Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

[536-1]

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, 1975 (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 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 alkaline 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 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. 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, operating 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 for Effluent Limitations Guidelines and New Source Performance Standards for the Coal Mining Point Source Category", May 1976, details the analysis undertaken in support of the interim final regulation set forth herein and is available for inspection at the EPA Public Information Reference Unit, Room 2922 (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 additional limited number of copies of both reports are available. Persons wishing to obtain a copy may write the Environmental Protection Agency, Effluent Guidelines Division, Washington, D.C. 20460, Attention: Distribution Officer, WH-552.

When this regulation is promulgated in final rather than interim final form, revised 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.

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 pollutant parameters. Comments on 40 CFR 434 and comments on the development document supporting the regulation were solicited. A summary of these comments and the Agency's response and consideration of these is contained in Appendix C to this preamble.

The Agency has made a study of the economic inflationary 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. The incremental investment required to comply with regulations based on the Best Available Control Technology Economically Achievable is estimated to be $66 million for coal mines. Operations and maintenance costs are estimated to be $15 million per year. There are no additional costs for coal preparation plants since the 1977 standard is for zero discharge of pollutants. These costs and the resultant economic and inflationary impact are briefly discussed in Appendix B to this preamble and are substantially detailed in the economic analysis document. It is hereby certified that the economic and inflationary effects of this proposal have been carefully evaluated in accordance with Executive Order No. 11821.

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. 1609-73) 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 FR 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 discharge 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 delayed.

It has not been practicable to develop and publish revisions to 40 CFR 434 in proposed form, to provide a 30 day comment period, and to make any necessary revisions in light of the comments received within the time constraints imposed by the court order referred to above. Accordingly, 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 should be submitted in triplicate to the Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460, Attention: Distribution Officer, WH-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 taken and why 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 for inspection and copying 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 industry 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 public review procedures published on August 6, 1973 (38 F.R. 21202). 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.

Dated: May 3, 1976.

RUSSELL E. TRAIN,
Administrator.

Subpart A—Coal Preparation Plant Subcategory

Sec.

AUTHORITY: Secs. 301, 304 (b) and (c) and 306(b) and 307(c), Federal Water Pollution Control Act, as amended 33 U.S.C. 1251, 1311, 1314 (b) and (c), 1316(b) and 1317(c); (86 Stat. 816 et seq.; Pub. L. 92-500) (the Act).

Subpart A—Coal Preparation Plant Subcategory

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

The provisions of this subpart are applicable to discharges resulting from the cleaning or beneficiation of coal of any rank including but not limited to bituminous, lignite, and anthracite.

§ 434.11 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 preparation plant" shall mean a facility where coal is crushed, screened, sized, cleaned, dried, or otherwise prepared and loaded prior to the final handling or sizing in transit to or at a consuming facility.

(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.

§ 434.12 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)(1) Subject to the provisions of paragraph (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:

(2) There shall be no discharge of pollutants from coal preparation plants.

(b) Any untreated overflow from facilities designed, constructed, and operated to contain all process generated waste water and the surface runoff to the treatment facility resulting from a 10 year 24 hour precipitation event shall not be subject to the limitations set forth in paragraph (a) of this section.

(c) Where coal preparation plant process waste water is combined for treatment or discharge with waste water from other subcategories in this point source category, the quantity of pollutants allowed to be discharged in the combined discharge shall not exceed the quantity of pollutants which would be allowed under the limitations set forth in subpart B, C, or D, as applicable.

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.

The provisions of this subpart are applicable to discharges which are pumped, siphoned or drained from coal storage, refuse storage and coal preparation plant ancillary areas related to the cleaning or beneficiation of coal of any rank including but not limited to bituminous, lignite and anthracite.

§ 434.21 Specialized definitions.

For the purpose of this subpart:

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

(b) The term "coal preparation plant" shall mean a facility where coal is crushed, screened, sized, cleaned, dried, or otherwise prepared and loaded prior to the final handling or sizing in transit to or at a consuming facility.

(c) The term "coal preparation plant ancillary area" shall mean the areas associated with a coal preparation plant including: the coal preparation plant yards, access roads, and other areas immediately associated with a coal preparation plant where coal or coal refuse, either purposefully or accidentally is al-

lowed to come in contact with precipitation runoff or plant washdown.

