

ENVIRONMENTAL PROTECTION  
AGENCY

[ 40 CFR Part 418 ]

[ FRL 271-4 ]

FERTILIZER MANUFACTURING POINT  
SOURCE CATEGORY

Proposed Effluent Limitations and  
Guidelines

Notice is hereby given that effluent limitations and guidelines for existing sources and standards of performance and pretreatment standards for new sources set forth in tentative form below are proposed by the Environmental Protection Agency (EPA). On April 8, 1974, EPA promulgated a regulation adding Part 418 to Title 40 of the Code of Federal Regulations (39 FR 12832). That regulation with subsequent amendments established effluent limitations and guidelines for existing sources and standards of performance and pretreatment standards for new sources for the fertilizer manufacturing point source category. The regulation proposed below will amend 40 CFR Part 418—fertilizer manufacturing point source category by adding thereto the ammonium sulfate subcategory (Subpart F) and the mixed and blend fertilizer production subcategory (Subpart G) pursuant to sections 301, 304(b) and (c), 306(b) and 307(c) of the 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).

(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) to 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 procedure innovations, operating methods and other alternatives. The regulation proposed herein sets forth effluent limitations and guidelines, pursuant to sections 301 and 304(b) of the Act, for the ammonium sulfate subcategory (Subpart F) and the mixed and blend fer-

tilizer production subcategory (Subpart G) of the fertilizer manufacturing point source category.

(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(b)(1)(B) of the Act 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(b)(1)(A) of the Act. The Administrator published in the FEDERAL REGISTER of January 16, 1973 (38 FR 1624), a list of 27 source categories, including the fertilizer manufacturing category. The regulations proposed herein set forth the standards of performance applicable to new sources for ammonium sulfate subcategory (Subpart F) and the mixed and blend fertilizer production subcategory (Subpart G) of the fertilizer manufacturing point source category.

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. Sections 418.66 and 418.76, proposed below, provide pretreatment standards for new sources within ammonium sulfate subcategory (Subpart F) and the mixed and blend fertilizer production subcategory (Subpart G) of the fertilizer manufacturing 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 or "Development Document" referred to below provides, pursuant to section 304(c) of the Act, information on such processes, procedures or operating methods.

(b) *Summary and Basis of Proposed Effluent Limitations Guidelines for Existing Sources and Standards of Performance and Pretreatment Standards for New Sources*.

(1) *General methodology*. The effluent limitations, guidelines and standards of performance proposed herein were developed in the following manner. The point source category was first studied for the purpose of determining whether separate limitations and standards 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 and standards 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 and standards of performance 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 are 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 non-water quality environmental impact, such as the effects of the application of such technologies upon other pollution problems, including air, solid waste, noise and radiation, was 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," "best available technology economically achievable" and the "best available demonstrated control technology, processes, operating methods, or other alternatives." 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, non-water 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.

The pretreatment standards proposed herein are intended to be complementary to the pretreatment standards proposed for existing sources under 40 CFR Part 128. The basis for such standards is set forth in the FEDERAL REGISTER of July 19, 1973, 38 FR 19236. The provisions of Part 128 are equally applicable to sources which would constitute "new sources," under section 306 if they were to discharge pollutants directly to navigable waters, except for § 128.133. That section provides a pretreatment standard for "incompatible pollutants" which requires application of the "best practicable con-

trol technology currently available," subject to an adjustment for amounts of pollutants removed by the publicly owned treatment works. Since the pretreatment standards proposed herein apply to new sources, §§ 418.66 and 418.76 below amend § 128.133 to specify the application of the standard of performance for new sources rather than the "best practicable" standard applicable to existing sources under sections 301 and 304(b) of the Act.

(2) Summary of conclusions with respect to ammonium sulfate subcategory (Subpart F) and the mixed and blend fertilizer production subcategory (Subpart G) of the fertilizer manufacturing point source category.

