SUPPLEMENTARY INFORMATION:

BACKGROUND:

On October 18, 1976 (40 FR 48552), and June 5, 1976 (41 FR 19279), EPA promulgated interim final effluent limitations based on the application of "best practicable control technology currently available" (BPT) for 40 CFR Part 436—Mineral Mining and Processing Point Source Category. On June 10, 1976, the Agency also proposed effluent limitations based on the application of "best available technology economically achievable" (BAT) and standards of performance and pretreatment standards for new sources for such standards, then regulations will be proposed for most operations. Consequently, specific limitations for these pollutants are not established at this time. The permit issuing authority could then set specific limitations on such pollutants in a case-by-case basis, if practicable technology were nevertheless shown to be available in the particular instance. Furthermore, the permit must, of course, include any additional limitations on such pollutants which are necessary to meet applicable water quality standards.

A report entitled "Development Document for Interim Final Effluent Limitations Guidelines and New Source Performance Standards for the Mineral Mining and Processing Point Source Category" was issued at the time that the interim final BPT regulations for the four subcategories listed above were published on June 10, 1976. A supplementary report on the possible economic effects of these pollutants to some extent. Existing treatment systems are not generally designed to remove these pollutants, and additional treatment of existing sources for the crushed stone subcategory (Subpart D), the construction sand and gravel subcategory (Subpart C), the industrial sand and subcategory (Subpart D), and the phosphate rock subcategory (Subpart F).

The Agency is not promulgating pre-treatment standards for existing sources or finalizing the pretreatment standards for new sources which were proposed in the June 10, 1976 interim final regulations, and will be applicable to existing point sources for the crushed stone subcategory (Subpart D), the construction sand and gravel subcategory (Subpart C), the industrial sand and subcategory (Subpart D), and the phosphate rock subcategory (Subpart F).

The regulations based upon best available technology economically achievable (BAT) and new source performance standards (NSPS) which were proposed on June 10, 1978 are also not being promulgated at this time because the Agency is currently reviewing the regulatory approach which should be taken in all mining categories with respect to BAT effluent limitations and new source performance standards.

LEGAL AUTHORITY:

These regulations are promulgated pursuant to sections 301(b) and 304(b) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311 (b), 1314(b)); 86 Stat. 116 et seq.; Pub. L. 89-692, 80 Stat. 136 (1966); and 306(b) of the Act (33 U.S.C. 1256(b)) requires the attainment of effluent limitations based on the application of "best practicable control technology currently available" (BPT) for new sources. The regulations also provide, for the promulgation of such effluent limitations and specifies the factors to be taken into account in assessing BPT in compliance with section 301(b) (1).

SUMMARY AND BASIS OF REGULATIONS:

Effluent limitations are established in these regulations for total suspended solids (TSS) and pH. The regulations prescribe discharge of process water pollutants and establishments by existing sources in all four subcategories listed above.

The best practicable control technology currently available for controlling the discharge of process generated waste water pollutants includes recycling of waste water for use in processing. In addition, excess process water and mine water may be treated prior to discharge by settling and, if necessary, occasional use of flocculation. Available technologies are discussed in detail in Appendix A. As in all other mining categories, the limitations for these pollutants are applied on a concentration basis (mg/L) rather than as mass basis (lbs/ton of product) (except for industrial sand operations using hydrogen flotation), because no correlation between waste usage and production can be established. The method of analysis for all parameters shall conform to the methods specified in "Guidelines Establishing Test Procedures for the Analysis of Pollutants," Document 755-2
delivered in 41 FR 52780 (December 1, 1976).

Additional waste water pollutants which may be present in some instances are asbestos fibers, radium, and phosphates. Control of total suspended solids will have the effect of controlling these pollutants, and additional treatment of existing sources for these pollutants will not be practicable for most operations. Furthermore, the permit must, of course, include any additional limitations on such pollutants which are necessary to meet applicable water quality standards.

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water pollution control offices. Copies of both documents are being sent to persons or institutions affected by the final regulations or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21502, August 6, 1973). These documents and the Development Document will be available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Copies of the economic analysis document will be available through the National Technical Information Service, Springfield, Va. 22151.