(d) The term "ten year 24-hour precipitation event" shall mean the maximum 24-hour precipitation event with a probable re-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.

§ 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 processors, 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) 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:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
	Milligrams per liter	
Iron, total	7.0	3.5
Manganese, total	4.0	2.0
TSS	70	35.0
pH	Within the range 6.0 to 9.0.	

(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

§ 434.30 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 of any rank including but not limited to bituminous, lignite, and anthracite.

§ 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 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 re-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 of land on or in which there has commenced or been completed reclamation work following the grading stage.

§ 434.32 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 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:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
	Milligrams per liter	
Iron, total	7.0	3.5
Iron, dissolved	0.60	0.30
Manganese, total	4.0	2.0
TSS	70.0	35.0
pH	Within the range 6.0 to 9.0.	

(b) Any untreated overflow from facilities designed, constructed and operated to treat the mine drainage and the runoff at the treatment facility resulting from a 10 year 24-hour precipitation event shall not be subject to the limitations 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 required to meet the limitation set forth in paragraph (a) above providing such drainage is not commingled with untreated mine drainage which is subject 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 anthracite.

§ 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 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 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 drainaged, 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 re-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 "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/1.

(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 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) 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:

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
	Milligrams per liter	
Iron, total	7.0	3.5
TSS	70.0	35.0
pH	Within the range 6.0 to 9.0.	

(b) Any untreated overflow from facilities designed, constructed and operated to treat the mine drainage and the runoff at the treatment facility resulting from a 10 year 24 hour precipitation event shall not be subject to the limitations 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 required to meet the limitation set forth in paragraph (a) above providing such drainage is not commingled with untreated mine drainage which is subject to the limitations in paragraph (a).

APPENDIX A—LEGAL AUTHORITY

(1) Existing point sources. Section 301(b) of the Act requires the achievement by not later than July 1, 1977, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 304(b) of the Act. Section 301(b) also requires the achievement by not later than July 1, 1983, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of best available technology economically achievable which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 304(b) of the Act.

Section 304(b) of the Act requires the Administrator to publish regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of the best practicable control technology currently available and the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedural innovations, operating methods and other alternatives. The regulation herein sets forth effluent limitations and guidelines, pursuant to sections 301 and 304 (b) of the Act, for the coal preparation plant subcategory (Subpart A), the coal storage, refuse storage, and coal preparation plant ancillary area subcategory (Subpart B) and the acid or ferruginous mine drainage subcategory (Subpart C) and the alkaline mine drainage subcategory (Subpart D) of the coal mining point source category.

Section 304(c) of the Act requires the Administrator to issue to the States and appropriate water pollution control agencies information on the processes, procedures or operating methods which result in the elimination or reduction of the discharge of pollutants to implement standards of performance under section 306 of the Act. The report entitled "Development Document for Effluent Limitations Guidelines and New

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

(2) New sources. 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 greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available 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 regulation proposed in another section 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.

(3) Pretreatment for existing sources and for new sources. Section 307(b) of the Act requires the establishment of pretreatment standards for pollutants introduced into publicly owned treatment works and 40 CFR 128 establishes that the Agency will propose specific pretreatment standards at the time effluent limitations are established for point source discharges.

Section 307(c) of the Act requires the Administrator to promulgate pretreatment standards for new sources at the same time that standards of performance for new sources are promulgated pursuant to section 306. In another section of the FEDERAL REGISTER regulations are proposed in fulfillment of these requirements which may not be fulfilled by this interim final regulation.

APPENDIX B—TECHNICAL SUMMARY AND BASIS FOR REGULATIONS

This Appendix summarizes the basis of interim final effluent limitations and guidelines for existing sources to be achieved by the application of best practicable control technology currently available, proposed effluent limitations and guidelines for existing sources to be achieved by the application of the best available technology economically achievable and proposed standards of performance for new sources.

(1) General methodology. The effluent limitations and 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 probems, 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 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 permit applications, EPA sampling and inspections, consultant reports, and industry submissions.

(2) Summary of conclusions with respect to the coal preparation plant subcategory (Subpart A), coal storage, refuse storage and the coal preparation plant ancillary area subcategory (Subpart B), and the acid or ferruginous mine drainage subcategory (Subpart C) and the alkaline mine drainage subcategory, (Subpart D) of the coal mining point source category.

