic compounds (4AAP) effluent limitation (30 day average) for a petroleum refinery permit. This methodology is also applicable to hexavalent chromium and total chromium.

Refinery process	Process feedstock rate 1,000 bbl/day
1. Atmospheric crude distillation.....	100
2. Crude desalting.....	50
3. Vacuum crude distillation.....	75
Total crude processes (C).....	225
6. Fluid catalytic cracking.....	25
10. Hydrocracking.....	20
Total cracking and coking processes (K).....	45
18. Asphalt production: Total asphalt processes (A).....	5
21. Hydrofining: Total lube processes (L).....	3
8. Catalytic reforming: Total reforming and alkylation processes (R).....	10

Note.—30-day average phenolic compounds (4AAP) discharge, lb/day (0.003)(225) + (0.036)(45) + (0.019)(5) + (0.030)(3) + (0.032)(10) + 2.96 lb/day.

8. Section 419.14 is revised to read as follows:

§ 419.14 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

(a) Any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT):

BCT effluent limitations	Pollutant or pollutant property	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed

	Metric units (kilograms per 1,000 m ³ of feedstock)	
BOD ₅	22.7	12.0
TSS.....	15.8	10.1
Oil and grease.....	6.9	3.7
pH.....	(¹)	(¹)
	English units (pounds per 1,000 bbl of feedstock)	
BOD ₅	8.0	4.25
TSS.....	5.6	3.6
Oil and grease.....	2.5	1.3
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(b) The limits set forth in paragraph (a) of this section are to be multiplied by the following factors to calculate the maximum for any one day and maximum average of daily values for thirty consecutive days.

(1) Size factor.

1,000 bbl of feedstock per stream day	Size factor
Less than 24.9.....	1.02
25.0 to 49.9.....	1.06
50.0 to 74.9.....	1.16
75.0 to 99.9.....	1.26
100 to 124.9.....	1.38
125.0 to 149.9.....	1.50
150.0 or greater.....	1.57

(2) Process factor.

Process configuration	Process factor
Less than 2.49.....	0.02
2.5 to 3.49.....	0.07
3.5 to 4.49.....	0.80
4.5 to 5.49.....	0.05
5.5 to 5.99.....	1.07
6.0 to 6.49.....	1.17
6.5 to 6.99.....	1.27
7.0 to 7.49.....	1.39
7.5 to 7.99.....	1.51
8.0 to 8.49.....	1.64
8.5 to 8.99.....	1.79
9.0 to 9.49.....	1.95
9.5 to 9.99.....	2.12
10.0 to 10.49.....	2.31
10.5 to 10.99.....	2.51
11.0 to 11.49.....	2.73
11.5 to 11.99.....	2.99
12.0 to 12.49.....	3.24
12.5 to 12.99.....	3.53
13.0 to 13.49.....	3.84
13.5 to 13.99.....	4.10
14.0 or greater.....	4.38

(3) See the comprehensive example in Subpart D, § 419.42(b)(3).

(c) The following allocations constitute the quantity and quality of pollutants or pollutant properties controlled by this paragraph and attributable to ballast, which may be discharged after the application of best conventional pollutant control technology by a point source subject to this subpart, in addition to the discharge allowed by paragraph (b) of this section. The allocation allowed for ballast water flow, as kg/cu m (lb/1000 gal), shall be based on those ballast waters treated at the refinery.

Pollutant or pollutant property	BCT effluent limitations for ballast water	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed

	Metric units (kilograms per cubic meter of flow)	
BOD ₅	0.048	0.026
TSS.....	0.033	0.021
Oil and grease.....	0.015	0.008
pH.....	(¹)	(¹)

	English units (pounds per 1,000 gal of flow)	
BOD ₅	0.40	0.21
TSS.....	0.26	0.17
Oil and grease.....	0.126	0.067
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(d) The quantity and quality of pollutants or pollutant properties controlled by this paragraph attributable to once-through cooling water, are excluded from the discharge allowed by paragraph (b) of this section.