The technical and economic analyses undertaken in support of these regulations are discussed in detail in Appendix A to this preamble. Significant changes which have been made in the interim final regulations are discussed below under Summary of Major Changes.

**Summary of Public Participation**

At the time that interim final regulations were issued, comments on these regulations were solicited. In addition, a public meeting was held in Washington, D.C. on December 2, 1976, to enable further public participation. A number of comments received following publication of the interim final regulations and further consideration by the Agency, a number of changes are being made in the interim final regulations.

The interim final regulations required no discharge of process generated waste water pollutants by operations in the crushed stone industry, the construction sand and gravel subcategories, and the industrial sand subcategory. This limitation was imposed on the grounds that large numbers of operations currently recycle all water used in processing and have no continuous discharge of process generated waste water pollutants. However, it is apparent that a number of the facilities which currently recycle experience occasional discharges due to natural occurrences, such as rainfall or seepage. Consequently, the regulations have been changed to allow a limited discharge of process generated waste water pollutants from operations which recycle water for processing, although systems which do not recycle process water remain subject to a no discharge requirement. These limitations continue to be based on the Agency's view that the best practicable control technology currently available for these industries includes recycling of process water.

The interim final regulations would have required the crushing of stone to treat mine water and process water in separate treatment systems in order to discharge mine water. Under the new regulations, for the crushed stone, industrial sand, and construction sand and gravel subcategories, a facility which recycles process water may discharge from a treatment system in which process water pollutants are treated and commingled. Facilities which do not recycle process water may not discharge from such a treatment system. Since all discharges from the system are subject to the limitations on process generated waste water pollutants.

The limitations on total suspended solids (TSS) in both mine dewatering and process water discharges have also been changed for the crushed stone, construction sand, and industrial sand and gravel subcategories. The limitations for these subcategories now include an average limitation for thirty consecutive days of 25 mg/l for TSS. The daily maximum limitation has been increased from 30 mg/l to 45 mg/l. These changes were made because data collected since the promulgation of the interim final regulations indicated that the day-to-day variations in discharges from individual facilities were greater than initially found, and because the additional information collected provided the broader data base necessary for formulating more stringent limitations.

The mine dewatering definition for these three subcategories has also been changed. Only water which has collected or been impounded in the mine and is removed through the efforts of the mine operator will be subject to the limitations imposed on mine dewatering discharges. This change clarifies the Agency's intentions regarding discharges of storm water runoff. Discharges due to storm water runoff are subject to the limitations imposed in these regulations for process water or mine water pollutants only if the runoff enters the treatment systems for process water or mine water. Storm water which does not enter a treatment system in which process water or mine water are commingled. The effect of this change is to impose more stringent limitations on process water discharges.

The process water limitations for the phosphate rock subcategory have also been changed. The limitations imposed in these regulations for process water have been increased. The interim final regulations imposed a no discharge requirement on process generated waste water pollutants in ore transport water, pump seal water, air scrubber water and ore wash water. These types of water can be recycled. Pollutants in waste water from the flotation processes of this industry, by contrast, were not subject to a no discharge requirement because recycling waste water in the flotation circuit causes loss in recovery. The regulations further provided for monitoring of discharges when the various waste water streams were combined. The Agency concluded that these regulations, while reasonable, caused excessively complex enforcement problems. Waste water streams are separated within the plant and cannot be separated without expensive rearrangement of existing piping. Enforcement under the interim final regulations would be difficult even if expansive site visits were carried out unless the waste streams were separated. Consequently, a single set of limitations has been established for all waste streams. The effect of this change is not expected to be significant, since most of the facilities covered are already regulating process water to the extent possible.