(i) Categorization. For the purpose of studying waste treatment and effluent limitations the coal mine point source category was initially subcategorized by the established Standard Industrial Classification (SIC) groups applicable to the coal mining industry. These SIC groups were then further subdivided by: geographic location of the mine, type of mine (surface or deep), and size of mine (annual tonnage); all based on anticipated variations in raw waste water. After statistical analysis of the data obtained during the study it was determined that based on waste treatment the coal mining point source category should be divided into four discrete subcategories based on the origin of the waste water, i.e., waste water from the mining activities and waste water from the coal preparation activities, or mining services activities. Waste water from the mining activities was further subdivided by the characteristics of the raw mine drainage. Coal preparation, or mining services activities, were subdivided as to the waste water from the preparation plants and the waste water from coal storage, refuse storage, and the ancillary areas associated with the coal preparation plants.

(1) Subpart A—Coal Preparation Plant. The provisions of this subpart are applicable to discharges resulting from the cleaning or beneficiation of coal of any rank including but not limited to bituminous, lignite, and anthracite.

(2) Subpart B—Coal Storage, Refuse Storage, and the Coal Preparation Plant Ancillary Area. The provisions of this subpart are applicable to discharges which are pumped, siphoned or drained from coal storage, refuse storage and coal preparation plant ancillary areas related to the cleaning or beneficiation of coal of any rank including 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.

(ii) Waste characteristics. The raw waste characteristics of coal preparation plan process water (Subpart A) are highly dependent upon the particular process or recovery technique utilized in the operation. Process techniques generally require an alkaline media for efficient and economic operation, therefore process water does not dissolve significant 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 cleaning coal fines, process water contain less suspended solids than process water at coal preparation plants which do not clean or recover coal fines.

The raw waste characteristics of the discharge from coal storage, refuse storage and coal preparation plant ancillary areas (Subpart B) are characterized as being generally similar to the raw mine drainage at the mine served by the preparation plant. Geologic and geographic setting of the mine and the nature of the coal mined affect the characteristics of the discharge from coal storage, refuse storage, and the coal preparation plant ancillary areas.

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 grossly 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) and mine type (deep or surface). Each class of mine drainage is directly related to the treatment technology required.

Acid or ferruginous mine drainage (Subpart C) can be characterized as raw mine drainage requiring neutralization and sedimentation which is acid with high iron concentrations and varying concentration of other metal ions including aluminum, manganese, nickel, and zinc, plus varying concentrations of 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.

Effluent limitations guidelines and standards of performance are established to control pollutant parameters based primarily on the following criteria: (1) pollutants which are frequently present in coal mine point source discharges in concentrations deleterious to aquatic organisms; (2) technology exists for the reduction or removal of the pollutant in question; and (3) research data indicates that certain concentrations of pollutants are capable of disrupting an aquatic ecosystem. The following were identified as the pollutants in coal mine drainage, coal storage, refuse storage, and preparation plant ancillary area waste water discharges: acidity, iron, manganese, aluminum, nickel, zinc, and suspended solids. The following were

identified as the pollutants in preparation plant waste water discharges: acidity, iron, and suspended solids.

Several other waste water constituents were considered including: total dissolved solids, sulfates, flourides, strontium, and ammonia. Effluent limitations have not been proposed for ammonia, sulfates, fluoride, and strontium because the level observed in coal mine waste water discharges generally do not warrant concern. Total dissolved solids concentrations in coal mine discharges approach levels capable of disrupting an aquatic ecosystem, but economically feasible technology for achieving substantial reductions in dissolved solids levels does not exist at this time.

(iii) *Origin of waste water pollutants.* Coal preparation plants fall into three general stages, based on degree of cleaning and unit operations. Stage 1 consists of crushing and sizing which are basically dry processes and do not produce a waste water discharge. Stage 2 consists of primary crushing, sizing, gravity separation of coarse coal, dewatering of clean coal and refuse, and removal of coal and refuse fines from process waters. Stage 3 consists of crushing, sizing, gravity separation of all sizes of coal, secondary separation of coal fines or froth flotation, dewatering of clean coal and refuse, heavy media recovery when required, thermal drying of clean coal, and removal of coal and refuse fines from process water. Stages 2 and 3 coal preparation plants use water in the beneficiation processes. Fine coal and mineral particles are suspended in the coal preparation plant process waters, and some minerals associated with the coal and its impurities are dissolved in the coal preparation plant's process water. Additional waste water of a non-contact nature may result from boiler blowdowns and non-contact cooling waters such as bearing cooling water.

