informed in writing of the reasons therefor. If an agreement is negotiated, the initial funding shall specify the period for which that agreement is contemplated. Additional funds may be added at a later time provided the activity is satisfactorily carried out and appropriations are available. The State may also be required to amend the agreement for continued support.

§ 1908.7 Termination of agreement.

(a) *Termination by the parties.* Either party may terminate this agreement upon 15 days written notice to the other party.

(b) *Termination upon plan approval.* In no event shall an agreement under this part continue in effect beyond 30 days after a State's occupational safety and health plan has been approved under section 18(c) of the Act.

§ 1908.8 Exclusion.

This agreement does not restrict in any manner the authority and responsibility of the Assistant Secretary under sections 8, 9, 10, 13, and 17 of the Act.

Signed at Washington, D.C. this 15th day of May 1975.

JOHN STENDER,
Assistant Secretary of Labor.

[FR Doc.75-13246 Filed 5-19-75;8:45 am]

Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER N—EFFLUENT GUIDELINES AND STANDARDS

[FRL 375-2]

PART 419—PETROLEUM REFINING POINT SOURCE CATEGORY

Effluent Limitations, Guidelines and Pretreatment Standards; Amendments

On May 9, 1974, effluent limitations, guidelines, and standards of performance and pretreatment standards for new sources were published applicable to the topping subcategory, cracking subcategory, petrochemical subcategory, lube subcategory, and integrated subcategory of the petroleum refining category of point sources. Public participation procedures for those regulations were described in the preamble thereto, and are further discussed below.

Petitions for review of the regulations were filed by the American Petroleum Institute and others on August 26, 1974.

After the regulations were published, comments were received criticizing certain aspects of the regulations. As a result of these comments, the Agency concluded that the ranges used in preparing the size and process factors were too broad. Accordingly, a notice was published in the FEDERAL REGISTER (Thursday, October 17, 1974, 39 FR 37069) of the Agency's intention to reduce the range sizes.

In response to the October 17 notice, a variety of detailed comments were received concerning all aspects of the regulations. The commenters sought major modifications of the regulations as promulgated.

The Environmental Protection Agency has carefully evaluated all comments which were received. The data base and methodology have been reexamined, and, in some cases, new data have been gathered and reviewed.

Most commenters favored the changes outlined in the modifications proposed on October 17th. However, many more substantial changes were sought by commenters. The Agency has concluded that promulgation of the proposed modifications is appropriate. However, the record does not warrant, except in two instances, the additional modifications sought. The bases for the Agency's conclusions are set forth in detail below, with responses to all major comments received.

HISTORY OF THE REGULATIONS DEVELOPMENT

Background. With the enactment of the 1972 Amendments to the Federal Water Pollution Control Act (FWPCA), the Effluent Guidelines Division of the Environmental Protection Agency (EPA) assumed responsibility for the preparation of effluent guidelines and limitations under sections 301 and 304 of the Act.

The Petroleum Refining Industry in the United States and its territories is made up of 253 refineries. These refineries produce a wide range of petroleum and petrochemical products and intermediates from crude oil and natural gas liquids.

The size and type of hydrocarbon molecules and impurities contained in crude oils from around the world vary greatly, as do the products produced at each refinery. The configuration of a refinery is therefore a function of the type of feedstock used (crude oil and natural gas liquids) and the products which are to be produced. There are several hundred different processes used in this industry because of these variations in feedstocks and products. The general categories of processes used are: (1) Distillation, which separates hydrocarbon molecules by differences in their physical properties (boiling points); (2) cracking, which is the breaking down of high molecular weight hydrocarbons to lower weight hydrocarbons; (3) polymerization and alkylation, which rebuild the hydrocarbon molecules; (4) isomerization and reforming, which rearrange molecular structures; (5) solvent refining, which is the separation of different hydrocarbon molecules by differences in solubility in other compounds; (6) desalting and hydrotreating, which remove impurities occurring in the feedstock; (7) the removal of impurities from finished products by various treating and finishing operations; and (8) other processes.

Several years ago, the industry began classifying refineries into five categories: A, B, C, D, and E. Each category was defined as follows:

A—Refineries using distillation and any other processes except cracking.
B—Refineries using distillation, cracking, and any other process, but with no petrochemical or lube oil manufacturing.
C—Category B, with the addition of petrochemicals.
D—Category B, with the addition of lube oils.
E—Category B, with the addition of both petrochemicals and lube oils.

Petrochemicals as used by the industry meant any amount of production in a group of compounds historically defined as "petrochemicals". These compounds included some produced through processes normally associated with refineries, such as isomerization or distillation, and will be referred to as first generation petrochemicals. The second group of compounds considered petrochemicals were those produced through more complex chemical reactions. These compounds will be referred to as second generation petrochemicals.

The Agency was given the task of establishing effluent limitations for this diverse group of refineries. The first step needed was a breakdown of the industry into smaller groups of refineries, since the flow per unit of production within the industry was too diverse to be fit by a single set of limitations. Refineries were subcategorized based upon process configurations, i.e., the process used on the feedstock.

Once the industry was subcategorized, it was necessary to determine how the effluent limitations would be derived and what limitations would be established for each subcategory. Since refinery performance data (effluent concentrations) seemed to be independent of subcategory, EPA concluded that a single set of effluent concentrations could be achieved by all subcategories. It was then necessary to define a flow base and a method by which the amount of production at any given refinery could be taken into account. Since the industry produces many hundreds of products and those products produced are a function of process configuration and feedstock, it was decided to base the limits on the quantity of feedstock consumed. The flows were therefore based on a unit of flow per unit of feedstock consumed.

The resulting limits were therefore defined as a quantity of pollutant per unit of feedstock (mass allocation), derived by multiplying a predicted flow per unit of production times an achievable concentration.

A more detailed discussion is set forth below of how the subcategories, flows, achievable concentrations, and short-term limits were derived, beginning with the contractor's report and ending with EPA's reconsideration.

1. *Subcategorization.* The earliest subcategorization of the Petroleum Refining Industry for pollution control purposes was made by the Office of Permit Programs in the preparation of their Effluent Guidance for the issuance of discharge permits under the 1899 Refuse Act. This initial subcategorization, which was made prior to the enactment of the FWPCA, followed a classification of the industry made by the industry itself, as discussed above.

Roy F. Weston, Inc., which had previously assisted EPA in preparing Effluent

Guidance for the Petroleum Refining Industry, was retained to prepare a Draft Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Petroleum Refining Point Source Category. After an additional six-month study of the industry, Weston submitted a draft report in June, 1973, which proposed a somewhat different subcategorization approach than had been used previously. These modifications in subcategorization were in recognition of the wide range of industry complexities found within the original five subcategories and constituted division of the B subcategory (into B-1 and B-2) based on the amount of cracking, and the combining of the D and E subcategories.

Many comments on the draft report subcategorization argued that splitting B into B-1 and B-2 was a step in the right direction, but it was inappropriate to combine D and E. It was also argued that a further breakdown of the industry was warranted because of the wide range of sizes and complexities within each subcategory.

In response to these early comments, EPA, in its proposed regulation published December 14, 1973, 38 FR 34542, modified Weston's subcategorization by redefining the term petrochemicals, once again separating the D and E subcategories, and establishing a new specialty lube subcategory. The 18 specialty lube refineries in the U.S. were not covered by the proposed regulation, because of the lack of data available at the time.

As in the case of the draft report, many comments on the proposed regulation argued that the proposed subcategorization did not adequately consider the wide range of plants within each subcategory. Representatives of the American Petroleum Institute Environmental Committee (including both API personnel and employees of several member companies) met with EPA on several occasions in January, February, and March, 1974. At these meetings API presented a new subcategorization technique which had been developed by one of its subcommittees. Additional meetings were held with API through April for further discussion of the API proposed subcategorization technique and of EPA's response to their proposal.

API proposed a method of predicting raw waste loads for each refinery based on a regression analysis (best fit) performed on the data for various waste parameters drawn from the 1972 refinery survey carried out jointly by API and EPA. This approach would predict expected flows and raw waste load levels for such parameters as BOD, COD, etc. API proposed guidelines that were to be derived from the raw waste loads by assuming a removal efficiency for each parameter.

There were several major problems with the specific approach recommended by API; (1) After initially running their regressions, API discarded 20 percent of the data points in order to improve the correlation. Much of the discarded data pertained to large refineries. Thus, the validity of the analysis, particularly as applied to those refineries, is open to serious questions. (2) API adjusted the results of the mathematical analysis by making "engineering judgments." The Agency could find no defensible basis for these judgments. (3) The results of the regression on raw waste load showed little hope for a further subcategorization because of the poor correlations found. This might, in part, be explained by the fact that the regression data base included only a single day's sample for each refinery for each of the raw waste load parameters (BOD, COD, etc.).

A major drawback to API's proposal that EPA use these analyses was that a separate regression and set of criteria (achievable removal efficiency) would be required for each parameter (BOD, COD, suspended solids, oil and grease, phenolics, ammonia, sulfides, and chromium). Based on API's initial work, this approach did not appear to be workable. API expected to complete, by September 1974, a report embodying their recommended approach; this report has never been submitted to the Agency.

Nevertheless, it appeared that the regression analysis proposed by API might work well in predicting differences in flow volumes from refineries based on the configuration of each refinery, because the dry weather flows from refineries are relativley constant and the one day's data (taken during dry weather) gathered in the API/EPA survey would therefore be representative. A procedure for predicting flows based on refinery characteristics would also be usable in connection with the approach used in the proposed regulations, since the limitations were based on achievable concentrations for each parameter multiplied by a flow for each subcategory.

After several months of work, EPA arrived at a technique, utilizing regression analysis, for predicting flows. The promulgated regulations are based upon this technique. It was found that size as well as complexity (type of processing carried on in each refinery) had an effect on the expected flow volume. Using the results of a regression analysis would then allow the limits to vary up or down for each refinery based on the actual characteristics of the individual refinery.

EPA compared the median flows used in the proposed regulations and the flows predicted by the regression, to the actual refinery flows given in the API/EPA survey. It was found that the regression predicted flows for the individual refineries more accurately than did the median for the appropriate subcategory.

In the final regulations, EPA's regression analysis was used to develop factors by which the median flows are adjusted up or down, depending upon the complexity and size of the refinery. For example, a complex, very large refinery would be predicted to have a higher flow per unit of production than a simple, less complex refinery.

2. *Sources of data.* One of the difficulties encountered in developing these regulations has been, except for the data supplied by the API for flows, obtaining usable data. Few refineries either kept data on their effluent or reported it if kept. The data used and relied upon by EPA represents a significant fraction of all the pertinent data extant.

The draft contractor's report utilized, for its flow data, information from 94 of the refineries of the 1972 API/EPA Raw Waste Load Survey. The achievable concentrations in the report for Best Practicable Technology (BPT) (1977) were based upon data from 12 refineries, upon reference materials, and upon pilot plants. These 12 refineries, misnamed "exemplary" refineries, were selected because they had treatment in place and data available; they did not necessarily represent the best or even the better refineries. The achievable concentrations in the contractor's report for Best Available Technology (BAT) (1983) were based upon pilot plant and reference materials. The variabilities used in the report were derived from those of the 12 "exemplary" refineries for which long-term data were available.

The proposed regulations were issued using the same data as that in the contractor's report.

The flow basis of the final regulations was the same as that of the contractor's report. The BPT achievable concentrations used in the final regulations were the same as those in the contractor's report, except that three additional refineries were used to calculate the chemical oxidation demand (COD) concentrations. The BAT achievable concentrations for those regulations were the same as the contractor's. For variabilities, data from five additional refineries were added to those used in the contractor's report.