(e) Effluent Limitations for Contaminated Runoff. The following effluent limitations constitute the quantity and quality of pollutants or

pollutant properties controlled by this paragraph and attributable to contaminated runoff which may be discharged after the application of the best conventional pollutant control technology by a point source subject to this subpart.

(1) If wastewater consists solely of contaminated runoff and is not commingled or treated with process wastewater, it may be discharged if it does not exceed 15 mg/l oil and grease based upon an analysis of any single grab or composite sample.

(2) If contaminated runoff is commingled or treated with process wastewater, or if wastewater consisting solely of contaminated runoff which exceeds 15 mg/l oil and grease is not commingled or treated with any other type of wastewater, the quantity of pollutants discharged shall not exceed the quantity determined by multiplying the flow of contaminated runoff as determined by the permit writer times the concentrations listed in the following table:

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed

	Metric units (kilograms per 1,000 cubic meters of flow)	
	BOD-5	48.
TSS	33.	21.
Oil and grease	15.	8.
pH	(¹)	(¹)

	English units (pounds per 1,000 gallons of flow)	
	BOD-5	0.40
TSS	0.28	0.18
Oil and grease	0.13	0.067
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

9. Section 419.24 is revised to read as follows:

§ 419.24 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

(a) Any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT):

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Metric units (kilograms per 1,000 m ³ of feedstock)		
BOD ₅	28.2	15.6
TSS	19.5	12.8
Oil and grease	8.4	4.5
pH	(¹)	(¹)
English units (pounds per 1,000 bbl feedstock)		
BOD ₅	9.9	5.5
TSS	6.9	4.4
Oil and grease	3.0	1.6
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(b) The limits set forth in paragraph (a) of this section are to be multiplied by the following factors to calculate the maximum for any one day and maximum average of daily values for thirty consecutive days.

(1) Size factor.

1,000 barrels of feedstock per stream day	Size factor
Less than 24.9	0.91
25.0 to 49.9	0.95
50.0 to 74.9	1.04
75.0 to 99.9	1.13
100.0 to 124.9	1.23
125.0 to 149.9	1.55
150.0 or greater	1.41

(2) Process factor.

Process configuration	Process factor
Less than 2.49	0.59
2.5 to 3.49	0.63
3.5 to 4.49	0.74
4.5 to 5.49	0.83
5.5 to 6.99	1.00
7.0 to 8.49	1.09
8.5 to 9.99	1.19
10.0 to 12.49	1.29
12.5 to 14.99	1.41
15.0 to 17.49	1.53
17.5 to 19.99	1.67
20.0 to 24.99	1.82
25.0 or greater	1.83

(3) See the comprehensive example in Subpart D, § 419.42(b)(3).

(c) The provisions of § 419.14(c) apply to discharges of process wastewater pollutants attributable to ballast water by a point source subject to the provisions of this subpart.

(d) The quantity and quality of pollutants or pollutant properties controlled by this paragraph, attributable to once-through cooling water, are excluded from the discharge allowed by paragraph (b) of this section.

(e) Effluent Limitations for Contaminated Runoff.

The following effluent limitations constitute the quantity and quality of pollutants or pollutant properties controlled by this paragraph and attributable to contaminated runoff which may be discharged after the application of the best conventional pollutant control technology by a point source subject to this subpart.

(1) If wastewater consists solely of contaminated runoff and is not commingled or treated with process wastewater, it may be discharged if it does not exceed 15 mg/l oil and grease based upon an analysis of any single grab or composite sample.