The waste water situation evident in the mining segment of the coal industry is unlike that encountered in most other industries. Water enters mines via precipitation, ground water infiltration, and runoff where it may become polluted by contact with materials in the coal, overburden material, or mine bottom. Except for dust control and fire protection, water is not used in the actual mining of coal in the U.S. at the present time. Waste water handling and management is required, and is a part of most coal mining methods or systems to insure the continuance of the mining operation and to improve the efficiency of the mining operation. This waste water is discharged from the mine as mine drainage. Mine drainage may be polluted and require treatment before it can be discharged to navigable waters. In addition to handling and treating often massive volumes of waste water during actual mining operations or coal loading, coal mine operators are faced with the same burden during idle periods. Mine drainage may continue indefinitely after all mining operations have ceased if proper mining methods and control technology are not employed, or even increase in intensity after mine closure if proper mine drainage control technology is not employed. Control of mine drainage after mine closure or abandonment is not included in this interim final regulation although techniques are described in the Development Document, referenced below, which can control or ameliorate mine drainage after mine closure and all activities associated with the mine have ceased. Control of mine drainage from surface mines or sections of surface mines which have been returned to final grade or contour is not included in this interim final regulation although techniques are described in the development document, referenced below which can control or ameliorate mine drainage from this aspect of mining.

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

The waste waters from the actual mining and the coal storage, refuse storage and coal preparation ancillary areas of the coal mining industry are essentially unrelated to production quantities. Therefore, raw waste loadings are expressed in terms of concentration rather than units of production.

(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. Although it is legally permissible to base effluent limitations on inprocess changes, the technology used as the basis for this regulation is end-of-pipe treatment only.

Waste water control technology includes techniques employed before, during and after the actual mining operation to reduce or eliminate adverse environmental effects resulting from waste water discharges from coal mine point sources. Control technology as discussed in the Development Document, referenced below, has been categorized as to control technology related to surface mining, underground mining, and coal preparation.

Surface mine pollution control technology is divided into two major categories—mining technology (specific mining techniques) and final waste water pollution control technology (reclamation of land areas disturbed by mining). Although these surface mine pollution control technologies are addressed in the development document, referenced below, they are not included as part of this interim final regulation, but may be used to reduce the volume and expense of waste water treatment required during operations and reduce or eliminate adverse environmental effects after activities associated with the mine have ceased.

Underground mine pollution control technology is divided into methods of reducing water influx into mine workings, and preplanned flooding on mine closure. The reduction of water influx into underground mines can reduce the volume and expense of waste water treatment during operations, though it is not required by this interim final regulation. While it has been demonstrated that preplanned flooding on deep mine closure can reduce or control water pollution after mine closure it is not included as part of this interim final regulation.

Coal preparation pollution control technology is divided into surface water control and final waste water pollution control technology at preparation plant refuse disposal areas (reclamation). While reclamation of preparation plant refuse disposal areas has been demonstrated as control technology which ameliorates this aspect of pollution from mining, it is not required as part of this interim final regulation.

That water quality degradation may be caused by discharges from areas affected by mining which are not included under this regulation is recognized by the Agency. In many cases the pollution from these areas is more severe than that from the active area included in this regulation. The Agency is considering possible application of section 208 of the Act (Best Management Practices) which will address in detail control technologies to be used toward the amelioration of these aspects of coal mining related pollution and will be providing guidance to control this facet of the pollution problem.

Waste water treatment technology is categorized in the Development Document, referenced below, as to treatment technology for coal preparation plant process waste water and treatment technology for the two classes of mine drainage. Coal preparation plant process waste water treatment consists primarily of clarification techniques for suspended solids removal including thickeners, flocculation, settling basins, vacuum filtration, and pressure filtration. Of the 135 coal preparation facilities utilizing wet cleaning processes investigated during the study (either through site visits or industry supplied data), 87 located in various terrain and geographic locations had closed water circuits.

