controlled by this section which may be introduced into a publicly owned treatment works by a source subject to the provisions of this subpart.

(1) For plants discharging less than 40,000 gallons per day of electroplating process waste water the following limitations shall apply:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
	Milligrams per liter	
CN, A	0.20	0.03

(2) For plants discharging 40,000 gallons per day or more of electroplating process waste water the following limitations shall apply:

Pollutant or pollutant property	Pretreatment standard: Maximum for any 1 day	Pretreatment standard: Average of daily values for 30 consecutive days shall not exceed—
	Milligrams per liter	
CN, A	0.20	0.03
CN, T	0.64	0.24
Cr, VI	0.25	0.09
pH	Within the range 7.5 to 10.0.	

[FR Doc.77-19823 Filed 7-11-77;8:45 am]

[FRL 755-2]

PART 436—MINERAL MINING AND PROCESSING POINT SOURCE CATEGORY

Final Rule Making

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: These regulations limit the discharge of pollutants into navigable waters from existing crushed stone, construction sand and gravel, industrial sand, phosphate rock and mining operations. The Federal Water Pollution Control Act requires these regulations to be issued. These limitations will be incorporated in National Pollutant Discharge Elimination System (NPDES) permits issued by the Federal EPA or by States with approved programs. The effect of these regulations will be to require treatment of waste water discharged from the above types of operations in the mineral mining industry.

EFFECTIVE DATE: August 11, 1977.

FOR FURTHER INFORMATION CONTACT:

Harold B. Coughlin, Effluent Guidelines Division (WH-552), Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460, 202-426-2560.

SUPPLEMENTARY INFORMATION:

BACKGROUND

On October 16, 1975 (40 FR 48652), and June 10, 1976 (41 FR 23552), 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 (41 FR 23561). The final regulations set forth below amend the June 10, 1976 interim final regulations, and will be applicable to existing point sources for 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 R).

The Agency is not promulgating pretreatment standards for existing sources or finalizing the pretreatment standards for new sources which were proposed in the June 10, 1976 interim final regulations because there are no known situations in which such standards would be applicable. Should information become available which indicates there is a need for such standards, then regulations will be issued. The regulations based upon best available technology economically achievable (BAT) and new source performance standards (NSPS) which were proposed on June 10, 1976 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. 816 et seq.; Pub. L. 92-500) (the Act). Section 301(b)(1) requires the attainment of effluent limitations based on the application of "best practicable control technology currently available" (BPT) by July 1, 1977. Section 304(b)(1) provides 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 govern discharges of process generated waste water pollutants and discharges of mine dewatering pollutants 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 recycle of waste water for use in processing. In addition, excess process water and mine water can 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 four subcategories are applied on a concentration basis (mg/l) rather than a mass basis (lbs/ton of product) (except for industrial sand operations using hydrogen flotation), because no correlation between water usage and production can be established. The method of analyses for all parameters shall conform to the methods specified in "Guidelines Establishing Test Procedures for the Analysis of Pollutants," 40 CFR Part 136, published in 41 FR 52780 (December 1, 1976).

Additional waste water pollutants which may be present in some instances are asbestos fibers, radium 226, and phosphates. Control of total suspended solids will have the effect of controlling these pollutants to some extent. Existing treatment systems are not generally designed to specifically remove these pollutants, and additional treatment of these pollutants will not be practicable for most operations. Consequently, specific limitations for these pollutants are not established at this time. The permit issuing authority could, however, impose specific limitations on such pollutants on 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 the regulations was also issued at that time. Comments on both reports were solicited by the Agency.

After the interim regulations were issued, the Agency collected and analyzed additional data on the four subcategories which are subject to these final regulations. A report entitled "Development Document for Final Effluent Limitations Guidelines and New Source Performance Standards for the Mineral Mining and Processing Point Source Category" details the analyses undertaken in support of the final regulation set forth here. A supplementary analysis on the possible economic effects of the final regulations has also been prepared. Copies of both reports are available for inspection at the EPA Public Information Reference Unit, Room 2922 (EPA Library), Waterside Mall, 401 M St., SW., Washington, D.C., at all EPA regional offices, and at State

water pollution control offices. Copies of both documents are being sent to persons or institutions affected by the final regulation or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21202, August 6, 1973). Further copies of 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, public comment on the regulations was solicited. In addition, a public meeting was held in Washington, D.C. on December 2, 1976, to enable further public participation. As a result of comments received following publication of the interim final regulations and further consideration by the Agency, the limitations originally established have been reevaluated. A summary of public participation in this rulemaking, public comments, and the Agency's consideration and response is contained in Appendix B of this preamble.

SUMMARY OF MAJOR CHANGES

As a result of the comments and information which were received following promulgation of the interim final regulations, and as a result of additional study 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 subcategory, the construction sand and gravel subcategory, 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 will 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 crushed stone industry 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 and mine water are commingled. Facilities which do not recycle process water may not discharge from such a combined 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 gravel, and industrial sand 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 additional data collected since the promulgation of the interim final regulations indicated that the day-to-day variations in discharges from individual operations were greater than initially found, and because the additional information collected provided the broader data base necessary for formulating a monthly average limitation.

The mine dewatering definition for these three subcategories has also been changed to indicate that 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 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 is not covered by this regulation. Storm water can be kept out of treatment systems by use of berms or storm water diversion ditching.