(i) *Categorization.* For the purpose of establishing effluent limitation guidelines and standards, the formulated fertilizer segment of the fertilizer manufacturing category was divided into two discrete subcategories. As is discussed in detail in the Development Document cited below, these subcategories were derived following analysis of a number of factors. Among these factors were waste water characteristics, natural industry division, and treatability of water streams by either reuse in the process or treatment technology.

Ammonium sulfate is historically regarded by industry as a nitrogen fertilizer, separate from the mixed fertilizers. It does not have an actual process effluent, because of the highly exothermic nature of the ammonia-sulfuric acid reaction. Another consideration for a separate ammonium sulfate subcategory is the relatively pure nature of the process stream. Ammonium sulfate plants are part of either a steel making or fertilizer complex.

The mixed and blend fertilizer plants are subcategorized primarily on the basis of raw materials and the manufacturing and effluent control processes involved. The raw materials of this segment are principally products obtained from the basic fertilizer processes. The effluent control practices of the mixed and blend subcategory involve containment and reuse of the wastes. Mixed and blend plants are usually isolated units as opposed to being part of an integrated fertilizer complex.

(ii) Origin and characteristics of process waste water generated by the manufacture of formulated fertilizer products.

(1) *Ammonium sulfate.* Ammonium sulfate in this subcategory is manufactured by two processes; synthetic and coke oven by-product. The synthetic process involves direct combination of ammonia and sulfuric acid. By-product ammonium sulfate is manufactured from ammonia reclaimed from the coking of coal by absorption with sulfuric acid.

Synthetic ammonium sulfate is manufactured by the neutralization of sulfuric acid with ammonia. The product ammonium sulfate is crystallized, cooled, and separated by centrifugation. Follow-

ing centrifugation, the crystals are washed and dried to product specifications. The major process effluent results from the condensers, with either direct or indirect water-gas contact. Process waste waters contributing to raw waste load are also generated by crystal wash water, process condensate, and leaks and spills. The significant waste water constituent is ammonia as nitrogen.

Various methods exist to produce ammonium sulfate as a coke oven by-product. These methods all combine coke oven off-gases with sulfuric acid to form ammonium sulfate crystals. A particular method is chosen depending on the grade and crystal size desired. The process unit operations and functions of these methods are essentially identical to the synthetic ammonium sulfate process. Thus, the water usage and waste characteristics are much the same. Since the source of ammonia is coke production, various cations and anions, in addition to ammonia, may be present in the process stream as well as small concentrations of phenol, tar, and cyanide.

(2) *Mixed and blend fertilizers.* A mixed fertilizer is manufactured by the mixing of straight and mixed fertilizer materials through chemical reactions into complete mixed goods. The process involves the controlled rate addition of both dry and liquid raw materials to a granulator for mixing. The mixed fertilizer product is dried, sized, and cooled and then conveyed to storage or shipment. Significant process waste waters result from the use of water scrubbing of drier, cooler, and ammoniator exhaust gases. Water is also used for pump seals and plant wash-up. Spills and leaks and nonpoint source discharge also account for a small portion of the waste water load. The waste stream includes water monia, phosphorus, and fluoride.

Blend fertilizer plants mix dry, straight and mixed fertilizers into complete mixed goods. There are no liquids used in the operation and thus no liquid wastes.

(iii) *Treatment and control technology.* Waste water treatment and control technologies have been studied for each subcategory of the industry to determine what is (a) the best practicable control technology currently available, (b) the best available technology economically achievable, and (c) the best available demonstrated control technology, processes, operating methods or other alternatives. Good in-process control is a significant pollution abatement technique for the ammonium sulfate subcategory. The highly exothermic characteristic of the ammonia-sulfuric acid neutralization reaction permits the addition of the minor process effluents (crystal wash, spills and leaks, and indirect contact gas condensate) back into the process. The treatment technology to accomplish this is a trench and sump system with a pump to collect and recirculate minor contaminated effluent streams. The collected effluent is returned on a controlled basis to the crystallizer. This is the best practicable control technology currently

available, best available control technology economically achievable, and best available demonstrated control technology, resulting in no discharge of process waste water pollutants to navigable waters.