For EPA's reconsideration of the regulations, leading to promulgation of the amendments to the effluent limitations guidelines, the flow basis did not change from that utilized in the contractor's report. In reexamining the BPT achievable concentrations, however, additional refinery data were used, as well as the data from the above-cited 12 refineries used for the final regulations. In reexamining the BAT achievable concentrations, additional references and pilot plant data were used. Long-term data for 7 additional refineries were used in the reconsideration of the variabilities.

3. *Flow basis.* In the draft contractor's report the flows from the refineries were broken down into three categories: 1) process water, 2) storm runoff, and 3) once-through cooling water. The process waters included: waters which come into direct contact with a product, intermediate, or raw material; contaminated storm runoff; and cooling tower blowdown. Process waters were considered to require treatment, and were to be segregated and discharged separately from clean storm runoff and once-through cooling water which were presumed to be uncontaminated. If the clean storm runoff and once-through cooling water were contaminated, however, no additional allocations were made.

The process flows appropriate to each subcategory were derived from the 1972

API/EPA survey. This survey gave total flow data (process water plus once-through cooling water) for 136 refineries. Since Weston's proposed allocation was to be based on process flow, it was appropriate to restrict this data base to the 94 refineries having less than 3 percent removal of heat by once-through cooling water. Of the 94 refineries, 75 had no once-through cooling water.

EPA continued to use the 94-refinery data base, because it was believed that the inclusion of the 19 refineries with 1–3 percent of heat removal by once-through cooling would only cause a slight over-estimate of the process water flows and that the disadvantage of the resultant over-allocation of process flow would be more than offset by the advantage of using a larger data base.

The proposed regulation differed from the contractor's report in several respects. The definition of process water remained the same, except that an added allocation was given for ballast water and contaminated storm water, over and above the basic allocation. In addition, concentration limits were set for both clean storm runoff and once-through cooling water. These changes meant that the basic pollutant allocation was now actually based on process water flows, and the contaminated storm runoff, ballast, clean storm runoff and once-through cooling water each received separate allocations.

In the promulgated regulation, the subcategory definitions were changed. This change altered the number of refineries in each subcategory, and consequently altered the median flows for each subcategory. However, these flows continued to be based upon the same 94 refineries, and the previous definitions of different types of waste streams (process water, ballast water, etc.) were retained. EPA has not modified the contractor's original approach to identifying flows used in the calculation of the BAT limitations. BAT flow is the average of the flows for those refineries in each subcategory having less flow than the BPT median flows. These flow values have changed as the subcategory definitions have changed.

4. *Achievable concentrations.* The effluent concentrations used to calculate the pound allocations (BPT and new source) were the same for both the contractor's draft report and the proposed regulations. The achievable concentrations were recommended by the contractor and were based upon actual performance within this and other industries, and in pilot plants.

When the effluent regulations were promulgated the achievable concentrations for chemical oxygen demand (COD) and ammonia were changed. The COD limitations were increased (for the cracking, petrochemical, lube, and integrated subcategories) to account for differences in treatability of raw waste associated with various feedstocks (specifically heavy crudes). The changes in the ammonia limitations were a consequence of the changes in subcategorization.

During the past several months EPA has obtained additional data, including data on refineries in cold climates. Analysis of these data shows that the pollutant parameter concentrations established for BPT are in fact practicably attainable. In fact, a number of refineries are achieving all of the regulations concentrations. As expected, refineries processing light crudes generally discharge COD concentrations 20–30 percent lower than the concentrations on which the final regulations are based. Only the ammonia limitations are occasionally being exceeded by a few of the refineries examined. However, most of these refineries are currently designing or installing additional stripping capacity or a second stage of sour water stripping which will allow them to achieve the ammonia limitations.

5. *Variability factor.* The flow basis and achievable concentrations discussed to this point are based on the limits refineries are designed to attain and expected to achieve over a long period of time (generally considered to be one year). For enforcement purposes, shorter term limits were set to allow determination to be made more quickly whether or not a given refinery is in compliance with its permit limitations.

In order to derive short-term limitations from long-term data, the dispersion of short-term values about a long-term mean must be taken into account. Some daily values will be higher than the mean, some will be lower. The daily variability is the magnitude of this dispersion of daily values about the long-term mean. The monthly averages will also show variability about the long-term mean, but to a lesser extent.

Variability occurs in both flow and concentration. Some of the factors which cause variability are listed below:

I. Flow volume variations—

A. Storm runoff in addition to dry weather flow

B. The varying throughput of the refinery, since it will not always operate at its rated capacity

C. Variations in pump capacity and pressure losses through the refinery

D. Variations in blowdown volume from the cooling towers because of the evaporation rate from the towers

E. Others

II. Variation in treatment system efficiency (effluent concentration)—

A. Flow variations result in varying retention times (since the biological treatment system for a given refinery are fixed in size, the retention time will vary with flow-volume and the removal efficiency varies with retention time)

B. System upsets

C. Raw waste variations

D. Amount of equalization, which controls the impact of system upsets or raw waste variations

E. Slugging of storm runoff

F. Start-up and shut downs

G. Spills

H. Extreme or unusual weather conditions

I. Temperature effects

III. Factors affecting both flow and concentrations—

A. Sampling techniques

B. Measurement error and variability

Many of the factors listed above can be minimized through proper design and operation of a given facility. Some techniques used to minimize variability are as follows:

1. *Storm-runoff.* Storm water holding facilities should be used. Their design capacity should be based on the rainfall history and area being drained at each refinery. They allow the runoff to be drawn off at a constant rate to the treatment system.

2. *Flow variations, system upsets and raw waste variations.* The solution to these problems is similar to that for storm runoff; leveling off the peaks through equalization. Equalization is simply a retention of the wastes in a holding system to average out the influent to the treatment system.

3. *Spills.* Spills which will cause a heavy loading on the system for a short period of time, can be most damaging. A spill may not only cause high effluent levels as it goes through the system, but may also kill or damage a biological treatment system and therefore have longer term effects. Equalization helps to lessen the effects of spills. However, long-term, reliable control can only be attained by an aggressive spill prevention and maintenance program including careful training of operating personnel.

4. *Start-up and shut-down.* These should be reduced to a minimum and their effect dampened through equalization or retention, as with storm runoff.

5. *Temperature.* The design operation and choice of type of biological treatment system should in part be based on the temperature range encountered at the refinery location so that this effect can be minimized. The data base utilized by the Agency includes refinery data from cold climates and very large summer-winter temperature differences.

6. *Sampling techniques and analytical error.* These can be minimized through utilization of trained personnel and careful procedures.

From the beginning it was realized that the causes of variability could not be quantified individually. The variability (variation from average) must therefore be calculated from actual refinery data, representing the combined effect of all causes. The information sought from the data were the maximum daily and monthly average limits, which should not be exceeded if the refinery is meeting the prescribed long-term averages.

The contractor analyzed data from several refineries. To determine the daily variability (variations of single values from the average) he arranged the data from each refinery for each parameter in ascending order. The data point that was exceeded only 5 percent of the time, and the median point (50 percent above, 50 percent below) were identified. The ratio of these values (95 percent probability/50 percent probability) was called the daily variability. For the monthly variability, the daily values for each month's data were averaged and these monthly averages were analyzed as above. The resulting daily and monthly variabilities for each parameter were averaged with the variabilities for the same parameter for all of the refineries to yield the daily and monthly variabilities for the entire industry. These industry variabilities were then multiplied by the long-term average limits to obtain the maximum daily and maximum monthly average limits.

For the proposed regulation, all of the variabilities were recalculated. The approach used by the contractor was rejected because it was inappropriate except for extremely large quantities of data, and it made no attempt to differentiate between preventable and unpreventable variability. EPA selected from the contractor's data those periods believed to represent proper operation. The data used by the contractor for some refineries contained unexplained periods of high values. Attempts were made to determine the causes of these values. In one case, one month of extremely high values occurred after a major hurricane hit the refinery in 1971. Not until a month later was the treatment system back in normal operation. In another case the treatment system operated with relatively low variability for over one year and then showed an unexplained large increase in variability the following year. Since the data for the first year of operation demonstrated that lower variability could be achieved over a long period of time, that year was selected for analysis.

The contractor determined daily variability by dividing the 95th percentile point by the 50th percentile point. EPA modified this approach by selecting the predicted 99th percentile divided by the mean. The change from 95th to 99th percentile was intended to minimize the chance that a refinery would be found in violation on the basis of random samples exceeding the limitations. Similarly, EPA selected the 98th percentile for use in determining the maximum monthly average.

The upper percentiles were derived based on the assumption that the data were distributed according to a normal or bell shaped distribution. An average variability for each parameter was then calculated and that average multiplied by the long-term average to set the daily maximum and maximum monthly averages.

Between proposal and promulgation, data were given to EPA by the American Petroleum Institute for five additional refineries, which were said to have BPT end-of-pipe treatment or its equivalent. EPA did not know the names or locations of these refineries and therefore could not check potential causes of variability. The BOD5 data from these refineries were studied, and the data base used to calculate the proposed BOD5 limits was reexamined. It was found that for most refineries the data more nearly approximate a log-normal (where the logarithm of the data is normally distributed) rather than a normal distribution. The variabilities were then recalculated assuming either a normal or log-normal distribution, whichever was the better fit. This analysis yielded an average daily variability for BOD5 of 3.1, instead of the proposed value of 2.1. The final regulations were based on the recalculated BOD5 value of 3.1. The monthly average variabilities were not changed. For other parameters, the variabilities in the proposed regulations were multiplied by the ratio of the recalculated BOD5 variability (3.1/2.3=1.35). The daily maximum to the median BOD5 variability assuming normal distribution limits were determned by multiplying the long-term average by the recalculated variability.

On reexamination following promulgation of the regulations, EPA has reviewed 1974 data from seven refineries on all parameters. With the exception of suspended solids, the variability factors derived from these data confirm the variability factors originally established. This additional data on suspended solids indicated that the daily variability of 2.9 and the monthly variability of 1.7 originally calculated may be too low. Accordingly, a daily variability of 3.3 and a monthly variability of 2.1 have been established, based on the addition of this new data.

No existing plant employs the treatment technology (biological treatment followed by activated carbon) specified for 1983. The variability used for 1983 was, however, based upon the lowest variability achieved by any plant for each parameter. The Agency believes that this low variability represents the best prediction that can be made at the present time of variabilities which will be achieved by 1983. These should be much lower than the average variabilities presently being attained for the following reasons: 1) the additional step of treatment should tend to dampen peaks in the data; 2) most of the effluent data were not from systems with a filter or polishing step after biological treatment and this should help dampen peaks; 3) the activated carbon is unaffected by several of the factors causing variability in biological systems; and 4) the industry will have 10–11 years of additional experience in the area of treatment plant operation and control from the time when data was taken.

SUMMARY OF MAJOR COMMENTS

The following responded to the request for comments which was made in the preamble to the proposed amendment: Shell Oil Company, The American Petroleum Institute, and Texaco Inc.

Each of the comments received was carefully reviewed and analyzed. The following is a summary of the significant comments and EPA's response to those comments.

(1) One commenter stated that the regulations and the Development Document fail to disclose or explain the criteria employed by the engineering contractor or EPA for selecting the thirty candidate refineries for "exemplary plant treatment," and that EPA had not explained or justified why and how the thirty candidate refineries were narrowed down to only twelve "exemplary" refineries.