The process water limitations for the phosphate rock subcategory have also been changed. 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 commingled. The Agency concluded that these regulations, while reasonable, created excessively complex enforcement problems. Waste water streams are often combined within the plant and cannot be separated without expensive rearrangement of existing piping. Enforcement under the interim final regulations would be difficult even if extensive site visits were carried out unless the waste streams were separated. Consequently, a single set of limitations has been imposed in the final regulation for all waste streams. The effect of this change is not expected to be significant, since most of the facilities covered are already recycling process water to the extent possible.

The TSS limitations for the phosphate rock subcategory have been reevaluated 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 fertilizer-chemical plants. The Agency does not agree that the high TSS levels found should be excluded from the data base on the grounds suggested. Many plants experience high rates of algae growth in their settling ponds either because of the nature of the intake water, or for other reasons, such as the presence of nitrogen in the waste water (ammonia is used as a processing reagent), the warm temperatures in southern regions, or the shallowness of the pond. The age of the pond also appears to be an important factor. While new treatment ponds in this industry experience relatively low algae growth, they gradually become eutrophic, and the TSS levels in the discharges increase. Volatile suspended solids then comprise the majority of the TSS discharged, as many of the samples which were taken indicate. Consequently, the Agency feels that the operations excluded by the commenters from the data base should be considered in assessing BPT and in effluent limitations that can be attained by using such technology.

Secondly, the Agency believes that more stringent limitations would force many of the plants in this industry to use groundwater rather than surface water for processing in order to prevent algae growth in the treatment system that is caused by upstream contamination of intake water. The commenters have failed to address the serious groundwater depletion problems in the part of Florida where most of the mines are located, and which would be seriously aggravated if more stringent limitations on TSS were imposed on the industry. At the present time, therefore, the Agency does not believe that the costs to this industry of converting to alternative water sources would be justified, particularly in the light of the environmental harm that would be caused by further depletion of groundwater. However, the Agency also believes that the quality of river water used for processing will improve as upstream chemical plants achieve effluent

limitations imposed in their permits. Limitations for phosphate rock operations may therefore need to be reevaluated at a later date under section 301(d) of the Act if TSS discharges are reduced as a result of cleaner intake water.

ECONOMIC ANALYSES

The capital cost for industry to comply with these regulations is estimated to be approximately $25 million. The annualized cost of complying (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 26 out of 5150 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 by up to 10 percent in small metropolitan or rural markets. In both the crushed stone and sand and gravel categories, it is expected that more closures would occur in large metropolitan areas and therefore not have significant community effects.

The costs and resultant economic impacts 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 Analysis under Executive Orders 11821 and 11949 and OMB Circular A-107. However, the economic analysis prepared in support of this regulation fulfills the requirements of 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, WH-586, 401 M St. SW., Washington, D.C. 20460.

In consideration of the foregoing, 40 CFR Part 436 is hereby amended as set forth below.

Dated: June 27, 1977.

BARBARA BLUM,
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 available.

(1) *General methodology.* The effluent limitations guidelines set forth herein were developed in the following manner: The point source category was first studied for the purpose of determining whether separate limitations are appropriate for different segments within the category. This analysis included a determination of whether differences in raw material used, product produced, manufacturing process employed, age, size, waste water constituents and other factors require development of separate limitations for different segments of the point source category. The raw waste 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 waste waters in the operation and the constituents of all waste water. 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 each distinct control and treatment technology, including both in-plant and end-of-process technologies, which is existent or capable of being designed for each segment. It also included an identification of, in terms of the amount of constituents and the chemical, physical, and biological characteristics of pollutants, the effluent level resulting from the application of each of the technologies. The problems, limitations and reliability of each treatment and control technology were also identified. In addition, the nonwater quality environmental impact, such as the effects of the application of such technologies upon other pollution problems, including air, solid waste, noise and radiation, were identified. The energy requirements of each control and treatment technology were determined, as well as the cost of the application of such technologies.

The information, as 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, various 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, process changes, nonwater quality environmental impact (including energy requirements) and other factors.

The data upon which the above analysis was performed included EPA NPDES permit applications, EPA NPDES permits, EPA sampling and inspections, consultant reports, and industry submissions.

(2) 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 R) of the mineral mining and processing point source category.

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

For the four commodities affected by the present regulations, crushed stone; construction sand and gravel, industrial sand, and phosphate rock, the processing techniques were sufficiently different to form four separate subcategories. Within each subcategory consideration was given to each of the types of discharges given in the following list.

Crushed stone: dry processing discharges, wet processing discharges, flotation processing discharges, mine dewatering discharges, area runoff (point source) discharges.

Construction sand and gravel: dry processing discharges; wet processing discharges; dredging with land processing, dredging water discharges, other process water discharges; mine dewatering discharges; area runoff (point source) discharges.

Industrial sand: dry processing discharges; wet processing discharges; acid and alkali flotation discharges, acid leaching discharges, hydrofluoric acid (HF) flotation discharges; other process water discharges; mine dewatering discharges; area runoff (point source) discharges.

Phosphate rock; flotation processing discharges, other processing discharges, mine dewatering discharges, area runoff (point source) discharges

Upon completion of the technical and economic analysis, it was concluded that several types of process waste water discharges within three subcategories should be governed by a single set of limitations in light of the feasibility of achieving the same levels of pollutants in the discharges. Hence, discharges from dry, wet, and flotation processing of construction sand and gravel are subject to the same set of limitations. Discharges from dry and wet processing of construction sand and gravel are similarly subject to the same set of limitations. Discharges from dry, wet, and acid and alkali flotation processing of industrial sand are also subject to the same limitations. However, it was concluded that discharges from acid leaching and HF flotation in the industrial sand subcategory should be considered separately due to differences in the nature of the discharge. Separate limitations on process generated waste water pollutants are established for operations using HF flotation, but no national limitations are established at this time for operations using acid leaching, due to lack of adequate data.