Treatment technology for acid or ferruginous mine drainage includes flow equalization, acidity neutralization and precipitation of insoluble metal hydroxides, ferrous iron oxidation, and suspended solids removal. Surface holding ponds or underground sumps are employed to equalize the flow of mine drainage before treatment. Mineral acidity in the raw mine drainage is neutralized with an alkali, usually hydrated lime, which removes iron, manganese, and other soluble metals through the formation of their insoluble hydroxides. When iron is present in raw mine drainage in the ferrous form, usual practice is to provide aeration facilities for oxidation to the ferric state. Suspended solids are formed as a result of the chemical treatment. Both earthen settling basins and mechanical clarifiers are used for removal of suspended solids. It was observed that total iron is one of the most commonly analyzed constituents of acid or ferruginous mine drainage, and iron reduction is generally representative of the overall effectiveness of the neutralization process. It has been demonstrated that, with total iron removed to within 3.5 mg/l, total aluminum, total nickel, and total zinc are removed to within the limits suggested in the preamble to 40 CFR 434 (40 F.R. 48830). Therefore, total aluminum, total nickel, and total zinc are not included in the limitations and guidelines of this regulation for acid or ferruginous mine drainage.

Treatment technology for alkaline mine drainage generally consists of solids removal in settling ponds. Some alkaline mine drainages may require no treatment to meet this regulation. It has been demonstrated that natural aeration in settling can reduce total iron concentrations in alkaline mine drainages from over 3 mg/l to less than 3 mg/l. Alkaline mine drainage was observed to have low concentrations of other metal ions. Therefore, the pollutant parameters included in the alkaline mine drainage subcategory of 40 CFR 434 (40 F.R. 48829) have been revised to include only total iron, total suspended solids and pH.

Solid waste control must be considered. Best practicable control technology as known today, requires disposal of the pollutants removed from waste waters in this industry in the form of solid wastes and liquid concentrates. In most cases these are nonhazardous substances requiring only minimal custodial care. However, some constituents may be hazardous and may require special consideration. In order to insure long-term protection of the environment from these hazardous or harmful constituents, special consideration of disposal sites must be made. All landfill sites where such hazardous wastes are disposed should be selected so as to prevent

horizontal and vertical migration of these contaminants to ground or surface waters. In cases where geologic conditions may not reasonably ensure this, adequate legal and mechanical precautions (e.g. impervious liners) should be taken to ensure long term protection to the environment from hazardous materials. 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 runs up to 42 cents per ton of designed annual capacity for BPT and up to 69 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 28 cents per ton for BPT and 23 cents per ton for BAT. The estimated investment cost to meet BPT for a coal preparation plant is 41 cents per ton of annual design capacity. Annual costs of treatment inclusive of capital charges for the preparation plants are 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 for compliance with this interim final and proposed effluent limitations and standards are low. The main use of energy is for pumps, mixers, and control instruments. Wherever feasible, gravity flow is used in coal preparation plants and mine drainage treatment facilities. Mine dewatering is considered an inherent part of the mining method or system.

Inherent to coal preparation is the major problem of solid waste disposal which can be a source of air pollution. The amount of additional waste and resultant air pollution produced as a result of these regulations is insignificant 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 132 million dollars for BPT and an additional incremental cost of 66 million dollars for BAT. Annual costs are estimated to be less than 90 million dollars for BPT and 25 million dollars for BAT. Prices of raw coal are expected to rise between 0 and 28 cents per ton as a result of BPT. An additional increase of between zero and 23 cents is expected to result from implementing BAT. Prepared coal prices will increase no more than 7 cents in 1977. Prices will not rise immediately to cover compliance costs. In the interim net revenues are expected to be reduced by no more than 2.9 percent for coal mines and 5.7 percent for coal preparation plants. These profitability decreases are not expected to result in closures of mines or preparation plants. Some closures of marginal establishments existing under unique circumstances may result from the guidelines.

The impact of these regulations on employment, local economics, industry growth and the balance of trade is not expected to be significant.

Executive Order 11821 (November 27, 1974) requires that major proposals for legislation and promulgation of regulations and rules by agencies of the executive branch be accompanied by a statement certifying that the inflationary impact of the proposal has been evaluated.

OMB Circular A-107 (January 28, 1975) prescribes guidelines for the identification and evaluation of major proposals requiring preparation of inflationary impact certifications. The Administrator has directed that all regulatory actions which are likely to result in annualized costs in excess of $100 million will require certification.