The sources of information available to the contractor for the development of the subcategorization and the choice of well-operated refineries (in terms of pollution abatement) were as follows:

1. 1972 EPA/API Raw Waste Load Survey
2. Corps of Engineers (Refuse Act) Permit Applications
3. Self-reporting discharge data from Texas, Illinois, and Washington
4. Monitoring data from state agencies and/or regional EPA offices for individual refineries.

A preliminary analysis of these data indicated an obvious need for additional information. Although 136 refineries were surveyed during the 1972 EPA/API Raw Waste Load Survey, the survey did not include any effluent data.

Refuse Act Permit Application data were limited to identification of the treatment systems used, and reporting of final concentrations (which were diluted with cooling waters in many cases); consequently, operating performance could not be established.

Self-reporting data was available from Texas, Illinois, and Washington. These reports show only the final effluent concentrations and in only some cases identify the treatment system in use; rarely is there production information available which would permit the establishment of unit waste loads.

Additional data in the following areas were required: (1) Currently practiced or potential in-process waste control techniques; (2) identity and effectiveness of end-of-pipe waste control techniques; and (3) long-term data to establish the variability of performance of the end-of-pipe waste control techniques. The best source of information was the petroleum refineries themselves. New information was obtained from direct interviews and inspection visits to petroleum refinery facilities. Verification of data relative to long-term performance of waste control techniques was obtained by the use of standard EPA reference samples to determine the reliability of data submitted by the petroleum refineries, and by comparison with monitoring data from the state agencies and/or regional EPA offices.

The selection of petroleum refineries as candidates to be visited was guided by the trial categorization, which was based on the 1972 EPA/API Raw Waste Load Survey. The final selection was developed from identifying information available in the 1972 EPA/API Raw Waste Load Survey, Corps of Engineers Permit Applications, State self-reporting discharge data, and contacts within regional EPA offices and the industry. Every effort was made to choose facilities where meaningful information on both treatment facilities and manufacturing processes could be obtained.

After development of a probability plot for the respective raw waste loads from the tentative refinery categorization, the tentative categorization was presented to API and EPA for review and comment. Three refineries in each category were then tentatively designated as "exemplary" refineries based on low raw waste loads determined by the API/EPA survey. Simultaneously, tentative lists of additional refineries were collected from each of the Regional EPA offices. Several lists were then prepared and submitted to EPA. From the approximately 30 refineries on these lists, the refineries for further study were then selected.

During this screening process, arrangements were made to either visit the refineries or collect additional information relative to plant operations. In some cases, refineries declined to participate in the program. As a result of the screening program, twenty-three (23) refineries were then involved in plant visits. These refineries are listed in Table 1.

The purpose of the refinery visits was to collect sufficient data in the areas of wastewater plant operations to define raw waste loads, effluent treatment schematics, operating conditions, and effluent analyses. As a result of these plant visits, data from only twelve (12) refineries (designated by stars in Table 1) were found to be available for a sufficiently long-term period (one year or more) to provide an adequate data basis for further definitive projections. Consequently, operating data from these twelve (12) refineries were then used as one of the major data sources in development of the regulations.

TABLE 1

REFINERIES VISITED UNDER CONTRACT NO. 68-01-0598

Company:	*Location*
Union Oil	Lemont, Ill.
Amoco	Whiting, Ind.
Amoco [1]	Yorktown, Va.
Coastal States [1]	Corpus Christi, Tex.
Champlin [1]	Do.
Total Leonard [1]	Alma, Mich.
Union Oil [1]	Beaumont, Tex.
Exxon	Baton Rouge, La.
Marathon [1]	Texas City, Tex.
Shell [1]	Deer Park, Tex.
OKC Refining	Okmulgee, Okla.
Texaco [1]	Lockport, Ill.
Phillips [1]	Sweeney, Tex.
U.S. Oil & Refining [1]	Tacoma, Wash.
Shell [1]	Martinez, Calif.
BP	Philadelphia, Pa.
Gulf	Do.
Amerada Hess	Port Reading, N.J.
Arco	Philadelphia, Pa.
Gulf	Port Arthur, Tex.
Sun [1]	Duncan, Okla.
Kerr-McGee	Wynnwood, Okla.
Laketon Refinery	Lakeside, Ind.

[1] Chosen as "exemplary" refineries.

As can be seen from the above, the selection of these twelve refineries was in large part dictated by the limited availability of information.

More complete or more recent data show some of the original twelve refineries to be less than "exemplary." See Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Petroleum Refining Point Source Category, pp. 12-14; "Draft Development Document for Effluent Limitations Guidelines and Standards of Performance, Petroleum Refining Industry," pp. III-2-4.

(2) One commenter objected to the calculation of 1977 flow rates from only 94 refineries, 40 percent of the industry.

Of a total of 253 petroleum refineries, EPA holds permit applications for surface water discharge for 190-200 refineries. The remaining 50-60 refineries are either "zero discharge" operations or are currently discharging to municipal waste treatment ystems. EPA is aware of a number of zero discharge refineries in arid or semi-arid areas of Texas, New Mexico and Southern California, and several refineries in Los Angeles County are currently discharging to municipal waste treatment. Since none of these plants have direct surface discharge, they are excluded as potential sources of data.

Of the remaining 190-200 discharging refineries, 136 were included in the 1972 API/EPA survey, which is the only available comprehensive source of data on refinery water use. Since the survey does not show process water use as a separate discharge, but instead lists total flow volume, this limited the number of refineries for which data could be used to those for which process flow constituted most or all of the total wastewater discharged. Data from refineries removing more than 3 percent of heat by means of once-through cooling were not used, since cooling water would cause any estimate of process flow based on total plant flow to be greatly overstated for those refineries. Thus, EPA could use data from only 94 refineries. Since the API/EPA raw waste load survey was designed to be representative of the total industry, and since EPA used all of the refineries in the survey with 3 percent or less heat removal by once-through cooling water, the flows used are actually higher than the process water flows achieved by the industry. (See "Flow Basis" portion of the History of Guidelines Development in this Document).

(3) One commenter stated that, of the twelve "exemplary" refineries only one actually complies with the prescribed 1977 levels for every pollutant parameter.

EPA based the regulations not upon the overall performance of the so-called "exemplary" refineries, but on the effluent concentrations achieved by the "exemplary" refineries and plants in other industries, the variabilities achieved by the "exemplary" refineries, and flows achieved by the industry as a whole. EPA did not expect that these refineries would uniformly comply with all limitations, since they did not have all the recommended technology in place. For example, few of the "exemplary" refineries were expected to meet the degree of ammonia removal specified, since few were practicing adequate ammonia stripping.

EPA has obtained effluent data covering a full year for six of the twelve refineries. Four of these had no violations of the 1977 limitations, while another had only five data points, out of several hundred data points, above the limits.

In addition, EPA now has data on 10 additional refineries in the United States which had no violations of the regulation limits in 1974, and four others that only exceed the ammonia limits.

Included in this group of 18 refineries (14 with no violations and 4 exceeding the ammonia limits) are "sour" crude users and refineries that are not located in areas with water shortages. It should be noted that these 18 refineries do not necessarily represent all of the refineries in the country currently meeting the regulations. The available data cover only 12 of 33 States which have refineries. EPA has requested the American Petroleum Institute to supply additional effluent data.

(4) One commenter stated that EPA failed to base the standards on the average of the best existing performances by plants currently in place.

EPA has based its limitations upon the best existing performance of plants currently providing treatment except where the industry is uniformly providing inadequate treatment. In every case, the limitations for the Petroleum Refining Point Source Category reflect actual performance of plants currently in place.

The following table summarizes the approach followed by the Agency in developing the regulations.

EPA set the BPT, BAT and New Source limits as follows:

Level	Flow	Concentration	Variability
BPT (1977)	Flow being met by 50 percent of the plants in place adjusted for process and complexity factors.	Average of the best plants for which data were available.	The average of those plants with treatment in place for which long-term data were available.
BAT (1983)	Average of the best	Based on pilot plants	Best individual refinery.
BADT (new source).	do	Average of the best plants for which data were available.	The average of those plants with treatment in place for which long-term data were available.

(See Sections IV, V, IX, X, XI of the Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Petroleum Refining Point Source Category, and Supplement B—"Probability Plots", refinery data and analysis files, "Variability Analysis.")

(5) One commenter objected to the Agency's reliance upon refineries in Texas and California, arguing that EPA's sample should be representative of the geographical distribution of the industry. The commenter noted that subcategories "C", "D", and "E" are represented solely by refineries in the coastal areas of Texas and California.

A. EPA's flow data base includes refineries from all areas of the country.

B. Of the four refineries selected by the contractor in the "A" and "B" subcategories, only one was located in Texas or California.

C. There is only one "E" refinery (Phillips, Kansas City) which is not located in Texas, California, or in a coastal area.

D. The data base for "D" refineries has been broadened by adding a refinery in Illinois.

E. Of the 17 "C" refineries in the country, 9 are in Texas, California, or in a coastal area. The agency has broadened its data base to include a "C" refinery in Illinois.

(6) Several commenters stated that EPA has ignored the effect of crude oil feedstock characteristics on the treatability of refinery effluent. They claim that feedstocks containing heavy crudes, in particular crudes from California, have a substantial impact on effluent quality.

Subsequent to publication of the proposed regulations, the Shell Oil Company and the Phillips Petroleum Company submitted data for three refineries processing California crudes: Shell at Martinez, California; Shell at Wilmington, California; and Phillips at Avon, California. These data indicated that these refineries appeared to have experienced higher pollutant raw waste loads (the quantities of pollutants in the waste stream before treatment) than the median refineries of their subcategories. EPA considered this additional information in assessing whether an additional pollutant allocation should be allowed those refineries processing heavy crudes.

EPA was interested in determining whether the above-median raw waste loads of the three refineries could be clearly attributed to their California crude feedstocks, or whether their high waste loads reflected the complexities of their refinery processes. Each of the three refineries is well above-average in complexity for its subcategory.

The commenters provided raw waste loads for five parameters (BOD5, COD, TOC, phenols and ammonia) from each of the three refineries. Of these raw waste loads, 13 out of the 15 instances were above the applicable subcategory median. This is shown by the following table:

REFINERY RAW WASTE LOAD AS PERCENT ABOVE THE MEDIAN FOR THE APPROPRIATE SUBCATEGORY

	Phillips avon	Shell wilmington	Shell martinez	3 refineries average
BOD5	29	116	99	81
COD	7	198	330	178
TOC	77	93	111	94
Ammonia	20	351	−47	95
Phenols	917	1,386	662	988

However, if refinery complexity is taken into account, by dividing each refinery's reported raw waste loads by that refinery's process factor, the resulting "complexity adjusted" raw waste loads exceed the appropriate subcategory median in only 7 of the 15 instances. This is demonstrated by the following table:

REFINERY RAW WASTE LOAD DIVIDED BY THE REFINERY PROCESS FACTOR AS PERCENT ABOVE THE MEDIAN FOR THE APPROPRIATE SUBCATEGORY

	Phillips Avon	Shell Wilmington	Shell Martinez	3 refineries average
BOD5	−8	−11	−12	−10
COD	−24	22	90	29
TOC	25	−21	−6	−1
Ammonia	−43	85	−77	−12
Phenols	621	509	237	456

The above table shows that the increased refinery complexity associated with those refineries processing California crudes might well be a cause of their higher raw waste loads. Since the process factor is a component of the allowed effluent limitations, it adequately compensates (with the possible exception of phenols) for the larger raw waste loads of those refineries. Existing treatment facilities have demonstrated that the phenol limits are achievable, even when raw waste loads are greatly in excess of the median.