The TSS limitations for the phosphate rock subcategory have been revised in the light of comments and additional data received, but they have not been changed. Several commenters suggested that the limitations should be more stringent. It was suggested that data submitted with the comments support more stringent limitations. In the Agency's judgment, more stringent limitations are not warranted. First, the commenters excluded from the data base certain plants with high TSS values in their discharges. The high TSS values were said to be due to algae growth resulting from high phosphorus levels in the plants' intake water. The contamination of the intake water was said to be caused by upstream pollution in the pond. The Agency believes that the quality of river water used for processing will improve as upstream conditions improve, and that the Agency also concluded that the high TSS levels found should be excluded from the data base. The Agency does not agree that the phosphorus levels and the TSS levels in the discharges increase. Volatile suspended solids solids are then processed by the Agency does not agree that the phosphorus levels and the TSS levels in the discharges increase. Volatile suspended solids solids are then processed by

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limitations imposed in their permits. Limitations for phosphate rock operations may therefore need to be reevaluated at a later date under section 303(d) of the Act if TSS discharges are reduced as a result of cleaner intake water.

ECONOMIC ANALYSIS

The capital cost for industry to comply with these regulations is estimated to be approximately $35 million. The annualized cost of compliance (which includes amortization, operating, and maintenance expense) is approximately $10.4 million. No significant economic impacts on the phosphate and industrial sand categories are anticipated. Of the crushed stone industry's 4800 plants, approximately 78 will switch from selling wet processed to dry processed stone, and perhaps 35 small operations in metropolitan areas may close, with an associated loss of 60 jobs. Depending upon local market conditions, prices could remain stable or increase by up to eight percent. For sand and gravel, perhaps 290 operations may close with an attendant loss of up to 86 jobs. Prices may increase about $0.04 per ton (2.5%) in large markets and up to 10 percent in small markets or rural markets. In both the crushed stone and sand and gravel categories, it is expected that more closing of plants in large metropolitan areas and therefore not have significant community effects.

The costs and resultant economic impact of the regulations are more fully discussed in Appendix A to this preamble and are substantially detailed in the economic analysis document. The Environmental Protection Agency has determined that this regulation does not require preparation of an Economic Impact Evaluation (EIIE) pursuant to Executive Order Nos. 11281 and 11289 and OMB Circular A-107. However, the economic analysis prepared in support of this regulation fulfills the requirements set forth in these Executive Orders and Circular A-107.

SMALL BUSINESS ADMINISTRATION LOANS

Section 8 of the FWPCA authorizes the Small Business Administration, through its economic disaster loan program, to make loans to assist any small business concerns in effecting additions to or alterations in their equipment, facilities, or methods of operation so as to meet water pollution control requirements under the FWPCA, if the concern is likely to suffer a substantial economic injury without such assistance.

For further details on this Federal loan program write to EPA, Office of Analysis and Evaluation, WtE-586, 401 M St. SW., Washington, D.C. 20460.

In consideration of the foregoing, 40 CFR Part 438 is hereby amended as set forth below.

DATED: June 27, 1977.

BARBARA BLAKE,
Acting Administrator.

APPENDIX A—TECHNICAL SUMMARY AND BASIS FOR REGULATIONS

This Appendix summarizes the basis of final effluent limitations guidelines for existing sources to be achieved by the application of the best practicable control technology currently employed. The point source category was first studied for the purpose of determining whether separate limitations are required for different segments within the category. This analysis included a determination of whether differences in results were due to product produced, manufacturing process employed, age, size, waste water constituents and other factors requiring development of separate limitations for different segments of the point source category. The results and characteristics for each such segment were then identified. This included an analysis of the source, flow and volume of water used in the process employed, the sources of waste and water in the operation and the constituents of the waste waters which should be subject to effluent limitations were identified. The control and treatment technologies existing within each segment were identified. This included an identification of distinct control and treatment technologies, including both in-plant and end-of-process technologies, which is clear or capable of being designated. It also included an identification of, in terms of the amount of constituents and the chemical, physical, and biological characteristics of the wastewater, the number of pollutants, the effluent level resulting from the application of each of the technologies. The problem was solved proceeding from the top to the bottom of the pollutants, identifying the technologies which, when combined, produce the best practicable control technology currently available for achieving the effluent limitations. Identification of the technologies was based on the relative performance of the technologies, the cost of the technologies (including the costs of capital and the costs of operation and maintenance), the environmental effects of the application of the technologies, and other factors. The cost of each technology and the performance characteristics of the technology were determined, as well as the cost of the application of such technologies.

