Title 40—Protection of the Environment
CHAPTER 1—ENVIRONMENTAL PROTECTION AGENCY

PART 434—COAL MINING POINT SOURCE CATEGORY

Effluent Guidelines and Standards

Notice is hereby given that effluent limitations and guidelines for existing sources to be achieved by the application of best practicable control technology currently available as set forth in interim final form below are promulgated by the Environmental Protection Agency (EPA). Part 434—coal mining point source category was promulgated on October 17, 1976 (40 FR 48830) pursuant to sections 301, and 304 (b) and (c), of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311 and 1314 (b) and (c), 86 Stat. 816 et seq.; P.L. 92-500) (the Act). The regulation set forth below amends Part 434—coal mining point source category and will be applicable to existing sources for the coal preparation plant ancillary area subcategory (Subpart A), the coal storage, refuse storage, and coal preparation plant ancillary area subcategory (Subpart B), the acid or ferruginous mine drainage subcategory (Subpart C), and the acid or ferruginous mine drainage subcategory (Subpart D) of the coal mining point source category. Simultaneously, the Agency is publishing in proposed form effluent limitations for existing sources to be achieved by the application of best available technology economically achievable, standards of performance for new point sources and pretreatment standards for new sources. A description and discussion of this legal authority is contained in Appendix A to this preamble.

The coal mining point source category was studied to determine whether separate limitations are appropriate for different segments within the category. This analysis included a determination of whether the raw material used, product produced, manufacturing process employed, age, size, waste water constituents and other factors require development of unique limitations for different segments of the point source category. The raw water characteristics for each such segment were then identified. The control and treatment technologies existing within each segment were identified 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. This information was then evaluated in order to determine what levels of technology constitute the best practicable control technology currently available, "best available technology economically achievable," and the "best available demonstrated control technology, processes, operational methods, and other alternatives." The data upon which the above analysis was performed included EPA permit applications, EPA sampling and inspections, consultant reports, and industry submissions. A substantial summary of the method of study, the several factors considered in subcategorization and the conclusions reached are set forth as Appendix B to this preamble.

The report entitled "Development Document: Effluent Guidelines and New Source Performance Standards for the Coal Mining Point Source Category", May 1976, details the analysis undertaken in support of the regulation set forth herein and is available for inspection at the EPA Public Information Reference Unit, Room 3592 (EPA Library), Waterside Mall, 401 M St., S.W., Washington, D.C., at all EPA regional offices, and at State water pollution control offices. A supplementary analysis prepared for EPA of the possible economic effects of this regulation is also available for inspection at these locations. Copies of both of these documents are being sent to persons or institutions affected by the proposed regulation or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 F.R. 21202, August 6, 1973). An adequate limited number of both reports are available. Persons wishing to obtain a copy may write to the Environmental Protection Agency, Effluent Guidelines Division, Washington, D.C. 20460, Attention: Distribution Officer, W/5-552.


Prior to this publication, 40 CFR 434 which was promulgated in interim final form regulated only one parameter—pH, and identified without specific limitation other pollutants parameters. Comments on 40 CFR 434 and comments on the development of the Development Document were solicited. A summary of these comments and the Agency's response and consideration of these comments is contained in Appendix C to this preamble.

The Agency has made a study of the economic and regulatory impacts of this regulation. It is estimated that the capital cost required to comply with regulations based on the Best Practicable Control Technology Currently Available will be no more than $132 million of which $80 million is for coal mines and $52 million is for coal preparation plants. Operations and maintenance costs are estimated to be $73 million per year of which $69 million is for coal mines and $4 million is for coal preparation plants. These figures assume that there are no treatment facilities in place although many establishments already treat their effluent to comply with state regulations. An additional limited number of coal preparation plants in place although many establishments already treat their effluent to comply with state regulations. An additional limited number of coal preparation plants are estimated to be no more than $4 million is for coal preparation plants. An additional limited number of coal preparation plants are estimated to be

The Agency is subject to an order of the United States District Court for the District of Columbia entered in Natural Resources Defense Council v. Train et al. (CV. No. 1892-73) which requires revisions to the Section 304(b) (1) (A) regulation for the coal mining point source category (40 CFR 434) adding limitations for the pollutants identified in this regulation (40 CFR 48830) no later than May 1, 1976. This order also requires that the regulation become effective immediately upon publication. In addition, it is necessary to promulgate a regulation establishing limitations on the emission of pollutants from point sources in this category so that the process of issuing permits to individual dischargers under section 402 of the Act is not affected. Thus, the Agency has determined pursuant to 5 U.S.C. 553(b) that notice and comment on this interim final regulation would be impracticable and contrary to the public interest. Good cause is also found for this regulation to become effective immediately upon publication.