The inflationary impact of these regulations has been considered in accordance with Executive Order 11821. Projected effects of the regulations on prices and economics of the industry as summarized above have been reviewed by the Agency.

Appendix C—Summary of Public Participation

Prior to this publication, factual conclusions which support promulgation of this regulation were set forth in substantial detail in the interim final rules and notice of proposed rulemaking for the coal mining point source category published October 17, 1975 (40 FR 48830) and in the notice of public review procedures published October 6, 1973 (38 FR 21202). In addition, the regulation as promulgated in interim final form on October 17, 1975 was supported by two other documents; (1) the document entitled "Development Document for Interim Final Effluent Limitation Guidelines and New Source Performance Standards for the Coal Mining Point Source Category" (October 1975) and (2) the document entitled "Economic Impact of Interim Final Effluent Guidelines on the U.S. Coal Mining Industry" (September 1975). Both of these documents were made available to the public and circulated to interested persons at approximately the time of publication of the notice of interim final rulemaking.

Prior to the publication of the notice of interim final rulemaking (40 FR 48830) an initial draft of the development document was distributed to federal agencies, all state and territorial pollution control agencies, industry trade associations and conservation organizations. Comments on that draft report were solicited. The major comments received and the Agency's response were described in the notice of interim final rulemaking (40 FR 48830).

Interested persons were again invited to participate in the rulemaking by submitting written comments within 30 days of the date of publication of the promulgated interim final regulation (40 FR 48830).

Summary of Comments.

The following responded to the request for written comments contained in the notice of interim final rulemaking: U.S. Department of Health, Education, and Welfare; U.S. Department of the Interior; Department of the Army; State of Pennsylvania, Department of Environmental Resources; Natural Resources Defense Council, Inc.; U.S. Energy Research and Development Administration; West Virginia Citizen Action Group; American Electric; State of Colorado, Department of Health; Company; U.S. Environmental Protection Agency, Region VIII; Save Our Cumberland Mountains; State of Colorado, Executive Office; State of Colorado, Department of Health; Consolidation Coal Company; State of Wyoming, Department of Environmental Quality; American Mining Congress; Jones and Laughlin Steel Corporation; Tesoro Coal Company; Tennessee Valley Authority; Island Creek Coal Company; United States Steel Corporation; Appalachian Research and Defense Fund of Kentucky, Inc.; 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 434 (40 FR 48830 (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 economic impact analysis relative to the detailed effluent standards. Therefore, only pH was regulated. The regulations published today establish limitations for pollutants identified in 40 CFR 434 and is supported 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, agriculture, recreation, industrial 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 the requirement that there shall be no discharge of pollutants from coal preparation plants should be defined.

A revised industry survey of 180 preparation plants representing over 50 percent of the total preparation plants in the United States had 135 preparation plants reporting of which 67 reported closed water circuits. An allowance in these regulations is made for discharges based on the facility being designed, constructed and operated to contain all process waste water plus the runoff resulting from a 10 yr/24 hr precipitation event. Settling basins and ponds associated with a preparation plant are considered to be treatment facilities and a part of the preparation plant's pollution control system. 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 241 may be used as guidance for acceptable land disposal techniques.

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

The development document recognizes that the State of Pennsylvania has established 10 water sheds and has established a "Pollution Abatement Escrow Fund" 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. If the mining facility discharges to such treatment works the mining operation will not be considered a direct point source for the purposes of the Act.

(5) Commenters stated that effluent limitations and guidelines should consider the effect on ground water from settling facilities and sludge removal and disposal.

Effluent limitations and guidelines are applicable to point source discharges as defined in the Act.

(6) Commenters stated that these limitations should apply to discharges from closed or abandoned mines and preparation plants.

The regulation is applicable to active mines and preparation plants only because it is extremely difficult to address in a national regulation the widely varying ownership-and physical conditions of non-operating mines. Best management practices under Section 208 of the Act will address 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 subsidence.

Limitations on subsidence are not required by this regulation. 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.

(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. TDS and sulphates were detected; 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.

(10) A commenter stated that intent of P.L. 92-500 is the establishment of national regulations which minimize competitive advantages enjoyed by states without firm effluent limitations and the regulation of one parameter, pH, in 40 CFR 434, does not establish meaningful national regulations.