Even if it were possible unequivocally to attribute an increased raw waste load to a feedstock type, this would not in itself justify an increased effluent limitation for refineries processing that feedstock. The long-term average quantity of a pollutant in a refinery effluent depends more upon the design and operation of the treatment system than upon the average raw waste load input to the system.

To determine whether there exists in practice a relationship between average effluent quality and raw waste load, EPA compared, for 14 refineries with both raw waste load and effluent data available, the average amount of pollutant in the effluent with the raw waste load of the pollutant. No meaningful correlation between average effluent and raw waste load was observed for the pollutants BOD5, TSS, oil and grease, phenols, and ammonia.

Thus, for these pollutants, differences in effluent quality between refineries are associated more with other factors (e.g., differences in treatment systems or in-plant controls) than with differences in raw waste load. However, EPA did find a significant correlation between the quantity of COD in the effluent of each of the refineries and the refineries' raw waste loads.

This finding merely supports EPA's action, when it promulgated the regulations, in increasing the COD limitations to avoid any possible inequity to processors of heavy crudes. (See "History of the Regulations", Part 4, "achievable concentrations".)

In addition, EPA examined data from one refinery which processed a mixture of crude types. In particlular, it was claimed that the effluent quality for BOD5, phenols, and ammonia decreased as the percentage of Arabian crude in the feedstock increased. The Agency could find no significant correlation between effluent quality and the percent of Arabian crude used.

(7) One commenter stated that operating experience with the full-scale carbon adsorption system at BP's Marcus Hook refinery has been less than satisfactory, that Gulf Oil Company has found that carbon treatment is not feasible for their Port Arthur refinery wastewater, and that Texaco has apparently reached the same conclusion with regard to its Eagle Point refinery.

The best available technology economically achievable specified for the petroleum refining industry is the application of carbon adsorption to the effluent from a well operated biological/physical treatment plant of the type required to meet the 1977 limitations. In each case specified by the commenter, activated carbon treatment was applied to wastewaters of considerably poorer quality than is required for 1977, since activated carbon was being used in lieu of biological treatment.

(8) Comments were received which assert that special unproven techniques, such as biological nitrification—denitrification for ammonia removal, and some unspecified technology for phenols, would be required to meet the ammonia and phenol limitations.

The achievable ammonia limits are based on in-plant sour water stripping techniques which are currently in use in the refining industry. A number of plants in this industry are meeting the ammonia limits using this technology. (See "Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Petroleum Refining Point Source Category", pp. 95–97; 40 CFR Part 419, 39 FR 16562(23) May 9, 1974.)

The achievable phenol limits are based on the refinery effluent data and references cited in Tables 26 and 27 of the Development Document. In addition, EPA has recently acquired phenol effluent data from 11 refineries not cited in the Development Document, which data show an average phenol effluent concentration of 0.058 mg/l (0.10 mg/l was used as the achievable concentration in setting the BPT limits).

(9) Some commenters stated that neither the regulation nor the Development Document explains or assesses how refineries of widely varying age, process, geographic location, load availability, and other circumstances can further reduce flows to the 1983 volumes.

The methods currently being applied by the industry to achieve flow reductions are listed on page 169 of the Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Petroleum Refining Point Source Category.

Some other methods of reducing flows not listed on page 169 are:

1. Maximum reuse of treatment plant effluent, evaporation, and consumptive use.
2. Lime and lime soda softening to reduce hardness to allow further recycling.
3. Use of specially designed high dissolved solids cooling towers which would use the blowdown from other cooling towers as makeup water.

Of the 94 refineries used in determining the flow base for the 1977 limitations, 26 were doing as well or better than the 1983 flow base. These 26 refineries are located in 15 different states (Alaska, California, Colorado, Illinois, Kansas, Kentucky, Louisiana, Montana, North Dakota, New Mexico, Ohio, Oklahoma, Texas, Utah, and Wyoming).

(10) One commenter stated that the control efficiencies needed to meet the limitations are higher than those attained by municipal plants employing traditional secondary treatment, and are derived partially from EPA's inclusion of polishing steps, including granular filtration or polishing ponds. The commenter

argued that EPA's own publications concede that there is no carefully documented filter operating experience with wastewater, and that the operating experience of the two refineries using granular media filtration (Amoco, Yorktown; BP, Marcus Hook) shows that this technology will not achieve the limits.

Many dischargers will be able to meet the limitations without a polishing step. However, the cost of filters was included in the estimates since some refineries might need a polishing step to achieve the suspended solids and oil and grease limits.

The average effluent suspended solids for the 12 refineries for which EPA has 1974 suspended solids data is 15.1 mg/l (10 mg/l is the guideline basis). Only one of these plants (Marathon Oil, Robinson, Ill.) has a filter in operation. Several are achieving less than 10 mg/l of suspended solids without a polishing step. The ten refineries for which EPA has 1974 oil and grease data are averaging 5.0 mg/l (5.0 mg/l is the regulation basis).

Experience with granular media filters, as well as with other polishing steps, is extensive and well documented. EPA's "Process Design Manual for Suspended Solids Removal" gives the results of studies of filtration of effluent from secondary biological treatment for 32 facilities. These 32 show an average suspended solids effluent concentration of 6.6 mg/l, with only 3 of the 32 over 10 mg/l.

In addition, there are approximately 2500 granular media filters being used for suspended solids removal in the Water Supply industry. Many filters are in operation in other industries, such as steel, for oil and solids removal.

Within the petroleum industry many filters are being employed for oil removal from production water before its discharge from offshore oil platforms. Filters are also being used prior to secondary treatment (BP, Marcus Hook, Pa.; Exxon, Bayonne, N.J.; Amarada-Hess, Port Reading, N.J., etc.).

Two filters are currently being used as a polishing step for secondary treatment effluents (Amoco, Yorktown, Va. and Marathon, Robinson, Ill.) and several others are now in design or under construction.

It is true that the two installations with filters now in place do not achieve the 10 mg/l of suspended solids and 5 mg/l of oil and grease expected from these units. This is a result of the conditions under which these installations have been operated. EPA's 1977 treatment model assumes that the influent to a polishing step will be an effluent from a well designed, well operated secondary treatment plant, and that the average suspended solids and oil and grease influents to the filters will be 15–25 mg/l and 5–10 mg/l, respectively.

The following data from Amoco, Yorktown's filter operation show a distinct improvement in effluent quality when the influent is within the expected range:

Date	Suspended solids (mg/l)		Oil and grease (mg/l)	
	Influent	Effluent	Influent	Effluent
July 1971 to Aug. 1971	18	[1] 4.8	7	[1] 1.9
Sept. 1971 to Nov. 1971	43	[1] 13.0	16	8.3
Dec. 1971 to Feb. 1972	63	39	10	10
Mar. 1972 to May 1972	60	33	17	13
Sept. 1972 to Nov. 1972	90	42	9	[1] 6

[1] Lower than the monthly maximum limit of 17 mg/l for suspended solids, and of 8 mg/l for oil and grease, assuming median flow.

The above data indicates adequate performance of the filter when the secondary treatment effluent was within the ranges of expected operation, in spite of the following unusual (and correctable) difficulties encountered at the facility; 1) filter media losses and channeling eventually forced replacement of the entire filter bed; 2) an unexpected increase in flow volume was caused by refinery acceptance of ballast water; 3) untreated lagoon water (used for backwash) was left in the filter after backwashing; and 4) the filter was not properly designed for both summer and winter influent conditions.

Not as much information was available to EPA on the Marathon, Robinson filters as was available on Amoco, but the following is known: The data for the 9 months (8/72–4/73) of operation prior to the installation of the filters show a suspended solids effluent from the secondary treatment plant of 19 mg/l average. The secondary treatment plant effluent for the 12 months of 1974 showed an average suspended solids concentration of 49 mg/l. Thus, the filters were operating at a level well above their design limits and on 2.6 times higher influent suspended solids concentration than at their initial installation. It should be noted that in spite of this, the filter effluent averaged 12 mg/l of suspended solids for the first 18 months of operation.

Granular media filters are not a cure-all or a substitute for a well designed and well operated secondary treatment system, but rather, as EPA intended, a polishing step to further improve a good secondary treatment plant effluent. Thus employed, they can productively be part of a system to meet the 1977 limitations.

(11) In support of the previous comment opposing the use of granular media filtration, a discussion of the results from a pilot plant study carried out by Standard of Ohio at its Lima, Ohio Refinery was submitted. The pilot study was designed to determine the reductions achievable in BOD5, COD, and suspended solids when a granular media filter was used to treat the effluent from their biological treatment pond.

The commenter claimed that the growth of algae precluded attainment of the BPT suspended solids, BOD5, and COD limits.

As in the cases cited in response to comment no. 10, these filters were being used for more than the polishing step EPA intended. EPA did not base the regulations on the use of granular media filtration for BOD5 and COD removal. The treatment model assumes the influent to the filter be below 25 mg/l of suspended solids and 15 mg/l of BOD5. Thus, the biological treatment step preceding filtration should deliever an effluent of such quality to the filters. Such treatment can be accomplished by several techniques, either separately or in combination, including activated sludge, biological ponds, trickling filters, and aerated lagoons. The technique selected depends upon an engineering evaluation of the specific site and raw waste characteristics.

Where lagoons are employed, the effluent quality of a lagoon system can be affected adversely during certain periods of the year by the algae generated in the system. The algae can settle out in the bottom of a receiving stream or lake, undergo death and degradation, exert an oxygen demand in effluent samples and in the stream, and will be measured as part of the solids in the effluent.

There are, however, a variety of approaches which can be used to control the quantity of solids in the effluent. Most of these approaches either are in use or have been thoroughly demonstrated and can be used where needed. Under specific design and operational conditions, each approach can be economical. Applicable approaches include micro-straining, coagulation-flocculation, land disposal, granular media or intermittent sand filtration, and chemical control.

Micro-strainers have been used successfully in numerous applications for the removal of algae and other suspended material from water. In a series of nine investigations over a period of years, plankton removal averaged 89 percent. Micro-straining requires little maintenance and can be used for the removal of algae from stabilization ponds or lagoons.

Coagulation-flocculation, followed by sedimentation, has been applied extensively for the removal of suspended and colloidal material from water.

Land disposal (spray irrigation) for all or a portion of the lagoon effluent can reduce outflow to a stream during periods of high algae. This reduction can compensate for the increased solids concentrations and permit the limitations to be attained. Spray irrigation in a controlled manner onto adjacent land can be accomplished without additional environmental problems.

Although EPA did not contemplate using granular media filtration specifically to remove algae, filters have been shown to achieve the BPT limits even when influent quality was degraded due to algal growth. The Lima Refinery pilot project showed that the limits were obtained with certain media sizes and flow rates.

Chemical measures for the control of excessive algae growths in lagoons are also effective. Proper application depends upon the type, magnitude, and frequency of growth, the local conditions, and the degree of control that is necessary. For maximum effectiveness, algal control measures should be undertaken before the development of the algal bloom.

Thus, there are many alternatives that can be used for algae control and/or removal to assure that the lagoon effluent quality meets the described limitations. The alternative selected at a specific refinery will be a function of land availability, available operating personnel, degree of difficulty in meeting the limitations, and overall waste management economics.

(12) A commenter suggested that the BPT flow basis was based on flows experienced by refineries which apply good water conservation practices, and that only 50 (37 percent) of the 136 refineries in the 1972 API/EPA survey are meeting the EPA flow basis.