Interested persons are encouraged to submit written comments. Comments are invited to the Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460, Attention: Distribution Officer, W/5-552. Comments on all aspects of the regulation are solicited. In the event comments are in the nature of criticisms as to the adequacy of data which are available, or which may be relied upon by the Agency, comments should identify and, if possible, provide any additional data which may be available and should indicate why such data are essential to the amendment or modification of the regulation. In the event comments address the approach taken by the Agency in establishing an effluent limitation or guideline EPA solicits suggestions as to what alternative approach should be used and how this alternative better satisfies the detailed requirements of sections 301 and 304(b) of the Act.

A copy of all public comments will be available in the Federal Register and at the EPA Public Information Reference Unit, Room 2922 (EPA Library), Waterside Mall, 401 M Street, S.W., Washington, D.C. A copy of preliminary draft
contractor reports, the Development Document and economic study referred to above, and certain supplementary materials supporting the study of the industries concerned will also be maintained at this location for public review and copying. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying.

All comments received on or before June 14, 1976 will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning preliminary review procedures published on August 6, 1973 (38 F.R. 21203). In the event that the final regulation differs substantially from the interim final regulation set forth herein, the Agency will consider petitions for reconsideration of any permits issued in accordance with the interim final regulation.

In consideration of the foregoing, 40 CFR Part 434 is hereby revised as set forth below.


RUSSELL E. TRAIN, Administrator.

Subpart A—Coal Preparation Plant Subcategory

§ 434.10 Applicability; description of the coal preparation plant subcategory.

§ 434.11 Specialized definitions.

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

Subpart B—Coal Storage, Refuse Storage, and Coal Preparation Plant Ancillary Area Subcategory

§ 434.20 Applicability; description of the coal storage, refuse storage, and coal preparation plant ancillary area subcategory.

§ 434.21 Specialized definitions.

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

Subpart C—Acid or Ferruginous Mine Drainage Subcategory

§ 434.30 Applicability; description of the acid or ferruginous mine drainage subcategory.

§ 434.31 Specialized definitions.

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

Subpart D—Alkaline Mine Drainage Subcategory

§ 434.40 Applicability; description of the alkaline mine drainage subcategory.

§ 434.41 Specialized definitions.

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

Appendix: Secs. 301, 304 (b) and (c) and 306(b) and 307(c), Federal Water Pollution Control Act, as amended 33 U.S.C. 1251, 1252, 1314 (b) and (c), 1316(b) and 1317(c); (89 Stat. 816 et seq.; Pub. L. 92-500) (the Act).
owed to come in contact with precipitation runoff or plant washdown.

(c) The term "ten year 24-hour precipitation event" shall mean the maximum 24-hour precipitation event with a probable re-occurrence interval of once in 10 years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.,” May 1961, and subsequent amendments or equivalent regional or rainfall probability information developed therefrom.

§ 434.22 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 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 those 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.

Subdivisions of paragraph (b) below, the following limitations establish the quantity or quality of pollutant 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:

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§ 434.30 Applicability; description of the acid or ferruginous mine drainage subcategory.

The provisions of this subpart are applicable to acid or ferruginous mine drainage resulting from the mining of coal from refuse or other storage piles or siphoned from a coal mine.

(b) Any untreated overflow from facilities designed, constructed, and operated to treat the process waste water and the runoff from the coal preparation plant ancillary area resulting from a 10 year 24-hour precipitation event shall not be subject to the limitations set forth in paragraph (a) of this section.

Subpart C—Acid or Ferruginous Mine Drainage Subcategory.

§ 434.31 Specialized definitions.