The blend fertilizer process has no liquid requirements. Process raw materials include only dry materials, and only dry type air effluent control equipment is used. Treatment technologies are not required for this process to achieve no discharge of process waste water pollutants to navigable waters.

For mixed fertilizer plants the effluent control system consists of a closed loop contaminated water system with a small retention pond for settling and clarifying the contaminated water. Pond water is returned for use in the granulator and in wet scrubbers which remove noxious gases and particulate material.

The best practicable control technology currently available, the best available control technology economically achievable, and the best available demonstrated control technology consist of the contaminated water recirculation system. The degree of effluent reduction is no discharge of process waste water pollutants to navigable waters.

Solid waste control must be considered. Best practicable control technology and best available control technology as they are known today, require 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 non-hazardous substances requiring only minimal custodial care. However, some constituents may be hazardous and may require special consideration. In order to ensure 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.

(iv) *Cost estimates for control of waste water pollutants.* Cost information was obtained from industry, government sources, engineering firms, and available literature. Costs are based on the model plant concept, which requires a synthesizing of data to develop a representative plant profile. A review of costs with various companies was undertaken for validation of data.

Investment costs for a plant within the ammonium sulfate subcategory for the best practicable control technology are less than \$9,000. The technology and costs are the same for synthetic and by-product plants. Estimated annual operat-

ing costs were reported at \$2,000. All of the ammonium sulfate plants surveyed utilized this control technology necessary to meet no discharge requirements. Individual mixed fertilizer plants of 40 ton per hour production capacity will require \$245,000 for wet scrubbers to meet the no discharge standard, and annual operating costs of \$52,000. Those plants with scrubbers, but without retention ponds, will incur costs of \$10,000.

Costs have been uniformly calculated, based on 10 percent straight line depreciation. Operation and maintenance are estimated at 4 percent of investment. Interest costs are adjusted to 7.5 percent of average investment over the 10 year life of the equipment to reflect average annual interest costs. All costs are based on August 1971 figures and adjusted to reflect 1973 dollar values.

(v) *Energy requirements and nonwater quality environmental impacts.* Increases in energy consumption for meeting best practicable control technology currently available are estimated to be \$.05/hr for ammonium sulfate plants and \$3.09/hr for mixed fertilizer plants.

Thermal pollution was not encountered in this study nor was noise or odor pollution.

(vi) *Economic impact analysis.* No adverse economic impacts are expected due to BPT, BAT, or NSPS regulations. The annual costs as a percentage of sales are negligible for all segments; and the capital investment necessary to meet the guidelines is not significant—except in the mixed fertilizer subcategory. However, only about 130 of the 362 mixed plants will need to make expenditures to comply with BPT standards. It is estimated that 97 of these 130 plants will close as the result of economic reasons unrelated to pollution control. Thus, actual expenditures for BPT should not be large.

The analysis of blend plants has assumed that no treatment is required. On the other hand, 1 to 4 plants may have wet scrubbers due to state or local air pollution regulations. Such plants would have to make substantial investments in order to meet BPT guidelines. The Agency is requesting data on the number of blend plants with wet scrubbers in place.

Price increases are anticipated exclusively in the mixed fertilizer sector. The majority of such plants will be able to maintain current levels of profitability with price boosts in the range of 1.0 to 1.5 percent. A few small plants may need slightly larger price increases (in the range of 2.5 to 3.0 percent); but most of these low tonnage producers are located in protected markets and should be able to raise prices by the required amounts.

Effluent limitations are not expected to cause any production curtailments, unemployment, community effects, or balance of trade effects either in 1977 or 1983. However, pollution control regulations may influence the timing of closure decisions for mixed fertilizer plants.

NSPS should not have any impact on industry growth. In fact, no new capacity additions are anticipated in the am-

monium sulfate or mixed fertilizer subcategories even without pollution controls. Construction of such plants is unlikely due to competition from direct application materials and low cost substitutes.