EPA based the BAT and BADT (1983 and New Source) flow bases on refineries employing good water conservation practices. The BPT flows were based on what one-half of the industry was achieving in 1972. In fact, 51 (54 percent) of the 94 refineries used from the 1972 API/EPA survey were at or below the BPT process water flows. No assessment of process water flows was made for the remaining 42 of the 136 refineries in the survey, since their flow volumes included large amounts of once-through cooling water, which was not included in the flow base definition. It must be recognized that the flow base is not a flow limitation, and that the pollutant allocations allowed by the regulations can be met with flows higher than predicted if the effluent concentrations are lower than those used by EPA. Since a number of refineries are achieving concentrations for each pollutant parameter that are considerably below the concentrations used by EPA, a refinery might be able to meet the effluent limits with a higher than predicted flow. The same result might be achieved by careful control and design and consequent lowered variability.

(13) Some commenters stated that EPA did not adequately consider the effects of climate on biological wastewater treatment and that substantially higher reductions can be achieved in southern states and for installations requiring summer operations only. Included were several examples of claimed summer-winter variations in refinery effluents.

EPA has collected data from ten refineries located in Illinois, Montana, North Dakota, Washington, and Utah. Effluent data from these ten refineries for the parameters which could be affected by cold climates are as follows: BOD5—13.2 mg/l average (the limitation basis is 15 mg/l), COD—75.5 mg/l average (the limitation basis for these refineries varies between 110–115 mg/l) and phenols—0.049 mg/l average (the limitation basis is 0.10 mg/l).

The commenters own data submitted with the comment provide little support for the position taken in the comment. These data tend to show, and EPA agrees, that temperature variations, with a host of other factors, do affect refinery variability. This effect is fully taken into account by the variability factors and does not appear to depend on refinery location.

(14) A commenter argued that EPA regulations would require in-plant modifications, and that EPA was not authorized under the law to require such modifications for 1977.

EPA's regulations do not require any particular form of treatment, nor do they require in-plant modifications. The regulations require the achievement of effluent limitations which are based upon the performance of good existing plants. Since the total effluent loading in pounds or kilograms is controlled by three variables, the total effluent flow, the concentration of pollutant in the effluent, and the variability, reduction of one or more of these components can be used to achieve the limitations. The limitations are based upon flow, concentration, and variability figures which are readily achievable. If a discharger's flow is higher than the flow upon which the regulations are based, the discharger has three options: he may reduce his flow to or below the predicted level, and maintain the appropriate effluent concentrations and variability; he may modify his treatment system so as to achieve lower effluent concentrations; or he may design and operate more carefully to achieve lower variability. EPA has data on dischargers which are achieving concentrations, flows, and variabilities well below those upon which the limitations are based.

EPA is aware, however, that for most such dischargers reduction of flow would be the most economical and, in the long run, the most effective means of meeting the regulations. Accordingly, our cost estimates are based upon the installation of treatment necessary to meet the regulations, and for any inplant modifications necessary to reduce process water flow commensurately.

It should be emphasized that, even for those dischargers who choose to reduce process water flow by in-plant modifications, such modifications amount to nothing more than modification and repiping of existing processes. To meet the 1983 guidelines, more extensive changes may be appropriate. For example, dischargers employing fluid catalytic cracking may change to hydro-cracking; or those acid treating may change to hydrotreating, to help in meeting the 1983 limitations. However, such changes will not be necessary for any discharger to meet the 1977 limitations.

(15) One commenter argued that EPA made many errors in its development of the median raw waste loads from the API/EPA survey used in the regression analysis.

The median raw waste loads (Tables 18–22 in the Development Document) were not used in the regression analysis. The regression analysis was based on the size, flow, and refining processes of each refinery used.

(16) A comment was received to the effect that EPA used median values rather than mean values to determine allowable effluent loadings and variability factors.

The commenter was incorrect. Mean values, not medians, were calculated from the "exemplary" refineries. These means were used to develop the achievable concentrations.

In calculating the variabilities for each refinery, the 99 percent probability limit was divided by the mean because the variabilities were used to predict 30-day and daily maximums from an annual average (mean).

(17) A commenter noted that the variability allowed in many of EPA's other industrial guidelines is greater than that used for the Petroleum Refining limitations. The commenter therefore requested higher variability factors, especially to cover upset conditions.

The variabilities used by EPA in setting the Petroleum Refining limitations are derived from extensive long-term data from refinery operations. These variabilities therefore reflect what is currently being achieved in this industry.

Comparison to variabilities in other industries is considered invalid for several reasons:

1. The data base used to calculate the variabilities in the Refining industry was at least 10 times larger than that available in any of the other industries mentioned by the commenter.

2. In other industries, the Agency was often required to establish variabilities based upon relatively little long-term data. In such cases, variabilities were often conservatively set at a high level, in order to compensate for the lack of data. Because of the availability of good long-term data on petroleum refiners, the Agency is confident that these variabilities are readily achievable by all refiners over the long-term.

3. The technology specified as the best practicable control technology currently available has been in use in the petroleum refining industry for a long period of time. The experience accumulated over this period of time has enabled the industry to iron out many irregularities which contribute to variability. This has enabled the petroleum industry to achieve lower variabilities than many other industries with less experience in pollution abatement. The Agency believes that the industry as a whole should be required to maintain the level of control presently practiced by many refiners.

The commenter also requested higher variabilities to cover upset conditions. As has been stated previously, data taken during periods of spills, in-plant upset conditions, etc., were included in calculating the variabilities. However, a few data points, which reported either preventable upsets of catastrophic events (such as the effects of hurricane Agnes on a coastal refinery in Texas), were deleted from the variability data base, since they did not reflect the normal operation of a well run, carefully maintained operation.

(18) One comment shows that EPA used an incorrect equation in the calculation of sample variance.

A minor error was made in the calculations used in preparation of the proposed regulations. However, since the approach used for data analysis after publication of the proposed regulations corrected that error, it did not appear in the final regulation.

(19) A commenter complained of biased data selection on the part of EPA in determining the variabilities.

The commenter presented four charts showing the monthly average loading for BOD, TSS, oil and grease, and ammonia from January, 1970 through April, 1973 for Shell, Martinez. EPA selected one year's data, for each parameter, to calculate the variability. For BOD, TSS, and oil and grease, EPA chose the year after the installation of Shell's waste treatment plant in September, 1971. The data for these parameters prior to that date could not be used because it was representative of raw waste and not effluent variability. A period of one year was chosen for several reasons: 1) one year's data should adequately represent the unpreventable causes of variability; and 2) the quantity of data is sufficient for statistical analysis and prediction of both variability and long-term performance. For oil and grease, EPA did erroneously analyze data for a period before the installation of biological treatment. However, EPA has recomputed the variability using data from the same period (after installation of treatment) used for the other parameters. the difference is negligible.

EPA believes, as indicated previously, that low variability is concomitant with good plant operation. For this reason a year different from that used for the other parameters, a year in which low ammonia variability was attained, was selected for calculating ammonia variability. It is immaterial that this year preceded installation of the biological treatment system, since most ammonia removal is accomplished by a separate system.

The commenter also pointed to several data points that were deleted from the data analyzed from the Marathon, Texas City Refinery. Five data points were dropped during the analysis of the ammonia data as not being representative of the normal plant operation. The data points were all of the data from the period 10/11/72 through 12/6/72. The data prior to 10/11/72 ranged from 2.2 to 23.4 mg/l and the data after 12/6/72 ranged from 3.2 to 39.4. The points dropped were 0.6, 0, 0, 0, and 80 mg/l. These data points were dropped because: 1) they immediately followed a 23 day period for which no data were recorded; and 2) for whatever reason (EPA has been unable to determine the cause of these aberrant values), these five consecutive deleted data points are both startingly lower and higher than all the rest of the data. They thus may represent sampling or analytical errors. These data are clearly so atypical that EPA decided not to use them in the analysis.

Six data points are depicted as having been ignored by EPA in its analysis of Marathon's COD data. Two of these points are duplicates (1/12/72 and 1/15/73), and one point (1/31/73) was mistakenly deleted by EPA. However, the deletion of this single point (which was a low value) would have no significant effect on the regulations. The remaining four data points were deleted because Weston's trip report identified them as the result of operator mistakes.

(20) A commenter questioned the inclusion of three data points since they were preceded by the symbol meaning "less than the sensitivity at that level."

For all analytical techniques a limit of sensitivity exists below which the method does not yield reliable quantitative measurements. EPA, throughout its analysis of the Refinery Industry data, has used the level of analytical sensitivity as the data points where a "less than sensitivity" indicator appeared in the data. It is believed that elimination of these low data points might significantly bias the analysis of the total data base.

(21) A commenter questioned EPA's variability analysis on Amoco, Yorktown's BOD5 data, on the grounds that two analyses by EPA of the same data yielded strikingly different results (4.54 vs. 2.29).

This supposed inconsistency arose as a result of the progression followed by EPA in preparing the regulations (see "Variability" above). The 2.29 daily variability is the result of fitting Amoco's data to a normal distribution, while the 4.54 figure is based on a log-normal fit. The improved methodology now being used by EPA results in a 2.80 daily variability. The corrections made initially for the facts that the data fit only imperfectly to either a normal or log-normal distribution are no longer necessary.

(22) A commenter stated that EPA erred in using 2.3 as the BOD5 variability for three refineries in calculating variabilities for other parameters, since the mean of the three refineries' BOD5 variabilities is 2.14.

The mean of the three refineries' BOD5-variabilities is in fact 2.22; however, EPA used the median value, 2.3, instead of the mean.

(23) A commenter indicated that EPA did not avail itself of the data in the Brown and Root Variability study.

EPA did in fact utilize data from five of the refineries used in the Brown and Root Variability Study. However, the Brown and Root Variability Study itself could not be used in deriving the limitations. The study did not give any raw data, or identify the refineries used in the study. Thus, EPA had no knowledge of the operation of these refineries and no opportunity to determine the causes of suspect data. Moreover, the statistical approach used by Brown and Root was inconsistent with that selected by the Agency.

The data from five of the refineries used in the Brown and Root Variability Study were used, along with other refinery data, to make the adjustment to the original variabilities which had been based upon a normal distribution. Since EPA has been unable to obtain the names of the refineries used by Brown and Root, it has been unable to make further use of these data.

(24) One commenter stated that since there is enormous variation in the variability factors themselves, their statistical veracity must be challenged.

The validity of a variability factor increases as the number of data points and the length of time analyzed increase. The commenter has calculated daily variabilities within each month and a coefficient of variation (standard deviation divided by the mean) for each month. Thus, his calculations would be expected to show relatively wide fluctuations. EPA used longer term data (in most cases, a full year). Accordingly, the uncertainty observed by the commenter is minimized by EPA's method of analysis.

The commenter also compared the daily variabilities based on long-term data to show the wide range of values. EPA is perfectly aware of the wide range of variabilities, and one of the intentions of the limitations is to prevent these widely varying discharges. In defining BPT, operational control is considered extremely important.

The prevention of spills, operator education, limiting analytical error, and proper treatment plant design for the control of variability are just as important as flow minimization or designing to achieve a long-term concentration limit.

(25) One commenter stated that, since EPA based effluent limits (in pounds) on the product of flow times concentration times variability, and since the commenter found no consistent correlation between flow and any effluent parameter, EPA should reevaluate the basis of its effluent limits.

The commenter provided EPA with a list of ten refineries for which he examined the correlation of effluent load with flow, and a list of those effluent parameters which he found to be significantly correlated with flow. These lists, for which the commenter failed to provide either the data on which they are based or the regression model he used to analyze that data, constitute merely a summary of results obtained.