For the purpose of this subpart:
(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "coal mine" shall mean an active mining area of land with all property placed upon, under or above the surface of such land, used in or resulting from the work of extracting coal from its natural deposits by any means or method including secondary recovery of coal from refuse piles, or other storage piles derived from the mining, cleaning, or preparation of coal.

(c) The term "mine drainage" shall mean any water drained, pumped or siphoned from a coal mine.

(d) The term "ten year 24-hour precipitation event” shall mean the maximum 24-hour precipitation event with a probable 2-occurrence interval or once in 10 years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.,” May 1961, and subsequent amendments or equivalent regional or rainfall probability information developed therefrom.

(e) The term "acid or ferruginous mine drainage" shall mean mine drainage which before any treatment either has a pH of less than 6.0 or a total iron concentration of more than 10 mg/L.

(f) The term "final contour" shall mean the surface shape or contour of a surface mine (or section thereof) after all mining and earth moving operations have been completed at that surface mine (or section thereof).

(g) The term "active mining area" means a place where work or other activity related to the extraction, removal, or recovery of coal is being conducted or carried on, except any area which in which there has commenced or been completed reclamation work following the grading stage.

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 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) below, the following limitations establish the quantity or quality of pollutant 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:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Standard</th>
</tr>
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<tbody>
<tr>
<td>pH</td>
<td>&gt; 6.0</td>
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<tr>
<td>Total Iron</td>
<td>&gt; 10 mg/L</td>
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§ 434.41 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) The term "coal mine" shall mean an active mining area of land with all or a substantial portion of its coal surface area under or above the surface of such land, used in or resulting from the work of extracting coal from its natural deposits by any means or method and secondary recovery of coal from refuse or other storage piles derived from the mining, cleaning, or preparation of coal.

(c) The term "mine drainage" shall mean any water drained, pumped or siphoned from a coal mine.

(d) The term "ten year 24-hour precipitation event" shall mean the maximum 24-hour precipitation event with a probability of occurrence of once in 10 years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S." May 1961, and subsequent amendments or equivalent regional or rainfall probability information developed thereof.

(e) The term "alkaline mine drainage" shall mean mine drainage which before any treatment has a pH of more than 6.0 and with a total iron concentration of less than 10 mg/l.

(f) The term "final contour" shall mean the surface shape or contour of a surface mine (or section thereof) after all mining and earth moving operations have been completed at the surface mine (or section thereof).

(g) The term "active mining area" means a place where work or other activity related to the extraction, removal, or recovery of coal is being conducted or carried on, except any area of land on or in which there has commenced or been completed reclamation work following the grading stage.

§ 434.42 Effluent limitations guidelines representing the degree of effluent reduction 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, 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 discharge 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 the limitations in paragraph (a).

Subpart D—Alkaline Mine Drainage Subcategory

§ 434.40 Applicability; description of the alkaline mine drainage subcategory.

The provisions of this subpart are applicable to alkaline mine drainage resulting from the mining of coal of any rank including but not limited to bituminous, lignite, and antracite.

§ 434.41 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.

(b) For the purpose of this paragraph, the term "alkaline mine drainage" shall mean mine drainage which is subject to the conditions set forth in paragraph (a) of this section.

(c) Any drainage from any surface mine or section thereof which has been returned to final contour shall not be subject to the limitations set forth in paragraph (a) of this section.

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(f) The term "final contour" shall mean the surface shape or contour of a surface mine (or section thereof) after all mining and earth moving operations have been completed at the surface mine (or section thereof).

(g) The term "active mining area" means a place where work or other activity related to the extraction, removal, or recovery of coal is being conducted or carried on, except any area of land on or in which there has commenced or been completed reclamation work following the grading stage.

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(c) The term "mine drainage" shall mean any water drained, pumped or siphoned from a coal mine.

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Source Performance Standards for the Coal Mining Point Source Category*, May 1976 provides, pursuant to section 304(g) of the Act, information on such processes, procedures or operating methods.

(2) New source performance standards (NSPS) under section 306 of the Act requires the achievement by new sources of a Federal standard of performance providing for the control of the discharge of pollutants which reflects the degree of pollution reduction which the Administrator determines to be achievable through application of the best demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

Section 306 also requires the Administrator to propose regulations establishing Federal standards of performance for categories of new sources included in a list published pursuant to section 306 of the Act. The regulations proposed for another source category.