(2) If contaminated runoff is commingled or treated with process wastewater, or if wastewater consisting solely of contaminated runoff which exceeds 15 mg/l oil and grease is not commingled or treated with any other type of wastewater, the quantity of pollutants discharged shall not exceed the quantity determined by multiplying the flow of contaminated runoff as determined by the permit writer times the concentrations listed in the following table:

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed

	Metric units (kilograms per 1,000 cubic meters of flow)	
	BOD-5	43.
TSS	33.	21.
Oil and grease	15.	8.
pH	(¹)	(¹)

	English units (pounds per 1,000 gallons of flow)	
	BOD-5	0.40
TSS	0.23	0.18
Oil and grease	0.13	0.067
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

10. Section 419.34 is revised to read as follows:

§ 419.34 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

(a) Any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT):

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Metric units (kilograms per 1,000 m ³ of feedstock)		
BOD ₅	34.6	18.4
TSS.....	23.4	14.8
Oil and grease.....	17.1	5.9
pH.....	(¹)	(¹)
English units (pounds per 1,000 bbl of feedstock)		
BOD ₅	12.1	6.5
TSS.....	8.3	5.25
Oil and grease.....	3.9	2.1
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0

(b) The limits set forth in paragraph (a) of this section are to be multiplied by the following factors to calculate the maximum for any one day and maximum average of daily values for thirty consecutive days.

(1) Size factor.

1,000 barrels of feedstock per stream day	Size factor
Less than 24.9.....	0.73
25.0 to 49.9.....	0.76
50.0 to 74.9.....	0.83
75.0 to 99.9.....	0.99
100.0 to 124.9.....	0.99
125.0 to 149.9.....	1.08
150.0 or greater.....	1.13

(2) Process factor.

Process configuration	Process factor
Less than 4.49.....	0.73
4.5 to 5.49.....	0.80
5.5 to 5.99.....	0.91
6.0 to 6.49.....	0.99
6.5 to 6.99.....	1.08
7.0 to 7.49.....	1.17
7.5 to 7.99.....	1.28
8.0 to 8.49.....	1.39
8.5 to 8.99.....	1.51
9.0 to 9.49.....	1.65
9.5 or greater.....	1.72

(3) See the comprehensive example in Subpart D, § 419.42(b)(3).

(c) The provisions of § 419.14(c) apply to discharges of process wastewater pollutants attributable to ballast water by a point source subject to the provisions of this subpart.

(d) The quantity and quality of pollutants or pollutant properties controlled by this paragraph, attributable to once-through cooling water, are excluded from the discharge allowed by paragraph (b) of this section.

(e) Effluent Limitations for Contaminated Runoff.
The following effluent limitations

constitute the quantity and quality of pollutants or pollutant properties controlled by this paragraph and attributable to contaminated runoff which may be discharged after the application of the best conventional pollutant control technology by a point source subject to this subpart.

(1) If wastewater consists solely of contaminated runoff and is not commingled or treated with process wastewater, it may be discharged if it does not exceed 15 mg/l oil and grease based upon an analysis of any single grab or composite sample.

(2) If contaminated runoff is commingled or treated with process wastewater, or if wastewater consisting solely of contaminated runoff which exceeds 15 mg/l oil and grease is not commingled or treated with any other type of wastewater, the quantity of pollutants discharged shall not exceed the quantity determined by multiplying the flow of contaminated runoff as determined by the permit writer times the concentrations listed in the following table:

Pollutant or pollutant property	BCT effluent limitations:	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Metric units (kilograms per 1,000 cubic meters of flow)		
BOD ₅	48.	26.
TSS.....	33.	21.
Oil and grease.....	15.	8.
pH.....	(¹)	(¹)
English units (pounds per 1,000 gallons of flow)		
BOD ₅	0.40	0.22
TSS.....	0.28	0.18
Oil and grease.....	0.13	0.067
pH.....	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

11. Section 419.44 is revised to read as follows:

§ 419.44 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT).