This regulation adds limitations for those pollutants identified in 40 CFR 434.

(11) A commenter stated that 40 CFR 434 fails to meet the legal standards provided by P.L. 92-500 and the court order of April 24, 1975 (NRDC vs Train, et. al.).

This regulation adds limitations for those pollutants identified in 40 CFR 434 or effectively regulates those pollutants by use of surrogate indicators, as required by the court order of December 12, 1975 (NRDC vs Train, et. al).

(12) A commenter stated that the guidelines improperly exclude reclamation as a control technology. The commenter said that best practicable control technology includes end of process controls.

The application of reclamation, or revegetation, is not required by this regulation as the technology used as basis for this regulation is end of pipe treatment only, although it is legally permissible to use in-process controls as a BPT technology. Best management practice under section 208 will address uniform reclamation procedures for active coal mines and reclamation procedures for abandoned and inactive coal mines. It is not intended that P.L. 92-500 be a substitute for federal legislation governing surface mining of coal.

(13) Commenters suggested that the definition of "coal mine" does not clearly include areas ancillary to surface and deep mines.

In the definition of a coal mine which is used in the regulations the expression "used in or resulting from the work of extracting coal from its natural deposits" modifies "the area."

(14) A commenter suggested that the guidelines should not be applicable to those mines producing less than a certain annual tonnage.

Categorization based on a mine's annual tonnage was initially considered for this industry category but was rejected because it was not found to be a valid indicator of pollution. The industry was categorized based on two classes of mine drainage in the mining segment of the industry. Mine size based on annual tonnage, however, was considered in developing cost of compliance for this regulation and the economic impact to the industry.

(15) A commenter suggested that the guidelines should include a provision that waste water control facilities should remain in place at surface mines up to the return of the complete reclamation bond, if applicable, by the individual states.

Reclamation is not required by this regulation. The area which a surface mine is responsible for is limited to the area used in and resulting from mining up to the return of the area of final grade or contour. It is not the province of the effluent limitations and guidelines to require any specific operating practice.

(16) A commenter stated that guidelines and effluent limitations should specify factors to be taken into account by permit granting authorities and provide permissible ranges of effluent limitations reflecting a base level or minimum amount of control rather than rigid effluent limitations which provide no flexibility and latitude for consideration of factors required to be taken into account under section 304(b) of the Act.

Under the Agency's view of the law, which has been accepted by most reviewing courts, the Agency is required to promulgate regulation which is specific and definite. The language of the Act and the legislative history of the Act supports the authority of the Agency to issue single-number effluent limitations guidelines under Sections 301 and 304 of the Act. The use of single numbers in this regulation does in fact provide a range of discharge levels for the coal mine point source category as the category is subcategorized as required by the language of the Act with separate limitations and guidelines where indicated for each subcategory.

(17) A commenter suggested that in the preamble to 40 CFR 434 the daily maximum limitations do not take into consideration upsets in the treatment facilities. Other commenters suggested that the daily maximum should be set at 1.5 and 3.0 times the 30 day average, respectively.

The 30 day average effluent limitations in this regulation are based on a statistical evaluation of exemplary treatment plants. Further examination of the data revealed that the maximum daily values for the exemplary plants centered around slightly less than twice the 30 day average effluent limitations. To maintain uniformity in the establishment of daily maximums, the maximum daily limitations are twice the thirty day average values.

(18) Commenters stated that pollutant limitations for aluminum, nickel, zinc, manganese, and dissolved iron could be reduced to the limitations suggested in the preamble to 40 CFR 434 when total iron was reduced to less than 3.5 mg/l in acid or ferruginous mine drainage.

For the acid or ferruginous mine drainage subcategory, total aluminum, total zinc and total nickel are removed from the pollutant parameters included in the interim final regulations (40 CFR 434). It has been demonstrated that with total iron removed to within 3.5 mg/l; total aluminum, total zinc, and total nickel are removed to within the limits suggested in the preamble to 40 CFR 434 (40 FR 48830). It was demonstrated that the removal of manganese is affected by the operating pH of the treatment plant. Manganese removals can be obtained through pH control at generally higher pH levels than the pH control used at some plants to effect iron removals. Manganese is a significant pollutant and iron removals are not necessarily indicative of manganese removals at AMD treatment facilities. Mangenese is therefore included in the pollutant parameters for acid or ferruginous mine drainage.