The Federal Register sets forth the standards of performance applicable to new sources for the coal preparation plant ancillary area subcategory (Subpart B) of the coal mining point source category.

(3) Determinations for existing sources and for new sources of water quality applicable to existing sources for the coal preparation plant ancillary area subcategory (Subpart B) of the Federal Register sets forth the standards of performance applicable to new sources for the coal preparation plant subcategory (Subpart A) and the coal storage, refuse storage, and coal preparation plant ancillary area subcategory (Subpart B) of the coal mining point source category.

The raw waste characteristics of the waste water from coal storage, refuse storage, and coal preparation plant ancillary areas which are frequently present in coal mine drainage and which should be subject to effluent limitations were identified.

A review of the existing sources in each segment were identified. This information is included in the analysis of the source, flow and volume of waste water used in the process employed, the characteristics of the raw mine drainage, various factors were considered. These included the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, the age of equipment and facilities in 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 permits application, request for proposal, consultant reports, and industry submissions.

(2) Summary of conclusions with respect to the control of the discharge of pollutants into the waters of the United States. The provisions of this subpart are applicable to new sources of water quality applicable to existing sources for the coal preparation plant subcategory (Subpart A), coal storage, refuse storage and the coal preparation plant ancillary area subcategory (Subpart B). The provisions of this subpart are applicable to acid or ferruginous mine drainage subcategory (Subpart C) of the coal mining point source category.

(1) Categorization. The purpose of the study that is currently under way for determining the most efficient and economic operation, there is a need for efficient and economic operation, therefore process water does not dissolve significantly quantities of the constituents present in the raw coal. The principal pollutant present in coal preparation plant process water is suspended solids. In preparation plants, clean coal washes, process water contains suspended solids than process water at coal preparation plants which do not clean or recover.

The raw waste characteristics of the waste water discharged from the actual coal mining activities themselves vary significantly. The chemical characteristics of raw mine drainage are determined by local and regional geology of the coal, associated overburden, and mine bottom. Raw mine drainage ranges from prously polluted to drinking water quality, Major differences were observed between the two classes of raw mine drainage (1. acid or ferruginous, and 2. alkaline) which are generally representative of geographic areas. These differences are unrelated or only indirectly related to mine size (annual tonnage). Similarly, mine size and type of raw water (deep or shallow surface) are not directly related to the raw water (deep or shallow surface).

Acid or ferruginous mine drainage (Subpart C) can be characterized as raw mine drainage requiring neutralization and sedimentation which is not acidic, contains high concentrations and varying concentration of heavy metals including aluminum, manganese, iron, and sulfate. Acid mine drainage contains total suspended solids. Alkaline mine drainage (Subpart D) can be characterized as raw mine drainage of generally acceptable quality, not requiring neutralization, but possibly requiring sedimentation to reduce concentration of suspended solids. Eliminating limitations on the standards of performance are established to control pollutants by means based primarily on the following criteria: (1) pollutants which are frequently present in coal mine point source discharges in concentrations determining enough that a control technology exists for the removal or removal of the pollutant in question; and (3) research data indicates that the pollutants are capable of disrupting an aquatic ecosystem. The following were identified: the presence of the raw mine drainage, coal storage, refuse storage, and the coal preparation plant ancillary area water discharge solids: acidity, iron, manganese, aluminum, nickel, zinc, and suspended solids. The following were but not limited to bituminous, lignite, and anthracite.

(3) Subpart C—Acid or Ferruginous Mine Drainage. The provisions of this subpart are applicable to acid or ferruginous mine drainage resulting from the mining of coal of any rank including, but not limited to bituminous, lignite, and anthracite.

(4) Subpart D—Alkaline Mine Drainage, The provisions of this subpart are applicable to alkaline mine drainage resulting from the mining of coal of any rank including, but not limited to bituminous, lignite, and anthracite.

(1) Waste characteristics. The raw waste characteristics of coal preparation plant processes water (Subpart A) are highly dependent upon the particular process or recovery techniques utilized in the operation. Process techniques generally require an ablation method for efficient and economic operation, therefore process water does not dissolve significantly quantities of the constituents present in the raw coal. The principal pollutant present in coal preparation plant process water is suspended solids. In preparation plants, clean coal washes, process water contains suspended solids than process water at coal preparation plants which do not clean or recover.