The report entitled "Development Document for Proposed Effluent Limitations Guidelines and New Source Performance Standards for the Formulated Fertilizer Segment of the Fertilizer Manufacturing Point Source Category" details the analysis undertaken in support of the regulation being proposed herein and is available for inspection in the EPA Information Center, Room 227, West Tower, Waterside Mall, 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 the proposed 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 FR 21202, August 6, 1973). An additional limited number of copies of both reports are available. Persons wishing to obtain a copy may write the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman.

On June 14, 1973, the Agency published procedures designed to insure that, when certain major standards, regulations, and guidelines are proposed, an explanation of their basis, purpose and environmental effects is made available to the public (38 FR 15653). The procedures are applicable to major standards, regulations and guidelines which are proposed on or after December 31, 1973, and which prescribe national standards of environmental quality or require national emission, effluent or performance standards and limitations.

The Agency determined to implement these procedures in order to insure that the public was apprised of the environmental effects of its major standards setting actions and was provided with detailed background information to assist it in commenting on the merits of a proposed action. In brief, the procedures call for the Agency to make public the information available to it delineating the major nonenvironmental factors affecting the decision, and to explain the viable options available to it and the reasons for the option selected.

The procedures contemplate publication of this information in the FEDERAL REGISTER, where this is practicable. They provide, however, that where, because of the length of these materials, such publication is impracticable, the material may be made available in an alternate format.

The report entitled "Development Document for Proposed Effluent Limitations Guidelines and New Source Performance Standards for the Formulated Fertilizer Segments of the Fertilizer Manufacturing Industry Point Source Category" contains information available to the Agency

concerning the major environmental effects of the regulation proposed below, including:

(1) The pollutants presently discharged into the Nation's waterways by manufacturers of fertilizer and the degree of pollution reduction obtainable from implementation of the proposed guidelines and standards (see particularly sections IV, V, VI, IX, X, and XI);

(2) The anticipated effects of the proposed regulation on other aspects of the environment including air, solid waste disposal and land use, and noise (see particularly Section VIII); and

(3) Options available to the Agency in developing the proposed regulatory system and the reasons for its selecting the particular levels of effluent reduction which are proposed (see particularly Sections VI, VII, and VIII).

The supplementary report entitled "Economic Analysis of Proposed Effluent Guidelines for the FERTILIZER INDUSTRY" contains an estimate of the cost of pollution control requirements and an analysis of the possible effects of the proposed regulation on prices, production levels, employment, communities in which fertilizer manufacturing plants are located, and international trade. In addition, the Development Document describes, in Section VIII, the cost and energy consumption implications of the proposed regulations.

The two reports described above in the aggregate exceed 100 pages in length and contain a substantial number of charts, diagrams, and tables. It is clearly impracticable to publish the material contained in these documents in the FEDERAL REGISTER. To the extent possible, significant aspects of the material have been presented in summary form in foregoing portions of this preamble. Additional discussion is contained in the following analysis of comments received and the Agency's response to them. As has been indicated, both documents are available for inspection at the Agency's Washington, D.C. and regional offices and at State water pollution control agency offices. Copies of each have been distributed to persons and institutions affected by the proposed regulations or who have placed themselves on a mailing list for this purpose. Finally, so long as the supply remains available, additional copies may be obtained from the Agency as described above.

When this regulation is promulgated, 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 will be available through the National Technical Information Service, Springfield, Virginia, 22151.