The information outlined above, was then evaluated in order to determine what levels of technology constitute the "best practicable control technology currently available." In identifying such technologies, several factors were considered. These included the total cost of application of the technology in relation to the effluent reduction benefits to be achieved from such application, the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, the impact on energy and material quality environmental impact (including energy requirements) and other factors. The data upon which the above analysis was performed included EPA NPDES permit applications, EPA sampling and inspections, consultant reports, and industry submissions.

(3) Summary of conclusions with respect to the crushed stone subcategory (Subpart B), the construction sand and gravel subcategory (Subpart C), the industrial sand subcategory (Subpart D) and the phosphate rock subcategory (Subpart H) of the mineral mining and processing point source category.

(I) Categorization. For the purpose of studying waste treatment and establishing effluent limitations guidelines, the standard of performance, the mineral mining and processing category was divided into subcategories. The subcategories consist of specific mineral types or classes of minerals. In addition, within each subcategory a determination was made as to whether required different effluent limitations based on type of ore, method of ore transport, type of processing, use of air emissions control devices, type of product, and ground water intrusion and runoff into the mine and process water impoundments.

(II) Waste characteristics. The known significant pollutants and pollutant properties in the four subcategories covered include pH and total suspended solids. Fluoride is present in the process waste waters of operations in the industrial sand subcategory which use HF flotation. In isolated cases asbestos-forming cement or bark have been used in the sand industry. Fluoride, phosphate and radium 229 exist in the waste waters from the process water impoundments of each subcategory. The quantity of a pollutant charged is either unrelated or only indirectly related to the mine production rate. As in
other mining categories, therefore, effluent limitations are expressed in terms of concentrations based on units of production. (4)

Process generated waste water includes dust suppression water, ore and product wash water, dust, dust recycling water, tailings wash water, heavy media separation, flotation water, solution water, air emissions control spray water, and water used for wash down water. Where production could be related to process water flow, the effluent limitations are tied to the unit of process. In cases where uncontrolled volumes of water, such as mine dewatering, are normally mixed with process water or in cases where process water flow cannot be related to the rate of production, the effluent limitations for process waste water are expressed in terms of concentrations.

(iv) Treatment and control technology. Where waste treatment and control technologies have been studied for each subcategory of the industry to determine what is the best practicable control technology currently available. The following discussion of treatment technology provides the basis for the effluent limitations guidelines. This discussion does not preclude the selection of other waste water treatment alternatives which provide equivalent or better levels of treatment.

The Treatment for the crushed stone subcategory. Dry processing plants will usually have no discharge of process generated waste water, such as dust suppression water, ore and product wash water. When this is not the case, this water may be used, such as for dust suppression. Water from processing plants is usually used to wash the stone and confine dust from the operation. After settling, a settling pond, is usually of sufficient quality that it can be recycled directly to the process without further treatment. More impounding water is required to be returned to the ponds untreated to maintain the water level. Discharges from these ponds must be navigable water as defined by the regulations. Discharges from these ponds due to sub-surface ground water intrusion are considered to be process waste water.

For dredging operations in navigable waters, slurry water pumped ashore is not considered waste water unless slurry is generated as a separate operation. Discharges to navigable waters should be limited to the volume of water that can be recycled directly to the process without further treatment. The intermittent use of flocculants is a possible alternative. Treatment of mine water in a common treatment system with process water is another means of treatment. Recycle process water from a common treatment system must be practiced in order to discharge from this combined treatment system. The process water discharge limitations would then apply to the waste water discharged.

(2) Treatment for the construction sand and gravel subcategory. At wet processes, excess waste water from wash towers, dust suppression, heavy media separation and classification may be treated and discharged. Treatment for the crushed stone subcategory resembles the construction sand and gravel subcategory, as in the crushed stone subcategory, parties are continuing to use their ponds be-cause the standards all of the time can upgrade their treatment systems by various methods. A number of poor practices were observed during the study of this subcategory. Some plants are continuing to use their ponds beyond their efficient life. These operations should construct new treatment ponds. One plant observed to be furthest from the pond walls and excessive aquatic growth. A number of poor practices were observed during the study of this subcategory. Some plants are continuing to use their ponds beyond their efficient life. These operations should construct new treatment ponds. One plant observed to be furthest from the pond walls and excessive aquatic growth. Limited data were available for the phosphate rock subcategory. Therefore, this process will not be nationally regulated at this time.