Dredge water discharges from land-based construction sand and gravel process plants are not regulated at this time. Dredging and on-board processing in navigable waters are regulated by the Corps of Engineers pursuant to section 404 of the Act and are not subject to these regulations. Point source discharges of area runoff are likewise not covered in this regulation unless the runoff enters process or mine dewatering waste 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-form pollutants have been found in the crushed stone industry. Fluoride, phosphate and radium 226 exist in the waste waters from the phosphate rock subcategory.

(iii) *Origin of waste water pollutants.* The sources of mine dewatering pollutants include surface runoff of rain water into the mine and mine water treatment systems, ground water seepage and infiltration into the mine. The quantity of mine water discharged 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 concentration rather than units of production.

Process generated waste water includes ore transport water, ore and product wash water, dust suppression water, classification water, heavy media separation water, flotation water, solution water, air emissions control equipment water, and floor and equipment wash down water. Where production could be related to process water flow, the effluent limitations are tied to the units of production. 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 concentration.

(iv) *Treatment and control technology.* Waste water 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.

(1) *Treatment for the crushed stone subcategory.* Dry processing plants will usually have no discharge of process generated waste water, although water may be used, such as for dust suppression. Water at wet processing plants is used to wash the stone and control dust. The waste water, if clarified in a settling pond, is usually of sufficient quality that it can be recirculated directly to the process, and no discharge will be necessary unless water from other sources enters the treatment system. Similarly, at facilities that use flotation, for instance, to obtain calcite, the waste flotation water can be used to wash the stone. Excess waste water from the treatment impoundment may result from precipitation or from surface runoff or because the mine water and process water are combined for treatment in one common treatment system. Waste water from these processes of the crushed stone industry in excess of that amount of water which is recycled for process water purposes may be treated and discharged. Treatment for this excess waste water consists of settling in one or more settling ponds, and possible use of flocculants. A series of ponds is recommended in order to improve the settling efficiency and allow for dredging of the primary pond without having to discontinue recycle. The use of flocculants in the secondary ponds is sometimes practiced. For land-based processors, particularly small plants, treatment other than single settling ponds followed by recycle may not be an economically viable technology. The limitations, therefore, are based on this technology. (Level C in the Development Document.)

Due to the nature of the hard rock mined in crushed stone quarries, water that collects on the quarry floor is quite clear. This water can originate from direct rainfall or ground water seepage into the quarry. It is poor practice to allow surface runoff to enter the quarry, and diversion ditches or berms can prevent this. Quarry water is collected in a low spot or sump, which is rarely designed to efficiently remove suspended solids. From this sump quarry water is pumped to the surface and discharged. This water is typically of excellent purity unless poor practices are followed, such as positioning the pump near the sump influent, or allowing mine vehicles to drive through flooded areas.

Based on the available data on quarries, the Agency has established TSS limitations of 45 mg/l daily maximum and 25 mg/l monthly average. In instances where the mine water quality does not already meet these limitations, better water handling practices can be instituted. The sump pump can be positioned opposite the sump influent. Pumping may be temporarily stopped to allow the water to clear. In some cases a settling pond at ground level can be built to provide additional settling time 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 of process water from a combined 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.* Water at wet processing plants is used for ore washing, dust suppression, heavy media separation and classification. As in the crushed stone subcategory, process waste water can be recycled after clarification in settling ponds. Waste water in excess of that amount of water which is recycled for process water purposes may be treated and discharged.

In dredged ponds that are not navigable waters, process waste water is almost always returned to the ponds untreated to maintain the water level. Discharges from these ponds to navigable waters do not normally occur. Discharges from these ponds due to subsurface ground water intrusion are considered to be mine dewatering.

For dredging operations in navigable waters, slurry water pumped ashore is not regulated at this time. Few facilities operate in this mode. Land-based processing facilities that do not slurry-transport from the dredge can recycle process waste water as do other land-based non-dredge operations.

The discussion of methods for controlling the discharge of process generated waste water pollutants set forth above in reference to the crushed stone subcategory also applies to the construction sand and gravel subcategory. The limitations on mine dewatering can be met by the use of well designed and operated settling ponds. Intermittent use of flocculants may be necessary in a few cases. If recycle of process waste water is practiced, mine water may be combined with process water in a common treatment system. The subsequent discharge would be subject to the limitations on process generated waste water pollutants.

(3) *Treatment for the industrial sand subcategory.* This subcategory resembles the construction sand and gravel subcategory except that additional beneficiation is done. The same technologies for recycling and settling are used in this subcategory as in the construction sand and gravel subcategory, and the same discussion applies here. Certain operations require fresh water make-up, but the excess is usually lost through evaporation, product drying and sludge disposal. Excess water that cannot be recycled may be treated and discharged. Treatment of this waste water would usually consist of settling in ponds and possible use of flocculants. Clarifiers are used at some locations to increase settling efficiency and to minimize the treatment area. However, this latter technology is not economically feasible for many plants. Therefore the limitations are based on the technology of settling and recycle (Level B in the Development Document).

Sludge disposal can present problems if a watershed is dammed and an excess of runoff enters the sludge pond. This runoff can be diverted around the impoundment and the supernatant pond water returned to the process water system.

There is one plant that uses hydrofluoric acid in the flotation circuit. At the present time this facility is able to recycle about 90 percent of its process waste water. Total recycle is claimed to hinder the HF flotation of feldspar. The daily maximum for total suspended solids was based on data supplied by the plant.