(c) *Summary of public participation.* Prior to this publication, the agencies and groups listed below were consulted and given an opportunity to participate in the development of effluent limitations, guidelines and standards proposed for the fertilizer manufacturing category. All participating agencies have been

informed of project developments. An initial draft of the Development Document was sent to all participants and comments were solicited on that report. The following are the principal agencies and groups consulted: (1) Effluent Standards and Water Quality Information Advisory Committee (established under section 515 of the Act); (2) all State and U.S. Territory Pollution Control Agencies; (3) the Fertilizer Institute; (4) Puerto Rico Land Association; (5) Puerto Rico Land Association; (6) The American Society of Mechanic Engineers; (7) Hudson River Sloop Restoration, Inc.; (8) The Conservation Foundation; (9) Environmental Defense Fund, Inc.; (10) Natural Resources Defense Council; (11) The American Society of Civil Defense Council; (12) The American Society of Civil Engineers; (13) Water Pollution Control Federation; (14) National Wildlife Federation; (15) the Isaac Walton League of America; (16) Western Montana Scientists Committee for Public Information; (17) U.S. Department of Commerce; (18) U.S. Department of the Interior; (19) U.S. Department of Agriculture; and (20) U.S. Water Resources Council.

The following responded with comments: North Carolina Department of Natural and Economic Resources; American Institute of Chemical Engineers; Michigan Department of Natural Resources; The Fertilizer Institute; Minnesota Pollution Control Agency; Manufacturing Chemists Association; and Delaware River Basin.

The primary issues raised in the development of the proposed effluent limitations guidelines and standards of performance and the treatment of these issues herein are as follows:

(1) One commenter noted that diammonium phosphate equipment is sometimes used for producing NPK fertilizer and this operation was not described.

A few plants occasionally add potash to the diammonium phosphate granulator to produce an NPK fertilizer. Where this is done it is only a few weeks in a year and is a minor variation on the principal diammonium phosphate production. For guidelines purposes, this operation should be considered part of the Phase I fertilizer guidelines, which cover diammonium phosphate.

(2) The remark was made that data collection from only eight mixed and blend fertilizer plants does not provide the broad perspective needed. It was suggested that at least 15 to 20 plants be considered as a minimum in studying these processes.

This industry is made up of a large number of plants and the approach to study necessarily required selection of exemplary plants that properly represent the operation of the total group. The data base is small; however, the contractor has extensive knowledge of the industry. From this knowledge, many plants were considered from which exemplary plants were selected to be representative of the raw materials used and the product mix variations in the industry.

(3) The inclusion of NPK plants in only two states, Alabama and Illinois, was objected to as being narrow in scope. The commenter felt that this precluded consideration of the many variations practiced in other states.

Selection of exemplary plants was a necessary part of the study. The two states selected have a high density of plants in this industry and represent two different geographical areas. The contractor is familiar with many plants in the industry. From this knowledge no factors relevant to the guidelines were encountered due to unique circumstances in areas other than Alabama and Illinois. Any additional information on this subject will be welcome.

(4) One commenter stated that the scrubbing system depicted for mixed fertilizer plants is not representative of the majority of plants. Scrubber systems for mixed fertilizers include ammoniator off-gases in addition to the dryer and cooler off-gases, in some cases as separate equipment.

The process diagram for mixed fertilizer in the development document has been modified in response to this comment. Plants may be built with a single scrubber or more than one scrubber. The use of a different scrubber configuration does not affect the validity of the guidelines.

(5) A commenter questioned the air emission collection and abatement system shown for blend fertilizer plants. Some plants have bag collection systems on point sources, but not systems designed to collect all emissions from the total plant.

Bag collectors for dust emission control may be a single unit for the whole plant or several units at the points where dusting occurs. The specific method of installing bag collectors is irrelevant to the guidelines.

(6) The Fertilizer Institute believes that the discharge proposals recommended by the study contractor are attainable at least for most of the installations under the applicable categories.

(7) It was stated that the process description given for blend fertilizers should state that batch units are usually one of two types: A cement-type mixer, capable of 20 to 30 tons per hour and an auger-type with four or five tons per hour.

This will be added to the development document.

(8) One commenter suggested including cooler exhaust gas in the description of process equipment with an effluent purge stream.

This suggestion has been incorporated in the development document.

(9) It was recommended that the cost of electric energy should be 15 to 20 mills per KWH instead of the 10 mill rate.

The 10 mill rate was based on the 1971 rate in an area of moderately priced electricity. The energy consumption is small for the treatment systems involved. The alleged difference is of no significance in the impact study.