(a) Any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT):

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Metric units (kilograms per 1,000 m ³ of feedstock)		
BOD ₅	50.6	25.6
TSS.....	35.6	22.7
Oil and grease.....	16.2	8.5
pH.....	(¹)	(¹)
English units (pounds per 1,000 bbl of feedstock)		
BOD ₅	17.9	9.1
TSS.....	12.5	8.0
Oil and grease.....	5.7	3.0
pH.....	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(b) The limits set forth in paragraph (a) of this section are to be multiplied by the following factors to calculate the maximum for any one day and maximum average of daily values for thirty consecutive days.

(1) Size factor.

1,000 barrels of feedstock per stream day	Size factor
Less than 49.9.....	0.71
50.0 to 74.9.....	0.74
75.0 to 99.9.....	0.81
100.0 to 124.9.....	0.88
125.0 to 149.9.....	0.97
150.0 to 174.9.....	1.03
175.0 to 199.9.....	1.14
200.0 or greater.....	1.19

(2) Process factor.

Process configuration	Process factor
Less than 6.49.....	0.81
6.5 to 7.49.....	0.88
7.5 to 7.99.....	1.00
8.0 to 8.49.....	1.09
8.5 to 8.99.....	1.19
9.0 to 9.49.....	1.29
9.5 to 9.99.....	1.41
10.0 to 10.49.....	1.53
10.5 to 10.99.....	1.67
11.0 to 11.49.....	1.82
11.5 to 11.99.....	1.98
12.0 to 12.49.....	2.15
12.5 to 12.99.....	2.34
13.0 or greater.....	2.44

(c) The provisions of § 419.14(c) apply to discharges of process wastewater pollutants attributable to ballast water by a point source subject to the provisions of this subpart.

(d) The quantity and quality of pollutants or pollutant properties controlled by this paragraph, attributable to once-through cooling water, are excluded from the discharge allowed by paragraph (b) of this section.

(e) Effluent Limitations for Contaminated Runoff.

The following effluent limitations constitute the quantity and quality of pollutants or pollutant properties controlled by this paragraph and attributable to contaminated runoff which may be discharged after the application of the best conventional pollutant control technology by a point source subject to this subpart.

(1) If wastewater consists solely of contaminated runoff and is not commingled or treated with process wastewater, it may be discharged if it does not exceed 15 mg/l oil and grease based upon an analysis of any single grab or composite sample.

(2) If contaminated runoff is commingled or treated with process wastewater, or if wastewater consisting solely of contaminated runoff which exceeds 15 mg/l oil and grease is not commingled or treated with any other type of wastewater, the quantity of pollutants discharged shall not exceed the quantity determined by multiplying the flow of contaminated runoff as determined by the permit writer times the concentrations listed in the following table:

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Metric units (kilograms per 1,000 cubic meters of flow)		
BOD ₅	48.	26.
TSS	33.	21.
Oil and grease	15.	8.
pH	(¹)	(¹)
English units (pounds per 1,000 gallons of flow)		
BOD ₅	0.40	0.22
TSS	0.28	0.18
Oil and grease	0.13	0.057
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

12. Section 419.54 is revised to read as follows:

§ 419.54 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT):

(a) Any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT):

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Metric units (kilograms per 1,000 m ³ of feedstock)		
BOD ₅	54.4	28.9
TSS	37.3	23.7
Oil and grease	17.1	9.1
pH	(¹)	(¹)
English units (pounds per 1,000 tbd of feedstock)		
BOD ₅	19.2	10.2
TSS	13.2	8.4
Oil and grease	6.0	3.2
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0.

(b) The limits set forth in paragraph (a) of this section are to be multiplied by the following factors to calculate the maximum for any one day and maximum average of daily values for thirty consecutive days.

(1) Size factor.

1,000 barrels of feedstock per stream day	Size factor
Less than 124.9	0.73
125.0 to 149.9	0.76
150.0 to 174.9	0.83
175.0 to 199.9	0.91
200.0 to 224.9	0.99
225.0 or greater	1.04

(2) Process factor.