EPA determined which effluent parameters were reported by each of the ten refineries used by the commenter. None of the ten refineries reported all effluent parameters, although the commenter's lists might lead one to believe they did. Based upon the commenter's own submission, then, the following table can be constructed:

Effluent parameter	Number of refineries (with more than 25 data points) reporting the effluent parameter	Number of refineries with significant correlation between effluent parameter and flow
BOD5	6	5
COD	8	7
TOC	1	1
TSS	8	8
Phenol	8	6
Oil and grease	9	6

Thus, in most cases where the refineries recorded data on a specific parameter, the commenter actually reported a significant correlation between effluent loading and flow. There was no reason, therefore, for EPA to reevaluate the basis for its effluent limits.

(26) One commenter stated that, since data from Shell's Martinez refinery were not distributed either normally or log-normally, EPA's approach to variability was incorrect.

The commenter provided with his comment a table summarizing the statistical parameters he investigated at the Martinez refinery. He did not provide EPA with the data he used. From the number of data points he reported, however, he apparently used data taken over approximately a three-year period. Since the treatment plant at the Martinez refinery was not installed until late in 1971, it is likely that the commenter combined in his summary data taken both before and after the treatment facilities were installed. If two such disparate statistical populations were so combined, the results obtained would be meaningless.

In addition, the procedure now used by EPA to determine the variability factor does not require that the data be distributed either normally or log-normally over its entire range.

(27) A commenter analyzed BOD data from Exxon's Baytown refinery, and derived a variability factor of 3.06, not 2.03 as given by EPA.

The commenter's value of 3.06 is the ratio between the 99th percentile of the variability distribution and the 50th percentile of that distribution (C99/C50) for the Baytown refinery. EPA actually defines the variability factor as the ratio between the 99th percentile of the variability distribution and the mean (C99/A). The correct variability factor for the Baytown refinery therefore is 2.69. EPA originally gave the figure 2.03 as that factor. Upon reanalyzing the Baytown data, EPA discovered that it had made an error in transcribing the original figures from the work sheets. EPA then recomputed the overall variability factor using the 2.69 figure, and found it remained unchanged, to within the round-off limits.

(28) A commenter argued that EPA has not demonstrated the availability of carbon adsorption as a proper basis for establishing the 1983 limitations. The commenter cited several references, in addition to those used by EPA, in making this argument.

Carbon adsorption technology has been used by industry for many years for the removal of organic contamination in the Sugar and Liquor Industries. In 1960, the detailed evaluation of carbon adsorption as a possible wastewater treatment technology began as part of the mandate of Congress (Pub. L. 87-88) to investigate advanced waste treatment technology.

A 1974 article by Hager in Industrial Water Engineering cites sixteen examples of full-scale industry wastewater treatment installations using activated carbon. In addition, the article gives the results of 220 carbon isothern tests, depicting the almost universal applicability of activated carbon as a viable treatment.

Much of the work done to date on activated carbon adsorption has been to show it is an alternative to biological treatment. However, carbon adsorption seems more universally applicable as a polishing step after biological treatment. A paper by Short and Myers states: "the best levels of reduction were obtained with biological treatment followed by carbon adsorption. Apparently, bio-treatment and activated carbon complement each other very well and those materials which are resistant to biological degradation are adsorbed fairly easily while those materials which are not adsorbed by carbon are biologically degradable." This statement is confirmed by: (1) A paper by Hale and Myers entitled "The Organics Removed by Carbon Treatment of Refinery Wastewater"; (2) A study carried out by Union Carbide Corporation on 93 organic compounds; (3) a paper by E. G. Paulson, "Adsorption as a Treatment of Refinery Effluent" in which carbon isotherm tests show higher BOD and COD percent removals from biological effluents than from raw wastes; and (4) the 1974 pilot plant study at the BP, Marcus Hook Refinery where a Bio-Disk was used to remove a portion of BOD5 prior to carbon adsorption, resulting in substantially better effluent quality than provided by the carbon alone.

The Agency derived its achievable BAT effluent concentrations from the information available on the results of activated carbon polishing of biologically treated effluents. The sources used to confirm the probable achievability of these effluent concentrations are as follows: Short and Myers—"Pilot Plant Activated Carbon Treatment of Petroleum Refining Wastewater"; The BP, Marcus Hook 1974 pilot plant study of Filtration and Activated Carbon (Bio-Disk); EPA Process Design Manual for Carbon Adsorption, especially the South Lake Tahoe, California, and Orange, California, biological-activated carbon treatment plant studies.

An important factor in the EPA's choice of activated carbon adsorption as a treatment step on which to base the 1983 limitations was the fact that it would be an add-on to the 1977 treatment technology. In addition, the current interest in activated carbon adsorption should make available sufficient information for the Agency to determine, prior to the implementation of BAT technology not later than 1983, if the limitations will require modification.

The commenter also questioned the justification for lower ammonia concentrations for 1983, since activated carbon does not remove ammonia. While the commenter is correct, he misunderstood the BAT ammonia limitation. That limitation is not based upon use of carbon adsorption, but rather is based on improved control of the amount of ammonia released from the ammonia stripper to reach the amount just needed to satisfy the nutrient needs of the biological treatment plant. The Agency concluded that several additional years of experience and experimentation with both ammonia strippers and individual biological system should result in better control of stripper effluents and more complete knowledge of the nutrient needs of biological systems. Therefore, the Agency set the BAT ammonia limitations to reflect the expected reduction in "excess" ammonia (the difference between the amount discharged from strippers now and the amount of ammonia needed by biological systems).

(29) Several comments were received concerning the apparent anomaly in the final pound allocations (base limits times process factors times size factor) for certain subcategories. That is, hypothetically, in some instances, if sufficient petrochemical operations were added to either cracking refineries ("B") or lube refineries ("D") to change their classifications to, respectively, petrochemical refineries ("C") or integrated refineries ("E"), the final pound allocations for those refineries would decrease. The commenters suggested two solutions for this anomaly; either (1) add a weighting factor for the various petrochemical operations to increase the size of their process factors, or (2) eliminate the "C" and "E" subcategories, and add to the pound allocations for "B" and "D" refineries additional pounds based upon the regulations for the plastics, rubber, and organic chemical industries.

In calculating the flows, based upon the API/EPA survey (see "flow basis" above), EPA attempted to derive from the survey data the actual process wastewater flow which would require treatment. For the most part, the flows listed in the survey combined both process water and once-through cooling water. Since the once-through cooling water would ordinarily not require treatment, it was necessary to develop a means for deriving the process flow from the total flow listed in the survey.

The promulgated regulations were based upon the flows from 94 of the refineries in the API/EPA survey. Of these 94 refineries, 75 had no once-through cooling and 19 removed less than 3 percent of their heat by means of once-through cooling water. It was considered that total flow for these 94 refineries would correspond closely to process flow.

After promulgation of the regulations, EPA undertook to identify the cause of the apparent anomaly identified by the commenters. Upon careful examination of the flows in the API/EPA survey, it was found that the actual process flows for 108 of these 136 refineries (including all the original 94) could be calculated. When these process flows were compared to the total flows used, the reason for the anomaly became apparent: of the original 94 refineries, most of those with more than zero but less than 3 percent once-through heat removed by cooling water (13 of 19) were in the cracking ("B") or lube ("C") subcategories. This cooling water appeared in the process flow allocations for the cracking and lube refineries, giving those refineries an extra "cushion" which will make the regulations easier to attain for such refineries.

EPA does not believe that the excess water allocations for the cracking and lube subcategories require modification of the regulations. Such modification would have the effect of decreasing the quantity of pollutants allowed to be discharged by refineries in these subcategories. Petrochemical and integrated refineries would be less affected, since the original flow data for these subcategories included a relatively lower proportion of once-through cooling water.

It is clear, in any event, that the solutions proposed by the commenters would be inappropriate. Since the regulations are based upon actual performance by refineries in each subcategory, it would be absurd to attempt to modify them on the basis of regulations designed for other industries. Moreover, no "weighting factor" is necessary to account for petrochemical operations, since the flows contributed by such operations are fully reflected in the flow data from petrochemical and integrated refineries used to develop the regulations.

(30) One commenter argued that the limitation for hexavalent chromium was unreasonable since technology to measure such low concentrations was unavailable.

The commenter was correct. Consequently, the achievable concentration for hexavalent chromium has been changed from 0.005 mg/l, to 0.02 mg/l in the amended regulations.

(31) Several commenters stated that EPA underestimated the costs of achieving compliance with the regulations.

EPA reexamined the economic impact analysis assuming that the cost of compliance would be 50 percent higher than the costs estimated when the regulations were originally analyzed. That is, the conclusions of the analysis were checked using cost estimates that were 50 percent higher than those shown in the economic impact report (EPA 230/2-74-020) for BAT treatment and for the "b" inplant cost extrapolation (see Table III on page II-30). The conclusion of this sensitivity analysis was that the impact of the regulations would not be appreciably changed even if the costs were assumed to be 50 percent higher. Thus, even if this assumption about costs were correct, the results of the impact study and the appropriateness of the regulations would be unchanged.

Specifically, using the higher cost assumption, the analysis indicates that a total of ten small refineries, representing a total of 33,000 barrels per day capacity, would be economically threatened by the regulations. Two of these refineries, representing 7,000 barrels per day capacity, would face a significant threat of closure. These essentially are the impacts projected under the original analysis using the lower cost estimates, and may be affected in any event by governmental policy.

This sensitivity analysis was conducted using a 50 percent increase in the cost estimates, whereas the industry has suggested that the costs actually are as much as 150 percent higher than originally estimated. This claim was believed to be totally unrealistic for several reasons. Specifically, the estimates should not include "sunk costs" (those costs that already have been increased in the past for pollution abatement). Neither should costs which would be incurred regardless of EPA regulations be included in the estimated costs of the guidelines. Therefore, an increase in the cost estimates of 50 percent is more than adequate to test for the possibility that the original costs were in error. This is particularly true because it is likely that any price increases which might have raised the costs since the original analysis was made would be offset by the conservative assumptions which were built into the original cost estimates.

The cost estimates are based upon a complete activated sludge treatment system including equalization, flotation cells, and polishing with mixed media filters. However, from the data before the Agency, it is clear that such an elaborate system will not be required in all cases. Of the plants which are achieving the limitations, a number use only aeration lagoons for treatment. Where adequate land is available at a reasonable cost, the costs of constructing a lagoon system can be considerably lower than the costs associated with installing an activated sludge system. Moreover, the operating costs of a lagoon system are minimal. Thus, if EPA cost estimates are in error, they are more likely to overstate, rather than to understate, the required capital and operating costs.

(c) As a result of the review undertaken by EPA in response to public comment upon the promulgated regulations, and upon the modifications thereto proposed on October 14, 1974, the following changes have been made in the regulations as promulgated:

Revision of the proposed amendment and promulgated regulation:

(1) The proposed amendments have been promulgated without change (See 39 FR 37069);

(2) The achievable concentration for hexavalent chromium has been changed from .005 mg/l to .02 mg/l; and

(3) The daily and monthly variabilities for suspended solids have been changed from 2.9 and 1.7 to 3.3 and 2.1 respectively.

40 CFR Chapter I, Subchapter N, Part 419 is hereby amended as set forth below to be effective June 19, 1975.

Dated: May 9, 1975.

RUSSELL E. TRAIN,
Administrator.