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Acid or ferruginous mine drainage (Subpart C) can be characterized as raw mine drainage requiring neutralization and sedimentation which is not acidic, contains high concentrations and varying concentration of heavy metals including aluminum, manganese, iron, and sulfate. Acid mine drainage contains total suspended solids. Alkaline mine drainage (Subpart D) can be characterized as raw mine drainage of generally acceptable quality, not requiring neutralization, but possibly requiring sedimentation to reduce concentration of suspended solids. Eliminating limitations on the standards of performance are established to control pollutants by means based primarily on the following criteria: (1) pollutants which are frequently present in coal mine point source discharges in concentrations determining enough that a control technology exists for the removal or removal of the pollutant in question; and (3) research data indicates that the pollutants are capable of disrupting an aquatic ecosystem. The following were identified: the presence of the raw mine drainage, coal storage, refuse storage, and the coal preparation plant ancillary area water discharge solids: acidity, iron, manganese, aluminum, nickel, zinc, and suspended solids. The following were but not limited to bituminous, lignite, and anthracite.
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Which can control or ameliorate mine drainage after mine closure if proper mine technology are not employed, although these control technologies are not required as part of these interim final regulation.

Water enters coal storage, refuse storage, and coal preparation areas via precipitation, wash down, and runoff, where it comes into contact with coal or coal refuse. The water discharge from coal storage, refuse storage, and coal preparation plant auxillary areas contain pollutants similar to the pollutants discharged by the mine served by these facilities. The coal mining segment of the industry, waste water handling from coal storage, refuse storage, and coal preparation plant auxiliary ancillary areas continue during idle periods; and may continue indefinitely from refuse storage after preliminary treatment. Control technology is not employed, although these control technologies are not required as part of these interim final regulation.

Waste water control technologies include techniques employed before, during, and after the actual mining operation to reduce, dilute, or eliminate adverse environmental effects resulting from waste water discharges from waste water treatment facilities. Waste water treatment required during operations, it has been demonstrated that water quality degradation may be natural as a result of exposure to the atmosphere and natural processes involved during the study period. Waste water discharges from coal storage, refuse storage, and coal preparation plant refuse disposal areas has continued indefinitely from refuse storage after preliminary treatment. Waste water discharges from coal storage, refuse storage, and coal preparation plant refuse disposal areas has continued during idle periods, and may continue indefinitely from refuse storage after preliminary treatment. Waste water discharges from coal storage, refuse storage, and coal preparation plant refuse disposal areas has continued indefinitely from refuse storage after preliminary treatment.
horizontal and vertical migration of these contaminants to ground or surface waters. In cases where geologic conditions may not reasonably exclude such transport, and mechanical precautions (e.g., impervious liners) should be taken to ensure long term protection to the environment and other resources. Where appropriate, the location of solid hazardous materials disposal sites should be permanently recorded in the appropriate office of legal jurisdiction.

(v) Cost estimates for control of waste water pollutants. The estimated capital investment required for coal mining facilities to meet effluent guidelines ranges from 2 to 7 cents per ton of designed annual capacity for BPT and up to 8.9 cents per ton of designed annual capacity for BAT, depending on size, location and type of mine. Annual operating costs of effluent treatment facilities inclusive of capital charges range up to 8.9 cents per ton for BPT and 22 cents per ton for BAT. The estimated investment cost to meet BPT for a coal preparation plant is 21 cents per ton of annual design capacity. Annual costs of treatment inclusive of capital charges for the coal preparation plant is estimated to be 7 cents per ton of prepared coal. The above estimates are based on the assumption that no treatment facilities are presently in place.

(vi) Energy requirements and nonwater quality environmental impacts. Energy requirements and nonwater quality environmental impacts are significant relative to that already present, consequently, a minimal impact is expected.

(vii) Economic impact analysis. These guidelines will require a total investment of no more than $130 million dollars for BPT and an additional incremental cost of 65 million dollars for BAT. The capital costs are estimated to be less than 90 million dollars for BPT and 25 million dollars for BAT. Prices of raw coal are considerably lower than those for refined coal.