Limited data were available for the acid leaching process; therefore, this process will not be nationally regulated at this time.

Industrial sand mines are identical to sand and gravel mines and the same reasoning for the mine dewatering limitations applies.

(4) *Treatment for the phosphate rock subcategory.* Control of discharges of process generated waste water pollutants and mine dewatering pollutants can be achieved through settling in ponds. Recycling of water for processing is also possible. While facilities that practice flotation with amines, fatty acids and other reagents can practice only partial recycle because concentrations of impurities which interfere with processing build up in a total recirculation system, facilities that do not use flotation to process the ore, and non-flotation unit operations within flotation plants, are able to use recycled waste water without using fresh make up water.

The present regulations limit TSS and pH. Radium 226, phosphate, and fluoride are also present in the waste water, but existing treatment systems are generally not designed to specifically remove these pollutants, and additional treatment of these pollutants to concentrations below present levels is not judged to be practicable for most operations. However, control of total suspended solids does effect control of radium 226 and phosphates. For the reasons set forth under Summary of Major Changes, the present regulations do not specifically reflect the ability of most operations to achieve partial or total recycle of process water. However, most operations are already recycling process water to the extent possible, particularly since recycling helps to minimize the ground water depletion problems in parts of Florida where many of the operations are located.

A statistical analysis of the long term effluent data from several facilities shows that a total suspended solids concentration of 30 mg/l can be met as a maximum monthly average and 60 mg/l as a daily maximum. As noted in the Development Document, several plants are meeting these limitations. Those plants that do not achieve 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 was observed to be fertilizing the inner pond walls and excessive aquatic growth apparently resulted which increased the total suspended solids level. Such fertilization should be stopped. Earthen ditches are frequently used to convey the pond overflow to the discharge point, and excessive flow rates through these ditches were observed to result in erosion to the walls. Larger channels with well compacted walls or concrete or pipe conveyances would minimize this problem. The use of wooden boards in overflow towers can result in significant leaks between the boards from sub-surface levels of water in the impoundments which have higher levels of suspended solids.

(5) *Overflow exemption.* In all four subcategories, an allowance has been made for the type of unregulated discharge from treatment facilities which would be caused by abnormal precipitation events. The best practicable control technology currently available

is that treatment systems be designed, constructed and maintained to contain or treat the volume of waste water which would result from a 10-year 24-hour precipitation event. If treatment systems are properly designed, constructed, and maintained to handle the larger amounts of water entering the system during such an event, then any overflow which occurs is exempt from the applicable limitations.

(v) *Cost estimates for control of waste water pollutants.* The costs estimated to result from the promulgated regulations are listed below.

Subcategory	Capital costs	Annual costs
Crushed stone	$13,531,000	$6,941,000
Construction sand and gravel	7,460,000	2,283,000
Industrial sand	644,000	169,000
Phosphate rock	3,340,000	1,056,000
Total	24,975,000	10,449,000

(vi) *Energy requirements and nonwater quality environmental impacts.* The additional energy requirements are estimated as follows:

Mineral:	*Million kilowatt per year hours*
Crushed stone	140
Construction sand and gravel	22.7
Industrial sand	8
Phosphate rock	42.3
Total	213.0

These figures are overstated since the savings in not pumping as much fresh water as make-up were not subtracted

The regulations will increase the amount of solid wastes. However, most of the solid wastes in these four subcategories are inert solids. No significant sludge disposal problems are anticipated.

(vii) *Economic impact analysis.* The impact of these regulations on phosphate mining and processing are not expected to be significant. Prices may increase about $0.11 per ton, or less than 1 percent over mid-1974 levels of $12.10 per ton. No plants are expected to close, and the effects on the balance of trade will be minimal.

Depending upon local market conditions, prices for crushed stone could increase up to eight percent. However, only about 18 percent of production would be subject to price increases. Approximately 78 out of the 4800 crushed stone facilities will switch from producing both wet and dry processed stone to only dry process production. A maximum of 35 small facilities accounting for 0.1 percent of the national production and located in metropolitan market areas may close, with an associated loss of 60 jobs. Because these closures are expected to occur in scattered metropolitan areas, no community impacts are anticipated.

The economic analysis of the sand and gravel industry indicated that the only technology which is economically viable is a settling pond with recycle. More extensive treatment, which involves additional ponds or flocculation, may be feasible for some plants but is considered to be economically impractical in general. In particular, plants which have no treatment at present and are in a large metropolitan market will be unable to install treatment in addition to settling and recycle. Therefore, the BPT limitations are based on a technology of settling and recycle. The price of sand and gravel may increase from between $0.04 to $0.20 per ton in small cities or rural areas. Up to 26 plants in major metropolitan areas which have to absorb control costs may close. These plants represent a total of 0.3 percent of the present national production and are a very small proportion of the 5,150 operations in the industry. The closures could result in the loss of work for up to 86 persons, but are not expected to affect local economies.

The price of industrial sand is expected to increase less than 1 percent over present levels of about $5 to $7 per ton. Settling with recycle is the technology on which the best practicable technology guidelines are based. Based upon this technology, no closures are predicted, and local economies, employment, industry growth and the balance of trade will not be significantly affected. Although mechanical thickening is judged to be a technically possible alternative, it is one which will not be economically feasible for most plants and so is not a technology upon which these regulations are based.