EFFLUENT LIMITATIONS GUIDELINES FOR EXISTING SOURCES AND STANDARDS OF PERFORMANCE AND PRETREATMENT STANDARDS FOR NEW SOURCES FOR THE PETROLEUM REFINING POINT SOURCE CATEGORY

(1) The tables in § 419.12 (a), (b) (1) and (2), and (c) (1) and (2) are revised to read as follows:

§ 419.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) * * *

Effluent characteristic	Effluent limitations: Maximum for any one day	Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per 1,000 m³ of feedstock)		
BOD5	22.7	12.0
TSS	15.8	10.1
COD [1]	117	60.3
Oil and grease	6.9	3.7
Phenolic compounds.	.168	.076
Ammonia as N	2.81	1.27
Sulfide	.149	.068
Total chromium	.345	.20
Hexavalent chromium.	.028	.012
pH	Within the range 6.0 to 9.0.	
English units (pounds per 1,000 bbl of feedstock)		
BOD5	8.0	4.25
TSS	5.6	3.6
COD [1]	41.2	21.3
Oil and grease	2.5	1.3
Phenolic compounds.	.060	.027
Ammonia as N	.99	.45
Sulfide	.053	.024
Total chromium	.122	.071
Hexavalent chromium.	0.10	.0044
pH	Within the range 6.0 to 9.0.	

(b) * * *

(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
100.0 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	0.62
2.5 to 3.49	0.67
3.5 to 4.49	0.80
4.5 to 5.49	0.95
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	2.98
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	4.18
14.0 or greater	4.36

(c) * * *

(1) * * *

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per cubic meter of flow)		
BOD5	0.018	0.026
TSS	.033	.021
COD [1]	.37	.19
Oil and grease	.015	.008
pH	Within the range 6.0 to 9.0.	
English units (pounds per 1,000 gal of flow)		
BOD5	0.40	0.21
TSS	.26	.17
COD [1]	3.1	1.6
Oil and grease	.126	.067
pH	Within the range 6.0 to 9.0.	

(2) * * *

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per cubic meter of flow)		
BOD5	0.048	0.026
TSS	.033	.021
COD [1]	.47	.24
Oil and grease	.015	.008
pH	Within the range 6.0 to 9.0.	
English units (pounds per 1,000 gal of flow)		
BOD5	0.40	0.21
TSS	.26	.17
COD [1]	3.9	2.0
Oil and grease	.126	.067
pH	Within the range 6.0 to 9.0.	

* * * * *

(2) The tables in § 419.13(b) (1) and (2) are revised to read as follows:

§ 419.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

* * * * *

(b) * * *

(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
100.0 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	0.62
2.5 to 3.49	0.67
3.5 to 4.49	0.80
4.5 to 5.49	0.95
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	2.98
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	4.18
14.0 or greater	4.36

* * * * *

(3) The tables in § 419.15(a), (b)(1) and (2), and (c)(1) and (2) are revised to read as follows:

§ 419.15 Standards of performance for new sources.

(a) * * *

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per 1,000 m³ of feedstock)		
BOD5	11.8	6.3
TSS	8.3	4.9
COD [1]	61	32
Oil and grease	3.6	1.9
Phenolic compounds.	.088	.043
Ammonia as N	2.8	1.3
Sulfide	.078	.035
Total chromium	.18	.105
Hexavalent chromium.	.015	.0068
pH	Within the range 6.0 to 9.0.	
English units (pounds per 1,000 bbl of feedstock)		
BOD5	4.2	2.2
TSS	3.0	1.9
COD [1]	21.7	11.2
Oil and grease	1.3	.70
Phenolic compounds.	.031	.016
Ammonia as N	1.0	.45
Sulfide	.027	.012
Total chromium	.064	.037
Hexavalent chromium.	.0052	.0025
pH	Within the range 6.0 to 9.0.	

(b) * * *

(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
100.0 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	0.62
2.5 to 3.49	0.67
3.5 to 4.49	0.80
4.5 to 5.49	0.95
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	2.98
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	4.18
14.0 or greater	4.36

(c) * * *

(1) * * *

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per cubic meter of flow)		
BOD5	0.018	0.026
TSS	.033	.021
COD [1]	.37	.19
Oil and grease	.015	.0080
pH	Within the range 6.0 to 9.0.	
English units (pounds per 1,000 gal of flow)		
BOD5	0.40	0.21
TSS	.27	.17
COD [1]	3.1	1.6
Oil and grease	.126	.067
pH	Within the range 6.0 to 9.0.	

(2) * * *

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per cubic meter of flow)		
BOD5	0.048	0.026
TSS	.033	.021
COD [1]	.47	.24
Oil and grease	.015	.008
pH	Within the range 6.0 to 9.0.	
English units (pounds per 1,000 gal of flow)		
BOD5	0.40	0.21
TSS	.27	.17
COD [1]	3.9	2.0
Oil and grease	.126	.067
pH	Within the range 6.0 to 9.0.	

* * * * *

(4) The tables in § 419.22 (a) and (b) (1) and (2) are revised to read as follows:

§ 419.22 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) * * *

Effluent characteristic	Effluent limitations	
	Maximum for any one day	Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per 1,000 m³ of feedstock)		
BOD5	28.2	15.6
TSS	19.5	12.6
COD [1]	210	109
Oil and grease	8.4	4.5
Phenolic compounds.	.21	.10
Ammonia as N	18.8	8.5
Sulfide	.18	.082
Total chromium	.43	.25
Hexavalent chromium.	.035	.016
pH	Within the range 6.0 to 9.0.	
English units (pounds per 1,000 bbl of feedstock)		
BOD5	9.9	5.5
TSS	6.9	4.4
COD [1]	74	38.4
Oil and grease	3.0	1.6
Phenolic compounds.	.074	.036
Ammonia as N	6.6	3.0
Sulfide	.065	.029
Total chromium	.15	.088
Hexavalent chromium.	.012	.0056
pH	Within the range 6.0 to 9.0.	----------

(b) * * *

(1) Size factor.

1,000 bbl 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	1.35
150.0 or greater	1.41

(2) Process factor.

Process configuration:	*Process factor*
Less than 2.49	0.58
2.5 to 3.49	0.63
3.5 to 4.49	0.74
4.5 to 5.49	0.88
5.5 to 5.99	1.00
6.0 to 6.49	1.09
6.5 to 6.99	1.19
7.0 to 7.49	1.29
7.5 to 7.99	1.41
8.0 to 8.49	1.53
8.5 to 8.99	1.67
9.0 to 9.49	1.82
9.5 or greater	1.89

* * * * *

(5) The tables in § 419.23(b) (1) and (2) are revised to read as follows:

§ 419.23 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically available.

(b) * * *

(1) Size factor.

1,000 bbl 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	1.35
150.0 or greater	1.41

(2) Process factor.

Process configuration:	*Process factor*
Less than 2.49	0.58
2.5 to 3.49	0.63
3.5 to 4.49	0.74
4.5 to 5.49	0.88
5.5 to 5.99	1.00
6.0 to 6.49	1.09
6.5 to 6.99	1.19
7.0 to 7.49	1.29
7.5 to 7.99	1.41
8.0 to 8.49	1.53
8.5 to 8.99	1.67
9.0 to 9.49	1.82
9.5 or greater	1.89

* * * * *

(6) The tables in § 419.25 (a) and (b) (1) and (2) are revised to read as follows:

§ 419.25 Standards of performance for new sources.

(a) * * *

Effluent characteristic	Effluent limitations	
	Maximum for any one day	Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per 1,000 m³ of feedstock)		
BOD5	16.3	8.7
TSS	11.3	7.2
COD [1]	118	61
Oil and grease	4.8	2.6
Phenolic compounds.	.119	.058
Ammonia as N	18.8	8.6
Sulfide	.105	.048
Total chromium	.24	.14
Hexavalent chromium.	.020	.0083
pH	Within the range 6.0 to 9.0.	----------
English units (pounds per 1,000 bbl of feedstock)		
BOD5	5.8	3.1
TSS	4.0	2.5
COD [1]	41.5	21
Oil and grease	1.7	.93
Phenolic compounds.	.042	.020
Ammonia as N	6.6	3.0
Sulfide	.037	.017
Total chromium	.084	.049
Hexavalent chromium.	.0072	.0032
pH	Within the range 6.0 to 9.0.	----------

(b) * * *

(1) Size factor.

1,000 bbl 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	1.35
150.0 or greater	1.41

(2) Process factor.

Process configuration:	*Process factor*
Less than 2.49	0.58
2.5 to 3.49	0.63
3.5 to 4.49	0.74
4.5 to 5.49	0.88
5.5 to 5.99	1.00
6.0 to 6.49	1.09
6.5 to 6.99	1.19
7.0 to 7.49	1.29
7.5 to 7.99	1.41
8.0 to 8.49	1.53
8.5 to 8.99	1.67
9.0 to 9.49	1.82
9.5 or greater	1.89

* * * * *

(7) The tables in § 419.32(a) and (b) (1) and (2) are revised to read as follows:

§ 419.32 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) * * *

Effluent characteristic	Effluent limitations	
	Maximum for any one day	Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per 1,000 m³ of feedstock)		
BOD5	31.6	18.4
TSS	23.4	14.8
COD [1]	210	109
Oil and grease	11.1	5.9
Phenolic compounds.	.25	.120
Ammonia as N	23.4	10.6
Sulfide	.22	.099
Total chromium	.52	.30
Hexavalent chromium.	.046	.020
pH	Within the range 6.0 to 9.0.	
English units (pounds per 1,000 bbl of feedstock)		
BOD5	12.1	6.5
TSS	8.3	5.25
COD [1]	74	33.4
Oil and grease	3.9	2.1
Phenolic compounds.	.088	.0425
Ammonia as N	8.25	3.8
Sulfide	.078	.035
Total chromium	.183	.107
Hexavalent chromium.	.016	.0072
pH	Within the range 6.0 to 9.0.	

(b) * * *

(1) Size factor.

1,000 bbl 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	0.91
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

* * * * *

(8) The tables in § 419.33(b) (1) and (2) are revised to read as follows:

§ 419.33 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

(b) * * *

(1) Size factor.

1,000 bbl 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	0.91
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

* * * * *

(9) The tables in § 419.35 (a) and (b) (1) and (2) are revised to read as follows:

§ 419.35 Standards of performance for new sources.

(a) * * *

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per 1,000 m³ of feedstock)		
BOD5	21.8	11.6
TSS	14.9	9.5
COD[1]	133	69
Oil and grease	6.6	3.5
Phenolic compounds.	.153	.077
Ammonia as N	23.4	10.7
Sulfide	.140	.063
Total chromium	.32	.19
Hexavalent chromium.	.025	.012
pH	Within the range 6.0 to 9.0.	
English units (pounds per 1,000 bbl of feedstock)		
BOD5	7.7	4.1
TSS	5.2	3.3
COD[1]	47	24
Oil and grease	2.4	1.3
Phenolic compounds.	.056	.027
Ammonia as N	8.3	3.8
Sulfide	.050	.022
Total chromium	.116	.068
Hexavalent chromium.	.0096	.0044
pH	Within the range 6.0 to 9.0.	

(b) * * *

(1) Size factor.

1,000 bbl 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	0.91
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

(10) The tables in § 419.42 (a) and (b) (1) and (2) are revised to read as follows:

§ 419.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) * * *

Effluent characteristic	Effluent limitations: Maximum for any one day	Effluent limitations: Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per 1,000m³ of feedstock)		
BOD5	50.6	25.8
TSS	35.6	22.7
COD[1]	360	187
Oil and grease	16.2	8.5
Phenolic compounds.	.38	.184
Ammonia as N	23.4	10.6
Sulfide	.33	.150
Total chromium	.77	.45
Hexavalent chromium.	.068	.039
pH	Within the range 6.0 to 9.0.	
English units (pounds per 1,000 bbl of feedstock)		
BOD5	17.9	9.1
TSS	12.5	8.0
COD[1]	127	66
Oil and grease	5.7	3.0
Phenolic compounds.	.133	.065
Ammonia as N	8.3	3.8
Sulfide	.118	.053
Total chromium	.273	.160
Hexavalent chromium	.024	.011
pH	Within the range 6.0 to 9.0.	