Process configuration	Process factor
Less than 6.49	0.75
6.5 to 7.49	0.82
7.5 to 7.99	0.92
8.0 to 8.49	1.09
8.5 to 8.99	1.10
9.0 to 9.49	1.23
9.5 to 9.99	1.23
10.0 to 10.49	1.42
10.5 to 10.99	1.54
11.0 to 11.49	1.63
11.5 to 11.99	1.63
12.0 to 12.49	1.63
12.5 to 12.99	2.17
13.0 or greater	2.29

(3) See the comprehensive example in Subpart D, § 419.42(b)(3).

(c) The provisions of § 419.14(c) apply to discharges of process wastewater pollutants attributable to ballast water by a point source subject to the provisions of this subpart.

(d) The quantity and quality of pollutants or pollutant properties controlled by this paragraph, attributable to once-through cooling water, are excluded from the discharge allowed by paragraph (b) of this section.

(e) Effluent Limitations for Contaminated Runoff. The following effluent limitations constitute the quantity and quality of pollutants or pollutant properties controlled by this

paragraph and attributable to contaminated runoff which may be discharged after the application of the best conventional pollutant control technology by a point source subject to this subpart.

(1) If wastewater consists solely of contaminated runoff and is not commingled or treated with process wastewater, it may be discharged if it does not exceed 15 mg/l oil and grease based upon an analysis of any single grab or composite sample.

(2) If contaminated runoff is commingled or treated with process wastewater, or if wastewater consisting solely of contaminated runoff which exceeds 15 mg/l oil and grease is not commingled or treated with any other type of wastewater, the quantity of pollutants discharged shall not exceed the quantity determined by multiplying the flow of contaminated runoff as determined by the permit writer times the concentrations listed in the following table:

Pollutant or pollutant property	BCT effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Metric units (kilograms per 1,000 cubic meters of flow)		
BOD ₅	43.	26.
TSS	33.	21.
Oil and grease	15.	8.
pH	(¹)	(¹)
English units (pounds per 1,000 gallons of flow)		
BOD ₅	0.43	0.22
TSS	0.28	0.18
Oil and grease	0.13	0.057
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

13. 40 CFR Part 419 is amended by adding the following appendix:

Appendix A—Processes Included in the Determination of BAT Effluent Limitations for Total Chromium, Hexavalent Chromium, and Phenolic Compounds (4AAP)

Crude Processes:

1. Atmospheric Crude Distillation
2. Crude Desalting

Cracking and Coking Processes:

4. Visbreaking
5. Thermal Cracking
6. Fluid Catalytic Cracking
7. Moving Bed Catalytic Cracking
10. Hydrocracking
15. Delayed Coking
16. Fluid Coking
54. Hydrotreating

Asphalt Processes:

- 18. Asphalt Production
- 32. 200°F Softening Point Unfluxed Asphalt
- 43. Asphalt Oxidizing
- 89. Asphalt Emulsifying

Lube Processes:

- 21. Hydrofining, Hydrofinishing, Lube Hydrofining
- 22. White Oil Manufacture
- 23. Propane Dewaxing, Propane Deasphalting, Propane Fractioning, Propane Deresiming

- 24. Duo Sol, Solvent Treating, Solvent Extraction, Duotreating, Solvent Dewaxing, Solvent Deasphalting
- 25. Lube Vac Twr, Oil Fractionation, Batch Still (Naphtha Strip), Bright Stock Treating
- 26. Centrifuge & Chilling
- 27. MEK Dewaxing, Ketone Dewaxing, MEK-Toluene Dewaxing
- 28. Deoiling (wax)
- 29. Naphthenic Lubes Production
- 30. SO₂ Extraction
- 34. Wax Pressing

- 35. Wax Plant (with Neutral Separation)

- 36. Furfural Extraction
- 37. Clay Contracting—Percolation
- 38. Wax Sweating
- 39. Acid Treating
- 40. Phenol Extraction

Reforming and Alkylation Processes:

- 8. H₂SO₄ Alkylation
- 12. Catalytic Reforming

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