Appendix B—Summary of Public Participation

Prior to this publication, many agencies and groups listed below were consulted and given an opportunity to participate in the development of effluent limitations, guidelines and standards proposed for the mineral mining and processing category. All participating agencies have been informed of project developments. An initial draft of the Development Document was sent to all participants and comments were solicited on that report. A revised copy of the above report entitled "Development Document for Interim Final Effluent Limitations Guidelines and New Source Performance Standards for the Mineral Mining and Processing Industry Point Source Category" (June 1976) was also distributed for comments. The Interim Final regulations were published in the Federal Register on June 10, 1976. In addition to the comments received on the above documents, a public comment meeting was held on December 2, 1976, in Washington, D.C. The following are the principal agencies and groups consulted: (1) Effluent Standards and Water Quality Information Advisory Committee (established under section 515 of the Act); (2) all State and U.S. Territory Pollution Control Agencies; (3) the Ohio River Valley Sanitation Commission; (4) the Delaware River Basin Commission; (5) the New England Interstate Water Pollution Control Commission; (6) U.S. Department of Commerce; (7) U.S. Department of the Interior; (8) U.S. Department of Defense; (9) U.S. Department of Agriculture; (10) U.S. Department of Transportation; (11) U.S. Department of Health, Education and Welfare; (12) U.S. Department of Housing and Urban Development; (13) U.S. Department of Treasury; (14) Tennessee Valley Authority; (15) Council of Environmental Quality; (16) National Commission on Water Quality; (17) Federal Power Commission; (18) Federal Energy Administration; (19) Office of Management and Budget; (20) Internal Revenue Service; (21) Nuclear Regulatory Commission; (22) The American Society of Mechanical Engineers; (23) the Conservation Foundation; (24) Businessmen for the Public Interest; (25) Environmental Defense Fund, Inc.; (26) Natural Resources Defense Council, Inc.; (27) The American Society of Civil Engineers; (28) Water Pollution Control Federation; (29) National Wildlife Federation; (30) Gypsum Association; (31) Indiana Limestone Institute of America; (32) Marble Institute of America; (33) National Crushed Stone Association; (34) National Industrial Sand Association; (35) National Limestone Institute; (36) National Sand and Gravel Association; (37) American Mining Congress; (38) Asbestos Information Association of North America; (39) Barre Granite Association; (40) Brick Institute of America; (41) Building Stone Institute; (42) The Fertilizer Institute; (43) Florida Limerock Institute; (44) Florida Phosphate Council; (45) North Carolina Minerals Association; (46) North Carolina Sand, Gravel and Crushed Stone Association; (47) Portland Cement Association; (48) The Refractories Institute; (49) Salt Institute; (50) Sorptive Minerals Institute; (51) National Clay Pipe Institute; (52) National Lime Association; (53) Environmental Protection Service, Canada; (54) Manufacturing Chemists Association; and Georgia Association of Mineral Producing Industries.

The following responded with comments on the interim final regulations: Aggregates and Concrete Association of Northern California, Inc.; Aggregates Producers Association of South Carolina, Inc.; Agrico Chemical Company; Angelo Tomasso, Inc.; Arkhola Sand and Gravel Company; Becker Phosphate Corporation; Buffalo Slag Company, Inc.; Bethlehem Steel Corporation; Central Silica Company; C. F. Mining Corporation; Connecticut Crushed Stone Association; Dixie Sand and Gravel Company; Evansville Materials, Inc.; Faylor-Middlecreek, Inc.; The Fertilizer Institute; Florida Department of Environmental Regulation; Florida Phosphate Council; Gardinier, Inc.; Georgia Crushed Stone Association; Georgia Marble Company; Grove Stone and Sand; Harry T. Campbell Sons' Company; Hempt Brothers, Inc.; Ideal Basic Industries; Illinois Association of Aggregate Producers; Indiana Mineral Aggregates Association, Inc.; Iowa Limestone Producers Association, Inc.; J. R. Simplot Company; Kentucky Crushed Stone Association, Inc.; Lehigh Portland Cement Company; Martin Marietta Cement; Massachusetts Crushed Stone Association; Maryland Aggregate Association, Inc.; Material Service Corporation; Missouri Limestone Producers Association; Monsanto Industrial Chemicals Company; Mulzer Crushed Stone Company; National Crushed Stone Association; National Industrial Sand Association; National Limestone Institute, Inc.; National Sand and Gravel Association; North Carolina Aggregate Association; Ohio Aggregates Association; Oregon Concrete and Aggregate Producers; Owens-Illinois Inc.; Pennsylvania Stone Producers Association; Phillips Petroleum Company; Portland Cement Association; Sarasota County, Florida; Swift Agriculture Chemical Company; Tennessee Crushed Stone Association; United States Steel Corporation; U.S. Department of Health, Education, and Welfare; U.S. Department of the Interior; U.S. Energy Research and Development Administration; Wisconsin Department of Natural Resources; W. R. Grace and Company. The more significant issues raised are discussed below:

1. Several commenters in the crushed stone industry questioned the requirement of no discharge of process generated waste water pollutants because this requirement effectively precludes the discharge of mine dewatering waste water which is combined in a common treatment system with process water. One commenter stated that the cost for separating rather than combining the two waste water sources would be substantial.

As explained under Summary of Major Changes, the regulation now allows a treated discharge of process generated waste water pollutants provided waste water is recycled from the treatment system for use as process water. Since a discharge from a combined treatment system is subject to the process water limitations, discharge of commingled waste water from a combined treatment system is not precluded as long as recycling of waste water for processing is practiced. Where recycle from process treatment systems is not practiced, a no discharge limitation would apply to process waste water and

other waste waters that are combined with process water.