When feasible, gravity flow is used in coal preparation plants and mine drainage treatment facilities. In general, wastewater is considered an inherent part of the mining method or system.

Inherent to coal preparation is the major problem of waste water disposal which can be a source of air pollution. The amount of additional waste and resultant air pollution produced is a result of these regulations and is significant relative to that already present. For example, an additional 38 million tons of coal may be handled annually at bituminous preparation plants and approximately the time of publication of the notice of final effluent rulemaking, prior to the notice of final effluent rulemaking (40 FR 48830) an initial draft of the development document on the distillation of solid hazardous materials and territorial pollution control agencies, industry trade associations and conservation organizations. Comments on that draft report were solicited, and the Agency's response were described in the notice of final effluent rulemaking (40 FR 48830).

Summary of Comments.

The following responses to the request for written comments contained in the notice of final effluent rulemaking: U.S. Department of Education: U.S. Department of Interior; U.S. Department of Agriculture, U.S. Environmental Protection Agency, Region VIII; State of Colorado, Department of Health; Company; U.S. Environmental Protection Agency, Region VIII; State of Colorado, Department of Health; Consoliation Coal Company; State of Wyoming, Department of Environmental Quality; American Mining Congress; Jones and Laughlin Steel Corporation; Tesoro Coal Company; Western Bituminous Authority; Island Creek Coal Company; United States Steel Corporation; Appalachian Research and Development Corporation; U.S. Department of Commerce; Tennessee Citizens for Wilderness Planning; Covington and Burling; and National Coal Association.

The most significant comments received and the Agency's response to these comments are summarized below:

(1) Many of the commenters stated that 40 CFR 403 (October 17, 1975) is inadequate in that the regulation of only one parameter (pH) does not meet the requirements of the Act.

When the October 17 regulations were issued the agency had completed major technical studies on which to base detailed effluent standards for the coal mining industry; however, the agency had not completed the development of the final effluent guidelines and standards, therefore, only pH was regulated. The regulations published above have been reviewed by an economic impact analysis of this regulation.

(2) Commenters stated that effluent guidelines and standards should be based on water use of the receiving stream, i.e., human consumption, agricultural use, etc., and on the water quality which must exist for these uses to occur.

Effluent limitations and guidelines are developed under the directions of the Act, which requires the limitations to be based upon feasible technology and not upon individual water quality situations. Water quality standards, such as applicable to the uses mentioned, apply independently of effluent limitations and guidelines and may be used to address specific water quality problems.

(3) Commenters stated with respect to the suggested limitations that the impact on preparation plants with open water circuits should be considered and that there shall be no discharge of pollutants from coal preparation plants should be considered.

A revised industry survey of 160 preparation plants representing over 80 percent of the potential pollution was conducted by the Agency and the EPA. Figures in parentheses indicate survey results.

(4) Some persons suggested that concentration limits of solids at the discharge points be based on the facility being designed, constructed, and operated to contain approximately 10 percent of the waste materials resulting from a 10 year/24 hour precipitation event. Settling basins and ponds associated with a preparation plant are considered to be treatment facilities and the discharge point to the water body is made for purposes of the Act.

The present regulations requires that the State of Pennsylvania has established 10 water sheds and has established a "Pollution Abatement Funds" to build and maintain mine drainage treatment facilities to treat mine drainage from active and abandoned mines. These state-owned mine drainage treatment facilities, when constructed, may be considered publicly owned treatment works. Anthracite mining companies located in those 10 water sheds may discharge raw mine drainage and pay the State of Pennsylvania a fee based on the tonnage mined.

Proper management of the solid waste and liquid concentrates resulting from the removal of pollutants in these pollution control systems must be practiced. The principles set forth in the EPA's LAND DISPOSAL OF SOLID WASTE GUIDELINES 40 CFR 314 may be used as guidance for acceptable landfill disposal techniques.

(4) Some persons suggested that consideration be given to the effects of these regulations on anthracite production because anthracite mining in the Pennsylvania area is permitted to discharge mine drainage into designated water sheds.