Industrial sand and mines are identical to sand and gravel mines and the same being available for the phosphate rock subcategory limitations apply.

(4) Treatment for the phosphate rock subcategory. Industrial sand and gravel plants are designed to specifically remove these pollutants. The additional treatment of these pollutants to reduce phosphate concentrations, below certain levels, is not judged to be practicable for most operations. However, control of total suspended solids does effect control of phosphates. In the phosphate rock subcategory, phosphates for the reasons set forth under Summary of Major Changes, the present regulations do not specify effluent limitations. The intermittent use of flocculants is a possible alternative. Treatment of mine water in a common treatment system with process water is another means of treatment. Recycle process water from a common treatment system must be practiced in order to discharge from this combined treatment system. The process water discharge limitations would then apply to the waste water discharged.

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is that treatment systems be designed, constructed and maintained to control the discharge of process generated wastewater pollutants because this requirement effectively prevents the discharge of process wastewater which is combined in a common treatment system with process water. One commenter stated that the cost for separating rather than combining the two water sources would be substantial. As explained under Summary of Major Changes, the regulation now allows a treated discharge of process generated wastewater to be recycled from the treatment system for use as process water. Since the discharge recycling system is subject to the process water limitations, discharge of commingled process and recycled water is not permitted. If the primary treatment system is not practiced, no discharge limitation would apply to process water.
other waste waters that are combined with process water.

Some commenters within the crushed stone industry questioned the limitations for mine dewatering. Some commenters suggested that the cost of disposing of about 30 percent or 50 percent of the water produced each month might be justified and that there might be some beneficial effect of limestone solids that might be beneficial to the environment. The Agency stated that any overflow from the treatment system should be revised to reflect the need for occasional discharges when the recycling of process water is impractical. As indicated in the proposed regulations, the discharge of process water should be reexamined on an annual basis to determine if the discharge is necessary or if an alternative process is available.

4. Several commenters questioned the cost of treating mine dewatering water. The commenters suggested that the cost of limestone solids in the mine dewatering water may be significant. However, the mine dewatering water is generally not of this nature. The commenters concluded that the beneficial effect of limestone solids in the mine dewatering water may not be significant.

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6. Several commenters questioned the proposed limitations for mine dewatering. Some commenters stated that the proposed limitations for mine dewatering are unreasonable. One commenter stated that the proposed limitations for mine dewatering are unreasonable. The commenters suggested that the limitations for mine dewatering are unreasonable and that the beneficial effect of limestone solids in the mine dewatering water may not be significant.

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during the study an attempt was made to obtain data and information on as many small quarries as possible. Small producers, (less than 25,000 tons/year) were found to have small shallow quarries which are not easily accessible. The small quarries may not have the necessary equipment to pump water. Process plants using water typically construct a temporary settling pond to handle the process water to prevent water from going to a large deep quarries.

10. One commenter stated that the costs of constructing settling ponds for treating granite fines are much greater than for treating limestone fines, but did not indicate why. These costs were found to be somewhat different, necessitating a larger settling pond for granite fines than for limestone fines. During the study an attempt was made to clarify the process water definition. One commentator stated that the treatment system on which the discharge is based will not be established at this time.

The acid leaching process in the industrial sand industry was not studied during the development of these regulations. The acid leaching process as part of the industrial sand industry was not initially included in the study to determine the process water definition. Information and some data have now been made available to the Agency on three plants which use the process. The cost figures for the industry were based on 25,000 tons/year. More data is needed to develop an acid leaching process in the industrial sand industry. Therefore national limitations could not be established for this process at this time.

11. One commenter stated that the higher costs of disposal ponds for treating granite fines are much greater than for treating limestone fines, but did not indicate why. These costs were found to be somewhat different, necessitating a larger settling pond for granite fines than for limestone fines. During the study an attempt was made to clarify the process water definition. One commentator stated that the treatment system on which the discharge is based will not be established at this time.