(19) Commenters requested that with a limitation guideline of no discharge of pollutants from coal preparation plants an allowance should be made for those treatment facilities treating a combined waste water discharge from preparation plants and mine drainage or drainage from coal storage, refuse storage, and preparation plant ancillary areas.

In this regulation paragraph (c) in sections 434.12, 434.14, and 434.15, which are applicable to the coal preparation subcategory, makes an allowance for combined treatment of preparation plant process water and mine drainage or drainage from coal storage, refuse storage, and preparation plant ancillary areas. Preparation plants with a closed water circuit require makeup water to compensate for water loss on coal, refuse, and water loss through thermal drying. This regulation is intended to encourage the use of mine drainage for makeup water to coal preparation plants.

(20) Commenters stated that the promulgation of interim final guidelines abrogated the comment period allowed on proposed regulations.

Parties have had several months to comment on the proposed pollutant parameters and suggest effluent levels. Also, as stated in the preamble to 40 CFR 434 and this regulation, pursuant to 5 USC 553(b), notice and comment on the interim final regulation would be impractical and contrary to the public interest.

(21) Commenters stated that it is not common practice in this industry to design treatment facilities for the drainage resulting from a 10 yr-24 hr precipitation event.

In establishing effluent limitations and guidelines for point sources whose flow volumes are primarily dependent upon precipitation events a determination must be made as to when treatment facilities would be overwhelmed by extraordinary volumes. The 10 yr-24 hr 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 undo financial hardship on individual industries by requiring total containment or treatment regardless of volumes encountered.

(22) Commenters requested that the limitations and guidelines address analytical techniques which were used by the contractor in analyzing waste water samples, and which would be used by industry in reporting the concentrations of the various parameters.

The analytical method used by the contractor in analyzing waste water samples obtained during the study are those procedures outlined in 40 CFR 136 guidelines establishing test procedures for the analysis of pollutants (38 FR 23758). As deemed necessary the Administrator will expand or revise these (guidelines) to provide the most responsive and appropriate list of test procedures to meet the requirements of sections 301, 304 (g), 401 and 402 of the Act.

(23) Commenters challenge the TSS limitation for best available technology eco-

nomically achievable as recommended in the development document as it was partially based on transfer of technology. BAT proposes a reduction of 15 mg/1 TSS when compared to the suggested BPT level in the October preamble (40 FR 48830). The added cost of filtration cannot be justified by the relatively minor reduction in TSS load discharges achieved.

The proposed BAT TSS limitation of 20 mg/1 30 day average and 40 mg/1 daily 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.

(24) 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.

(25) Commenters stated that the definition of mine drainage is so stated to include nonpoint sources.

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.

(26) 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.

(27) 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.

(28) 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 434 as published on October 17, 1975 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.

(29) Comment 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.

(30) 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.

(31) A commenter stated that the economic impact analysis of interim final effluent limitations and guidelines on the U.S. coal mining industry supporting the initial regulation fails to demonstrate that the model plants are representative of the industry.

For the purpose of developing effluent limitations and guidelines this industry was categorized into four subcategories: two classes of mine drainage (1. acid or ferruginous mine drainage and 2. alkaline mine drainage) process waste water from coal preparation plants; and drainage from coal storage, refuse storage, and coal preparation plant ancillary areas. For developing cost and economic impact of this regulation to the industry, for the purpose of developing models, the industry was segmented geographically with each geographic segment further segmented by the type of mine (deep or surface) and the type of mine further segmented as to three sizes of operation based on annual tonnage. Costs of compliance of this regulation were then estimated for each of these segments and compared with the production cost per ton vs the realization per ton. This has shown to be a realistic method of calculating the economic impact.

(32) A commenter stated that the analytical procedures used by the contractor which are referred to in supplement A differ from the requirements established in 40 CFR 136 (38 FR 28758).

The contractor performed all analysis using methods referenced in 40 CFR 136. In supplement A, the reference for nickel contains a typographical error. It should refer to Standard Methods, atomic absorption, page 443.

(33) A commenter stated that the pollutant content of supply water be taken into consideration when determining permanent limitations.

Under certain circumstances the supply water pollution content may be considered. The "net-gross" pollution issue is addressed in 40 CFR Part 125.

(34) 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 analysis 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.

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