2. Several commenters within the crushed stone industry questioned the limitations for mine dewatering. Some commenters suggested a limitation for TSS of 30 mg/l as a monthly average and 60 mg/l as a daily maximum. Several commenters stated that upset conditions may occur due to surface runoff or because solids of softer rocks and clay which may be mined have poor settling characteristics. Several commenters felt that the beneficial effect of limestone solids were not taken into consideration when the Agency determined the TSS limitation.

As indicated under Summary of Major Changes, the Agency has revised the daily maximum and established a monthly average based on consideration of comments and additional data.

Upset conditions can usually be avoided by better water management practices. Methods for preventing upset conditions include repositioning the sump pump opposite the influent, allowing an adequate time for the waste water to settle without being churned up by mining equipment, and other water management practices. Providing additional impoundment capacity to provide a longer retention time for settling and intermittent use of flocculants may be necessary for some operations in order to avoid upset conditions.

The addition of limestone in the ionized form of dissolved calcium carbonate may have a beneficial effect by neutralizing streams polluted by acid mine drainage. However, hardness caused by dissolved calcium carbonate and suspended solids may also have a harmful effect on receiving waters. Under the provisions of the Act, limestone solids are considered pollutants and are subject to regulation. The limitations are based on an assessment of available treatment technology, not on an evaluation of the water quality of individual receiving streams.

3. Several commenters stated that the costs of treating mine dewatering were not included in evaluating the economic impact on the crushed stone industry.

Costs for mine dewatering have been included in the development document and economic analysis. In most cases these costs are small (e.g. $.009 per metric ton) compared to treatment costs for process water (e.g. $.021 per ton) from wet process plants. Adequate treatment usually can be achieved in the mine at the sump. In many cases, the mine water may also be treated with process water in a common treatment system. However, the mine dewatering treatment cost may be significant if flocculants are required. Some small operators in metropolitan markets who would need flocculants and cannot pass on costs may be forced to close.

4. Many commenters questioned the no discharge requirement for process generated waste water pollutants in the crushed stone industry, the sand and gravel industry and the industrial sand industry. Several commenters suggested allowing a discharge of process water pollutants similar to the mine dewatering limitations. One commenter noted that some metal mining industry categories are allowed a discharge and requested that similar regulations be established for this industry. One commenter stated that the no discharge requirement was unreasonable for plants using mine dewatering waste water as make-up process water.

Several commenters said that the cost of achieving no discharge had not been adequately considered. One commenter stated that the cost for retrofitting an older plant with total recycle technology would result in a substantial cost to the plant, and might result in closure of the plant. One commenter stated that the alternative of switching to a dry process to avoid a discharge was not feasible due to specifications for finished products and because of added costs for air pollution control. Several commenters stated that the requirement of zero discharge would limit resource development and preclude the operation of plants where land is not available to construct settling ponds. One commenter said that mechanical clarification treatment systems, which require less land area, are costly and do not produce a water that can be continuously recycled because of a buildup of fines and dissolved solids in the recycled water.

The available data show that large numbers of plants are currently practicing recycle of waste water for use as process water. As explained in the Summary of Major Changes, however, the Agency has concluded that the "no discharge" requirement should be revised to reflect the need for occasional discharges when the recycling of process water is practiced. As indicated, the revised regulation continues to reflect the judgment that BPT for the three subcategories includes recycling of process water as a means of limiting the discharge of pollutants. In addition, the process water discharge limitations are based on adequate settling to reduce total suspended solids and the possible occasional use of flocculation.

The economic impact analysis examined the economic feasibility for plants to install recycling equipment. In general the analysis indicates it is economically feasible. However, plants without a settling pond which are located in competitive metropolitan areas may not be able to pass on the costs of recycling process water. It is anticipated that under final BPT guidelines approximately 78 processors representing about 0.8 percent of industry production (and a small proportion of the metropolitan market) will switch to selling only dry processed stone. The ability of firms to specialize in only dry processed stone is illustrated by the many crushed stone operations producing no wet processed stone.

It is not anticipated that these guidelines will prevent the sale of wet processed stone in an area. If a wet processor cannot raise his prices then he must be in a market where others are supplying wet processed stone. On the other hand, if he is the only supplier, then he should have a sufficiently strong market position to raise his price to cover the cost of compliance and he should be able to continue to supply wet processed stone.

The Agency does not believe that these guideline limitations will inhibit resource development. It is anticipated that operations will incorporate the additional area needed for settling ponds into future siting specifications. The guidelines are not expected to affect industry growth.

The guidelines for construction aggregates are based upon settling as a treatment technology. Should an operator wish to use a mechanical clarifier to comply with the limitations, he would be allowed a discharge from a recycling system to eliminate a build up of fines or dissolved solids. However, no such problems with recycling were observed during this study.

5. One commenter stated that treatment costs were not considered for waste water from wet dust suppression systems, but treatment was required since this waste water was included in the definition of process water.

Although waste water from these dust suppression systems is defined as process water, very little waste water results from these air pollution control units. When operated properly, the fine mist of water usually adheres and is dissolved into the material. The cost for treating any excess water would not be considered significant compared to the total treatment cost for process water.

6. Several commenters concerned with the crushed stone industry felt that the regulations should not require impoundment and treatment of storm water runoff and stated that to construct a treatment system to treat the amount of waste water from a 10-year 24-hour storm would be excessive. One commenter stated that ground water intrusion from such a storm was not considered and would have a greater effect on the treatment system than the surface runoff.

These regulations do not require impoundment of storm water runoff. Furthermore, treatment of storm water runoff is not required unless the water enters the treatment system for mine water or process water. Methods to prevent this from occurring include water management practices such as diversion ditches. However, if storm water runoff or water from some other source (for instance, mine water intrusion) enters the mine dewatering or process water treatment system, causing it to overflow, then the overflow must meet the mine dewatering or process water limitations unless the facility falls within the exemption set forth in the 10-year 24-hour storm event provision. That provision states that any overflow from facilities governed by this subpart shall not be subject to the limitations 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.