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14. One commenter requested that the regulations provide for a blowdown where problems occur due to a buildup of fines or dissolved solids. A blowdown of dissolved solids because of a buildup of these solids in the process water will be allowed provided recycle of waste water to the process is practiced and this discharge is treated to the specified limitations. The difficulty in recycling and the usefulness of dissolved solids build up was not found to be a problem in this study.

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Non-contact cooling water is not included in the process water definition and will not be nationally regulated.

15. One commenter requested that the regulations provide for a blowdown where problems occur due to a buildup of fines or dissolved solids. A blowdown of dissolved solids because of a buildup of these solids in the process water will be allowed provided recycle of waste water to the process is practiced and this discharge is treated to the specified limitations. The difficulty in recycling and the usefulness of dissolved solids build up was not found to be a problem in this study.
In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors such as: age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs, except that on-board processing of dredged sand and gravel which is subject to the provisions of 33 CFR Part 230 and Part 290 of this chapter will not be covered by the provisions of this subpart.

§ 436.30 Applicability; description of the construction sand and gravel subcategory.

The provisions of this subpart are applicable to the mining and the processing of sand and gravel for construction or fill uses, except that on-board processing of dredged sand and gravel which is subject to the provisions of 33 CFR Part 230 and Part 290 of this chapter will not be governed by the provisions of this subpart.

§ 436.31 Specialized definitions.

For the purpose of this subpart:
(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in Part 401 of this chapter shall apply to this subpart.
(b) The term "mine dewatering" shall mean any water that is mined for the production of sand and gravel, which is subject to the provisions of 33 CFR Part 230 and Part 290 of this chapter.
(c) The term "10-year 24 hour precipitation event" shall mean the maximum 24 hour precipitation event with a probability of occurrence of once in 10 years.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors such as: age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs, except that on-board processing of dredged sand and gravel which is subject to the provisions of 33 CFR Part 230 and Part 290 of this chapter will not be governed by the provisions of this subpart.

(a) Subject to the provisions of paragraph (b) and (c) of this section, the following limitations establish the quantity or quality of pollutants or pollutant categories to which such discharges are subject. Such limitations must be approved or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.
(b) Except as provided for in paragraphs (d) (1) of this section, there shall be no discharge of process generated waste water pollutants into navigable waters.

(2) Mine dewatering discharges shall not exceed the following limitations:

<table>
<thead>
<tr>
<th>Effluent characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSS</td>
<td>55 mg/l</td>
<td>25 mg/l</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 6.0</td>
<td>6.0</td>
</tr>
</tbody>
</table>

(3) Mine dewatering discharges shall not exceed the following limitations:

<table>
<thead>
<tr>
<th>Effluent characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSS</td>
<td>45 mg/l</td>
<td>25 mg/l</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 6.0</td>
<td>6.0</td>
</tr>
</tbody>
</table>

(b) Any overflow from facilities governed by this subpart shall not be subject to the limitations of paragraph (a) of this section if the facilities are designed, constructed and maintained to contain or treat the volume of waste water which would result from a 10-year 24-hour precipitation event.

(c) In the case of a discharge into receiving waters for which the pH, if unaltered by man's activities, is or would be less than 6.0 and water quality criteria for dissolved oxygen and temperature, if applicable, are specified for the receiving waters, the Regional Administrator may issue a permit for a discharge of such waters to the receiving waters.

Subpart C—Construction Sand and Gravel Subcategory.

The term "mine dewatering" shall mean any water that is mined for the production of sand and gravel, which is subject to the provisions of 33 CFR Part 230 and Part 290 of this chapter.

The term "10-year 24 hour precipitation event" shall mean the maximum 24 hour precipitation event with a probability of occurrence of once in 10 years. This information is available in "Weather Bureau Technical Paper No. 49," May 1961 and "NOAA Atlas 2," 1973 for the 11 Western States, and may be obtained from the National Climate Center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

The term "mine" shall mean an area of land, surfaced or submerged, actively mined for the production of sand and gravel from natural deposits.