The development document which concludes that the scale of Pennsylvania has established 10 water sheds and has established a "Pollution Abatement Funds" to build and maintain mine drainage treatment facilities to treat mine drainage from active and abandoned mines. These state-owned mine drainage treatment facilities, when constructed, may be considered publicly owned treatment works. Anthracite mining companies located in these 10 water sheds may discharge raw mine drainage and pay the State of Pennsylvania a fee based on the tonnage mined.

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The regulation is applicable to active mines and preparation plants only because it is extremely difficult to address in a national regulatory setting the effects of local conditions on coal mineral deposits and the physical conditions of non-operating mines. Best management practices under the regulation are intended to ensure control and treatment technologies for closed and abandoned mines and preparation plants.

(7) Commenters suggested that the development document implies that support should be provided in deep mines to eliminate surface mining impacts. The submission document excludes end of process controls. In developing cost of compliance for this regulation and the economic impact to the industry.

(8) A commenter suggested that the guidelines should include limitations on TDS, ammonia, and sulphates. Ammonia was not detected in sufficient concentrations to warrant concern at this time. Analysis was performed at one mine, however, technology for economic reduction of these parameters does not exist at this time.

(9) A commenter suggested that the guidelines should include provisions to protect the navigable capacity of reservoirs and waters of the United States from sediment generated by surface coal mining activities in the absence of other regulations for active and abandoned mines.

It is not within the proper scope of effluent limitations and guidelines for these regulations to serve as a substitute for surface mining reclamation laws. The application of the regulations the expression "used by" and "resulting from" the work of extracting coal. "Coal mine" does not clearly include areas ancillary to surface and deep mining.

(10) A commenter stated that intent of P.L. 92-560 is the establishment of interim final guidelines under Section 208 of the Act will address contaminant 40 CFR 434. It was demonstrated that controlled subsidence and abandonment laws. The design of barrier pillars and support pillars is suggested in the development document as good mine engineering to control and decrease the volume of mine drainage which a mine might otherwise have to manage and possibly treat.

(11) A commenter stated that 40 CFR 434 fails to meet the legal standards for promulgation to be served as a substitute for surface mining reclamation laws. Controlled subsidence is a part of many good and recognized mining methods and systems. The design of barrier pillars and support pillars is suggested in the development document as good mine engineering to control and decrease the volume of mine drainage which a mine might otherwise have to manage and possibly treat.

(12) A commenter stated that the guidelines lines include separate limitations for the coal mine point source category as the category is subdivided as required by the language of the act with separate limitations and guidelines which are specific to each subcategory.

(13) A commenter stated that the guidelines include separate limitations for the coal mine point source category as the category is subdivided as required by the language of the act with separate limitations and guidelines which are specific to each subcategory.

(14) A commenter suggested that the guidelines the establishment of daily maximums, the maximum daily values for the coal mine point source category are set at 1.8 and 3.0 times the 30 day average, respectively. The 30 day average effluent limitations in this regulation are intended to provide a statistical evaluation of exemplary treatment plants. Further examination of the data revealed that the maximum daily values for the exemplary plants treated in slightly more than twice the 30 day average effluent limitations.

(15) Commenters stated that it is not common practice in this industry to design treatment facilities for the drainage resulting from a 10 year-24 hour precipitation event. In establishing effluent limitations and guidelines for polar sources whose flow volumes are primarily dependent upon precipitation events a determination must be made as to when treatment facilities would be operated under normal and extraordinary volumes. The 10 year-24 hour precipitation event and the flow resulting from such an event was not included in the guidelines. This guideline can be used for national guidelines providing maximum protection to the environment with an emphasis on group on individual industries by requiring total containment or treatment regardless of volumes encountered.

(20) Commenters stated that the proposed regulation must be modified to provide for a substitute for surface mining reclamation laws. Controlled subsidence and abandonment laws. The design of barrier pillars and support pillars is suggested in the development document as good mine engineering to control and decrease the volume of mine drainage which a mine might otherwise have to manage and possibly treat.

(21) Commenters stated that it is not within the proper scope of effluent limitations and guidelines for these regulations to serve as a substitute for surface mining reclamation laws. Controlled subsidence is a part of many good and recognized mining methods and systems. The design of barrier pillars and support pillars is suggested in the development document as good mine engineering to control and decrease the volume of mine drainage which a mine might otherwise have to manage and possibly treat.