(b) * * *

(1) Size factor.

1,000 bbl 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	1.05
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	1.83
11.5 to 11.99	1.98
12.0 to 12.49	2.16
12.5 to 12.99	2.34
13.0 or greater	2.44

* * * * *

(11) The tables in § 419.43(b) (1) and (2) are revised to read as follows:

§ 419.43 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

* * * * *

(b) * * *

(1) Size factor.

1,000 bbl 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	1.05
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	1.83
11.5 to 11.99	1.98
12.0 to 12.49	2.16
12.5 to 12.99	2.34
13.0 or greater	2.44

* * * * *

(12) The tables in § 419.45 (a) and (b) (1) and (2) are revised to read as follows:

§ 419.45 Standards of performance for new sources.

(a) * * *

Effluent characteristic	Effluent limitations: Maximum for any one day	Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per 1,000 m³ of feedstock)		
BOD5	34.6	18.4
TSS	23.4	14.9
COD [1]	245	126
Oil and grease	10.5	5.6
Phenolic compounds.	.25	.12
Ammonia as N	23.4	10.7
Sulfide	.220	.10
Total chromium	.52	.31
Hexavalent chromium.	.046	.021
pH	Within the range 6.0 to 9.0.	
English units (pounds per 1,000 bbl of feedstock)		
BOD5	12.2	6.5
TSS	8.3	5.3
COD [1]	87	45
Oil and grease	3.8	2.0
Phenolic compounds.	.088	.043
Ammonia as N	8.3	3.8
Sulfide	.078	.035
Total chromium	.180	.105
Hexavalent chromium.	.022	.0072
pH	Within the range 6.0 to 9.0.	

(b) * * *

(1) Size factor.

1,000 bbl 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	1.05
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	2.16
12.5 to 12.99	2.34
13.0 or greater	2.44

* * * * *

(13) The tables in § 419.52 (a) and (b) (1) and (2) are revised to read as follows:

§ 419.52 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

(a) * * *

Effluent characteristic	Effluent limitations: Maximum for any one day	Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per 1,000 m³ of feedstock)		
BOD5	54.4	23.9
TSS	37.3	23.7
COD [1]	393	193
Oil and grease	17.1	9.1
Phenolic compounds.	.40	.192
Ammonia as N	23.4	10.6
Sulfide	.35	.153
Total chromium	.82	.43
Hexavalent chromium.	.068	.032
pH	Within the range 6.0 to 9.0.	
English units (pounds per 1,000 bbl of feedstock)		
BOD5	19.2	10.2
TSS	13.2	8.4
COD [1]	136	70
Oil and grease	6.0	3.2
Phenolic compounds.	.14	.068
Ammonia as N	8.3	3.8
Sulfide	.124	.056
Total chromium	.29	.17
Hexavalent chromium.	.025	.011
pH	Within the range 6.0 to 9.0.	

(b) * * *

(1) Size factor.

1,000 bbl 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 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	1.00
8.5 to 8.99	1.10
9.0 to 9.49	1.20
9.5 to 9.99	1.30
10.0 to 10.49	1.42
10.5 to 10.99	1.54
11.0 to 11.49	1.68
11.5 to 11.99	1.83
12.0 to 12.49	1.99
12.5 to 12.99	2.17
13.0 or greater	2.26

* * * * *

(14) The tables in § 419.53(b) (1) and (2) are revised to read as follows:

§ 419.53 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

* * * * *

(b) * * *

(1) Size factor.

1,000 bbl 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 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	1.00
8.5 to 8.99	1.10
9.0 to 9.49	1.20
9.5 to 9.99	1.30
10.0 to 10.49	1.42
10.5 to 10.99	1.54
11.0 to 11.49	1.68
11.5 to 11.99	1.83
12.0 to 12.49	1.99
12.5 to 12.99	2.17
13.0 or greater	2.26

* * * * *

(15) The tables in 419.55 (a) and (b) (1) and (2) are amended to read as follows:

§ 419.55 Standards of performance for new sources.

(a) * * *

Effluent characteristic	Effluent limitations: Maximum for any one day	Average of daily values for thirty consecutive days shall not exceed—
Metric units (kilograms per 1,000 m³ of feedstock)		
BOD5	41.6	22.1
TSS	28.1	17.9
COD [1]	295	152
Oil and grease	12.6	6.7
Phenolic compounds.	.30	.14
Ammonia as N	23.4	10.7
Sulfide	.26	.12
Total chromium	.64	.37
Hexavalent chromium.	.052	.024
pH	Within the range 6.0 to 9.0.	
English units (pounds per 1,000 bbl of feedstock)		
BOD5	14.7	7.8
TSS	9.9	6.3
COD [1]	104	54
Oil and grease	4.5	2.4
Phenolic compounds.	.105	.051
Ammonia as N	8.3	3.8
Sulfide	.093	.042
Total chromium	.220	.13
Hexavalent chromium,	.019	.0084
pH	Within the range 6.0 to 9.0.	

(b) * * *

(1) Size factor.

1,000 bbl 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 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	1.00
8.5 to 8.99	1.10
9.0 to 9.49	1.20
9.5 to 9.99	1.30
10.0 to 10.49	1.42
10.5 to 10.99	1.54
11.0 to 11.49	1.68
11.5 to 11.99	1.83
12.0 to 12.49	1.99
12.5 to 12.99	2.17
13.0 or greater	2.26

[FR Doc.75-12959 Filed 5-19-75;8:45 am]

Title 41—Public Contracts and Property Management

CHAPTER 114—DEPARTMENT OF THE INTERIOR

PART 114-47—UTILIZATION AND DISPOSAL OF REAL PROPERTY

Reassignment by Agencies and Report of Identical Bids

Pursuant to the authority of the Secretary of the Interior contained in 5 U.S.C. 301, and sec. 205(c), 63 Stat. 390 (40 U.S.C. 486(c)), Subparts 114-47.2 and 114-47.3, Chapter 114, of Title 41 of the Code of Federal Regulations, are amended as set forth below.

It is the general policy of the Department of the Interior to allow time for interested parties to take part in the rulemaking process. However, these amendments are entirely administrative in nature. Therefore, the public rulemaking process is waived and these amendments will become effective on May 20, 1975.

RICHARD R. HITE,
Deputy Assistant Secretary of the Interior.

MAY 12, 1975.

Subpart 114-47.2—Utilization of Excess Real Property

Section 114-47.203-1 is amended by revising paragraph (d) to read as follows:

§ 114-47.203-1 Reassignment of real property by the agencies.

* * * * *

(d) *Circularization of power transmission facilities.* The approval of the appropriate program Assistant Secretary shall be obtained prior to circularization of any available power transmission line or related facility having an estimated fair market value of $1,000 or more.

(1) In the case of planned disposal of facilities held by the Bonneville Power Administration, Alaska Power Administration, and the Southwestern Power Administration such approval shall be obtained from the Assistant Secretary—Energy and Minerals.

(2) In the case of planned disposal of facilities held by the Bureau of Reclamation, approval of the Assistant Secretary—Land and Water Resources shall be obtained.

(3) Requests for approval to initiate action to dispose of power transmission facilities shall be accompanied by a complete description of the circumstances which the holding Bureau believes makes such disposal feasible. A copy of each request shall be furnished the Assistant Director for Property Management, Office of Management Services.

Subpart 114-47.3—Surplus Real Property Disposal

Section 114-47.304-8 is revised to read as follows:

§ 114-47.304-8 Report of identical bids.

(a) The reporting requirements specified in FPMR 114-47.304-8 are applicable to all sales of Government-owned property made on a competitive basis whether competition is obtained through sealed bid, negotiation, auction, or spot bid procedures. They apply to:

(1) Program sales made pursuant to special statutes authorizing the Secretary of the Interior to sell specific real properties, and

(2) Sales of surplus real property made pursuant to the provisions of the Federal Property and Administrative Services Act of 1949, as amended.

(b) Reports on identical bids required by this subsection shall be submitted by the heads of Bureaus and Offices directly to the Attorney General in accord with FPMR 101-47.304-8. A copy of the transmittal letter and a copy of the abstract of bids shall be furnished to the Assistant Director for Property Management, Office of Management Services.

[FR Doc.75-13146 Filed 5-19-75;8:45 am]

Title 45—Public Welfare

CHAPTER I—OFFICE OF EDUCATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PART 100a—DIRECT PROJECT GRANT AND CONTRACT PROGRAM

PART 184—ETHNIC HERITAGE STUDIES PROGRAM

Miscellaneous Amendments

Notice of proposed rule making was published in the FEDERAL REGISTER on December 31, 1974 (39 FR 45297), setting forth regulations for the Ethnic Heritage Studies Program (Title IX of the Elementary and Secondary Education Act) as added by section 504 of the Education Amendments of 1972, Pub. L. 92-318 (20 U.S.C. 900 to 900a-5), and amended by section 111 of the Education Amendments of 1974, Pub. L. 93-380.

These proposed rules would replace standards and funding criteria which were published on April 12, 1974 (39 FR 13297) by adding a new Part 184 to the Code of Federal Regulations. This program was administered under the April 12 standards last fiscal year.

The following paragraphs reiterate the fundamental changes between the standards published on April 12, 1974 and the regulations as they will be published in final form.

a. The standards published in April required all authorized activities (curriculum development, dissemination, and training) to be performed by a grant recipient. This may have had the result of unduly restricting entry into the program because some applicants with the ability to perform some activities lacked the capacity to perform all activities. Section 184.11(a) of the rule permits an applicant to qualify for consideration if it can perform at least one of the three activities listed. This change results from a substantive amendment to the Act made by section 111 of Pub. L. 93-380.

b. Previously, the Act required that curriculum materials developed be for use in elementary *and* secondary schools *and* institutions of higher education. The amendment contained in section 111 of Pub. L. 93-380 permits the development of materials for elementary schools, secondary schools, or institutions of higher education, thus allowing a more flexible approach. This change is reflected in § 184.11(a) (i) of the rule.

c. As a result of the 1974 amendments, funding criteria have been added for separate activities (curriculum, dissemination, and training). (see § 184.31(c).)

d. The section on advisory councils (§ 184.12) is essentially in the form set forth in the previous standard, with some drafting and clarifying changes.

Interested parties were invited to submit written comments, suggestions and objections. Below is a summary of the comments received pertaining to the proposed rule and the responses from this Office. All comments received were given careful consideration, but none was sufficiently substantive to merit a change in the proposed rules. Several technical corrections were made in the citations of legal authority under the table of contents and under subpart D, Funding Criteria. Several typographical errors were also corrected.

1. *Comment.* A commenter, an Indian tribe, requested that American Indian tribes be specifically designated as eligible applicants in the regulations.

Response. Title IX acknowledges the importance of the ethnic heritage of all Americans, consequently the scope of the legislative intent encompasses native American tribes and organizations as eligible to the extent that they are nonprofit and have an educational purpose. Section 184.21 states the parties eligible for assisance, as provided by the statute, including nonprofit educational organizations. The nonprofit educational organizations of an Indian tribe would be eligible under this language. This office received applications from several different Indian organizations which were considered in the preceding year.