In establishing effluent limitations and guidelines for point sources whose flow volumes may be dependent upon precipitation events, a determination was made as to when treatment facilities would be overwhelmed by extraordinary volumes. The 10-year 24-hour precipitation event and the flow resulting from such an event was selected as it represents a volume which can be used for national guidelines providing maximum protection to the environment without creating undue financial hardship on individual industries by requiring total containment or treatment regardless of volumes encountered.

7. One commenter requested that net limitations be considered rather than gross limitations.

The present regulations limit the gross discharge of pollutants. The Agency has promulgated regulations (40 CFR 125.28) concerning the net or gross application of effluent standards. Prior to the time of permit issuance an affected plant can petition for a net limitation if the applicant demonstrates that specified pollutants which are present in the applicant's intake water will not be removed by waste water treatment systems designed to reduce process waste water pollutants and other added pollutants to the levels required by the applicable limitations or standards. In light of these provisions for adjustment of effluent limitations, the gross limitations established in the present regulations are appropriate, as indicated in "Applachian Power v. Train," 9 E.R.C. 1033, 1053–4 (4th Cir. 1976).

8. Several commenters requested an exemption from the pH limitations, where acceptable to receiving waters, when the waste water exceeds pH 9.

The data available to the Agency do not indicate there is a problem in meeting the pH limitation. Furthermore, background water is generally not of this nature.

9. One commenter stated that the limitations for the crushed stone industry do not reflect the localized nature of the industry, which is predominately composed of small quarries.

The Agency realized that much of the industry was composed of small producers, and

during the study an attempt was made to obtain data and information on as many small and large operations as possible. Small producers, (less than 25,000 tons/year) were found to have small shallow quarries which are mined only a small percentage of the year, usually by a portable operation. These shallow quarries may not require dewatering and the portable process plants may not use process water. Those process plants using water typically construct a temporary settling pond and recycle waste water to the process plant. For this reason, the small quarries are expected to have less significant treatment costs than those associated with 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 that the higher costs of constructing larger treatment facilities were not taken into account in establishing limitations for the crushed stone industry.

Data were collected on both carbonate and noncarbonate (granite) quarries. The settling rates for granite and limestone fines were found to be somewhat different, necessitating slightly larger settling ponds for granite fines than for limestone fines. In developing the costs of the treatment facilities, the possible need for a slightly larger pond was taken into consideration by "overdesigning" the treatment system on which the cost figures for the industry were based.

11. Two commenters stated that the acid leaching process in the industrial sand industry was not studied during the development of the regulation.

The acid leaching process as part of the industrial sand industry was not initially included in the study to develop regulations. Information and some data have now been made available to the Agency on three plants which use this process. However, more data would be necessary before a national regulation could be developed. Therefore national limitations for operations using this process will not be established at this time.

12. One commenter stated that the definition of "process water" might be read to include water that has been used in dredging operations to pump dredged material directly to onshore classification processes. The commenter felt that regulation of such dischargers was not intended, and requested clarification of the process water definition.

Waste water (hydraulic water) from operations which use a hydraulic dredge to pump dredged material directly to onshore processing facilities is not included in the definition of process water and will not be nationally regulated at this time. Water which is used in the processing of the material will be subject to the limitations established for this industry. The regulatory language concerning this matter has been clarified.

13. One commenter stated that the definition of process waste water should be amended to exclude non-contact cooling water.

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

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 build up 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 said to be caused by dissolved solids build up was not found to be a problem in this study.

15. Two commenters requested that the ore slurry transport water used by the phosphate mining operations located in the West be excluded from the no discharge requirement for process water. They stated that recycling entails high energy costs in mountainous areas.

The no discharge requirement for slurry transport water has been amended in this regulation to allow a treated discharge subject to the specified limitations.

16. Several commenters requested clarification of language in the regulation for the phosphate mining industry concerning the waste water pollutants that were required to meet a no discharge limitation. Clarification of the statement allowing discharge of combined waste waters was also requested. Two commenters stated that detrimental effects on scrubber efficiency may occur if scrubber waste water is recycled in order to meet a no discharge requirement. One commenter stated that plant hydraulic water could not be used as pump seal water in remote transport line pumping locations.

The Agency has decided to amend the no discharge requirement imposed on certain phosphate industry discharges by the interim final regulations for the reasons set forth under Summary of Major Changes. The regulations have been amended to allow a discharge of waste waters from all sources within specified limitations. In most cases the companies are already practicing recycle of waste water to the extent possible in order to prevent depletion of ground water supplies.

17. Two commenters requested that more stringent TSS limitations be considered for the phosphate mining industry, and that specific limitations be imposed on radium 226, phosphorus and fluoride.

The Agency believes that the current TSS limitations are supported by the available data, for the reasons set forth under Summary of Major Changes. Practicable technology is not currently available within the phosphate industry to treat waste water specifically for radium 226, phosphorus or fluoride. However, radium 226 is removed by the settled slime and is controlled by the limitations on TSS. Phosphorus and fluoride appear to result from upstream contamination of intake water by chemical plants. The levels of these pollutants in the intake water will therefore be affected by regulations applicable to the upstream plants.

Subpart B—Crushed Stone Subcategory

Subpart C—Construction Sand and Gravel Subcategory

Subpart D—Industrial Sand Subcategory

Subpart R—Phosphate Rock Subcategory

AUTHORITY: Sec. 301(b), 304 (b) and (c), Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 86 Stat. 816 et seq., Pub. L. 92-500) (the Act).