(22) Commenters requested that the limitations and guidelines address analytical techniques which were used by the contractor in analyzing waste water samples obtained during the study and the determination of the various performance parameters.

(23) Commenters challenge the TSS limitations for best available technology eco-
The proposed BAT TSS limitation of 20 mg/l 30 day average and 40 mg/l 1 day max is based partially on mixed media filtration, and mixed media filtration can be used to obtain these levels of TSS. In addition, plants identified in the development document as the basis for BAT limitations are meeting the TSS limitations suggested for BAT without use of mixed media filtration. The estimated costs of BAT compliance and the installation of mixed media filters, the economic impact was found to be minimal.

A commenter suggested that settleable solids be included in the limitations guidelines with or in place of TSS. The limitation on TSS effectively controls the discharge of settleable solids from a point source.

These regulations do not purport to redefine a point source; the definition of mine drainage complements the definition of a point source as set forth in the Act.

A commenter suggested that turbidity replace the limitation on TSS. Turbidity is an indicator of suspended solids and as such can be used to determine the effectiveness of suspended solids. But the turbidity test is specific to the type of solids in the water sample. Because the type of solids may change, turbidity will not always indicate accurately the levels of solids present in the waste water.

A commenter suggested that surface coal mines be excluded from effluent limitations and guidelines for the coal mining industry.

Surface coal mines are a major water pollution source. The agency may not arbitrarily exclude certain point source discharges from effluent limitations and guidelines.

A commenter suggested that the Agency postpone promulgation of TSS limitations pending completion of an ongoing study on TSS removal at surface mines. The agency is currently under a court ordered deadline to revise 40 CFR 436 as published in the Federal Register, 17, 1976 adding limitations for the pollutants identified in the preamble to those regulations. And the Agency has concluded that it has sufficient information with which to draw conclusions as to TSS removal technology and the appropriate TSS limitations.

A commenter contended that the inclusion of aluminum, nickel, zinc, manganese, and dissolved iron in the pollutants identified in the alkaline mine drainage category would pose a burdensome and unnecessary monitoring requirement on this segment of the industry as these pollutant parameters are not normally found in this subcategory. In concentrations over the limitations suggested in the preamble.

Alkaline mine drainage was observed to have low concentrations of metal ions. Alkaline mine drainage is defined as mine drainage which before any treatment has a pH of more than 6 and with a total iron concentration of less than 10 mg/l. The pollutant parameters included in the alkaline mine drainage subcategory are revised in this regulation to include only total iron, suspended solids, and pH.

A commenter suggested that the limitation of no discharge of pollutants from coal preparation plants is contrary to a Mine Enforcement Safety Administration (MESA) regulation which discourages the use of ponds as storage mechanisms and encourages the application of "operating overflows". The requirement of no discharge of pollutants from coal preparation plants does not conflict with the MESA regulation. The provisions that treatment facilities shall be designed, constructed and operated to treat or contain, as applicable, the runoff resulting from a 10 yr-24 hour precipitation and should complement regulation on structural design requirements imposed by regulating agencies such as MESA.

A commenter stated that because of the unique problems associated with the environmental analysis that must be conducted pursuant to the National Environmental Policy Act (NEPA), on any new coal mine permit, new source performance standards applicable to coal mines should not be proposed at this time.

New source performance standards for coal mines will be proposed on or before October 17, 1976, pursuant to the requirement of section 306 of the Act. They are not being proposed at this time because new source coal mine permits, which would have to be issued on many mines after proposal of new source performance standards, pose unique problems in connection with the environmental analyses that must be conducted on them pursuant to the National Environmental Policy Act (NEPA) and Section 511(c) of the Act. The most effective way to comply with NEPA on new source coal mine permits is to assess new coal mining activity on an areawide basis. Such studies are not sufficiently developed at this time to allow EPA to prepare areawide environmental analyses that will document the full range of impact. We anticipate that by October 17, 1976, we will have sufficient data to begin to apply NEPA effectively to new mining operations and at this same time avoid significant disruption to the permitting of new and needed operations that are environmentally sound.