The term "comminuted waste water" shall mean any waste water used in the slurry transport of mined material, air emissions control, or processing exclusive of mining. The term shall also include any other water which becomes commingled with such waste water in a pit, pond, lagoon, or other facility used for treatment of such waste water. The term does not include waste water used for the suction dredging of deposits in a body of water and returned directly to the body of waste without being used for other purposes or combined with other waste water.

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

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors such as: age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs, except that on-board processing of dredged sand and gravel which is subject to the provisions of 33 CFR Part 230 and Part 290 of this chapter will not be governed by the provisions of this subpart.
pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

(1) Discharges of process generated waste water pollutants from facilities that recyle waste water for use in processing shall not exceed the following limitations:

<table>
<thead>
<tr>
<th>Effluent characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>6.0 to 9.0</td>
<td></td>
</tr>
<tr>
<td>TSS</td>
<td>25 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 mg/L</td>
<td></td>
</tr>
</tbody>
</table>

(2) Except as provided for in paragraph (a)(1) of this section, there shall be no discharge for which the pH, if not altered by man's activities, is or would be less than 6.0 and water quality criteria in water quality standards approved under the Act authorize such lower pH, the pH limitation for such discharge may be adjusted downward to the pH water quality criterion for the receiving waters. In no case shall a pH limitation outside the range 5.0 to 9.0 be permitted.

Subpart D—Industrial Sand Subcategory
§ 436.40 Applicability; description of the industrial sand subcategory.

The provisions of this subpart are applicable to the mining and the processing of sand and gravel for uses other than construction and fill. These uses include, but are not limited to, glassmaking, molding, abrasives, filtration, refractories, and refractory bonding.

§ 436.41 Specialized definitions.

For the purpose of this subpart:
(a) Except as provided below, the general definitions, abbreviations, and methods of analysis set forth in Part 401 of this chapter shall apply to this subpart.
(b) The term "mine dewatering" shall mean any water that is impounded or that collects in the mine and is pumped, drained, or otherwise removed from the mine through the efforts of the mine operator. This term shall also include wet pit overflows caused solely by direct rainfall and ground water seepage. However, if a mine is also used for the treatment of process generated waste water, discharges of commingled water from the mine shall be deemed discharges of process generated waste water. The term "10-year 24-hour precipitation event" shall mean the maximum 24-hour precipitation event with a probably re-occurrence interval of once in 10 years. This information is available in "Weather Bureau Technical Paper No. 49," May 1961 and "NOAA Atlas 2," 1973 for the 11 Western States, and may be obtained from the National Climatic Center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

§ 436.42 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available. In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which may affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator for or to the State, if the State has the authority to issue NPDES permits, that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence and other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) Subject to the provisions of paragraphs (b) and (c) of this section, the following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart with the exception of operations using acid leaching, after application of the best practicable control technology currently available:

(1) With the exception of operation using HF flotation, discharges of process generated waste water pollutants from facilities that recyle waste water, for use in processing shall not exceed the following limitations:

<table>
<thead>
<tr>
<th>Effluent characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>6.0 to 9.0</td>
<td></td>
</tr>
<tr>
<td>TSS</td>
<td>25 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 mg/L</td>
<td></td>
</tr>
</tbody>
</table>

(2) Except as provided in paragraphs (a)(1) and (b) of this section there shall be no discharge of process generated waste water pollutants into navigable waters.

§ 436.43 Discharges of process generated waste water from facilities employing HF flotation shall not exceed the following limitations:

<table>
<thead>
<tr>
<th>Effluent characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>6.0 to 9.0</td>
<td></td>
</tr>
<tr>
<td>TSS</td>
<td>25 mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 mg/L</td>
<td></td>
</tr>
</tbody>
</table>

(4) Mine dewatering discharges shall not exceed the following limitations:
§ 436.182 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategory and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) Subject to the provisions of paragraph (b) of this section, the following limitations establish the quantity or characteristic Maximum for values for the phosphate content:

Paragraph

(a)

(b)

(c)

(d)

(e)

(f)

(g)

(h)

(i)

(j)

(k)

(l)

(m)

(n)

(o)

(p)

(q)

(r)

(s)

(t)

(u)

(v)

(w)

(x)

(y)

(z)