Subpart B—Crushed Stone Subcategory

§ 436.20 Applicability; description of the crushed stone subcategory.

The provisions of this subpart are applicable to the mining or quarrying and the processing of crushed and broken stone and riprap. This subpart includes all types of rock and stone. Rock and stone that is crushed or broken prior to the extraction of a mineral are elsewhere covered. The processing of calcite, however, in conjunction with the processing of crushed and broken limestone or dolomite is included in this subpart.

§ 436.21 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. However, if a mine is also used for treatment of process generated waste water, discharges of commingled water from the facilities shall be deemed discharges of process generated waste water.

(c) The term "10-year 24 hour precipitation event" shall mean the maximum 24 hour precipitation event with a probable re-occurence interval of once in 10 years. This information is available in "Weather Bureau Technical Paper No. 40," 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.

(d) The term "mine" shall mean an area of land, surface or underground, actively mined for the production of crushed and broken stone from natural deposits.

(e) The term "process generated 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, mine, or other facility used for treatment of such waste water.

§ 436.22 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 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 (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 moreor 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 after application of the best practicable control technology currently available:

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

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
TSS	45 mg/l.	25 mg/l.
pH	Within the range 6.0 to 9.0.	

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

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

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
TSS	45 mg/l.	25 mg/l.
pH	Within the range 6.0 to 9.0.	

(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 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 C—Construction Sand and Gravel Subcategory

§ 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 230 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 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 treatment of process generated waste water, discharges of commingled water from the mine shall be deemed discharges of process generated waste water.

(c) The term "10-year 24 hour precipitation event" shall mean the maximum 24 hour precipitation event with a probable re-occurrence interval of once in 10 years. This information is available in "Weather Bureau Technical Paper No. 40," 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.

(d) The term "mine" shall mean an area of land, surface or underground, actively mined for the production of sand and gravel from natural deposits.

(e) The term "process generated 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, mine 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 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 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 (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 Protetcion 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 after application of the best practicable control technology currently available:

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

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
TSS	45 mg/l	25 mg/l.
pH	Within the range 6.0 to 9.0.	

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

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

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
TSS	45 mg/l	25 mg/l.
pH	Within the range 6.0 to 9.0.	

(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 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.

(c) 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. 40," 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.

(d) The term "mine" shall mean an area of land actively mined for the production of sand and gravel from natural deposits.

(e) The term "process generated 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, mine 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 water without being used for other purposes or combined with other wastewater.

§ 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 can 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 (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 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 waste water pollutants from facilities that recycle waste water, for use in processing shall not exceed the following limitations:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
TSS	45 mg/l	25 mg/l.
pH	Within the range 6.0 to 9.0.	

(2) Except as provided in paragraphs (a) (1) and (3) of this section, there shall be no discharge of process generated waste water pollutants into navigable waters.

(3) Process generated waste water from facilities employing HF flotation shall not exceed the following limitations:

[Metric units kg/kkg of total product]
[English units lb/1,000 lb of total product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
TSS	0.045	0.023
Total fluoride	.006	.003
pH	Within the range 6.0 to 9.0.	

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

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
TSS	45 mg/l.	25 mg/l.
pH	Within the range 6.0 to 9.0.	

(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 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 R—Phosphate Rock Subcategory

§ 436.180 Applicability; description of the phosphate rock subcategory.

The provisions of this subpart are applicable to the mining and the processing of phosphate bearing rock, ore or earth for the phosphate content.

§ 436.181 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. 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.

(c) The term "10-year 24 hour precipitation event" shall mean the maximum 24 hour precipitation event with a probable re-occurrence interval of once in 10 years. This information is available in "Weather Bureau Technical Paper No. 40," 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.

(d) The term "mine" shall mean an area of land, surface or underground, actively used for or resulting from the extraction of a mineral from natural deposits.

(e) The term "process generated 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, mine, or other facility used for settling or treatment of such waste water.

§ 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 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 (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 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 after application of the best practicable control technology currently available:

(1) Discharges of process generated waste water and mine dewatering discharges, shall not exceed the following limitations:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
TSS	60 mg/l.	30 mg/l.
pH	Within the range 6.0 to 9.0.	

(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.

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Title 41—Public Contracts and Property Management

CHAPTER 101—FEDERAL PROPERTY MANAGEMENT REGULATIONS

SUBCHAPTER A—GENERAL

[FPMR Amdt. A-27]

PART 101-5—CENTRALIZED SERVICES IN FEDERAL BUILDINGS

GSA Policy Concerning Centralized Services in Federal Buildings

AGENCY: General Services Administration.

ACTION: Final rule.

SUMMARY: This change removes references to outdated regulations. A recent reorganization in GSA resulted in a consolidation of functions and eliminated the need for certain regulations.

EFFECTIVE DATE: July 12, 1977.

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION: Federal Management Circular (FMC) 73-4, December 4, 1973, provides policy guidance for the executive branch concerning the establishment and management of central supporting services in Federal office buildings. That circular is codified in the Code of Federal Regulations (34 CFR Part 271). Since March 1965 the Federal Property Management Regulations have also provided policy guidance pertaining to this subject area. As a means to eliminate this duplication in the Code of Federal Regulations and to enable agencies to more readily react to GSA policy pronouncements affecting the applicable separate functional areas (e.g., transportation services, printing and duplicating services, health units, etc.), certain overlapping GSA regulations are being canceled. These cancellations will have no effect on existing GSA