(10) One reviewer noted that the estimated investment costs in the report are very high for mixed fertilizer effluent con-

trol and also for the blend plant air control system.

The cost estimates were done by the estimating group in the contractor's firm whose usual work is estimating for actual construction. Estimates from this highly qualified group are believed to be accurate. If the cost estimates were high, as alleged, the economic impact on the industry would be less and the economic impact is conservative.

(11) One commenter stated that waste streams may contain fluoride or phenol. These constituents may be hazardous if disposed of in concentrated form. He encouraged that the report take cognizance of this.

Fluoride wastes are recycled or precipitated to become solid waste rather than discharged. Proper disposal of such solid waste is recommended. Phenol wastes associated with by-product ammonium sulfate are attributable to the coking operation and are not part of the subcategory as defined.

(12) A question was raised about the application of the ammoniator pond sludge as a fertilizer. Since the "muck" contains hazardous materials such as fluorides, which are considered harmful to animal and plant life, safeguards to prevent migration of the hazardous constituents to ground water should be taken.

Disposal of solid waste must be carried out in a way that does not allow migration of harmful materials to ground water or degradation to plant or animal life. Discussion of proper handling of solid wastes is included in the preamble to the proposed regulation and in the development document.

(13) One reviewer noted that the cost, energy, and nonwater quality section did not adequately deal with the disposal of potentially hazardous wastes. He urged the report to describe what the proper waste disposal procedure should be.

Although this regulation pertains to process waste water effluents, discussion of proper handling of solids wastes is included in the preamble to the proposed regulations and in the development document.

(14) One commenter questioned the no discharge standards, since fertilizer plants may need exceptions for leaks, spills, cleaning of process equipment, and discharges from holding ponds. It was recommended that a more precise definition be included in the report.

No discharge standards are viable. For ammonium sulfate, the effluents are recycled including leaks, spills, etc. For mixed fertilizers, the holding pond is small and there is a negative water balance that allows total recycle. The blend fertilizer process uses no process water.

(15) For ammonium sulfate, one commenter noted that continuous recycle of crystal wash waters would cause a build-up of impurities in the product, requiring disposal of the waste impurities. This should be more directly addressed in the report. The commenter also pointed to a need for more elaboration concerning crude tar disposal. These wastes are covered in the steel guidelines.

The effluent is recycled and the small amount of impurities present go into the product. Crude tar from by-product recovery is part of the coking operation, not the ammonium sulfate production. This elaboration will be included in the development document.

(16) One reviewer criticized the lack of reference citations in the text as well as lack of justifying detail.

Reference citations and justifying detail have been increased in the development document.

(17) It was noted that continuous, long-term operating life is not cited for plants referenced as capable of achieving no discharge of process waste water.

Operating life with no discharge for these plants is not limited. A small amount of solid waste is generated from mixed fertilizer operations, but is handled by proper solid waste disposal. Because all water is reused in the process and in the scrubbers, no blowdown discharges are required. No allowance is provided for leaks and spills since they are part of the water reused in the process.

(18) One commenter stated that wet scrubbers could be used in blend plants associated with other production facilities.

Use of wet scrubbers for dust control in blend plants is not a good alternative. By transfer of technology wet scrubber wastes from blend plants could be treated for recycle but it would be done at a significant economic disadvantage. Wet scrubbing of wastes and discharge of untreated scrubber effluent is not a satisfactory alternate. Additional information on the location and treatment systems of plants using wet scrubbers is requested.

(19) The Office of Air Quality Planning and Standards concurred that dry collection is the current and correct control for air pollutants from blend operations.

Interested persons may participate in this rulemaking by submitting written comments in triplicate to the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman. Comments on all aspects of the proposed 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 development of the regulations. In the event comments address the approach taken by the Agency in establishing an effluent limitations guideline or standard of performance, 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, 304(b), 306 and 307 of the Act.

A copy of all public comments will be available for inspection and copying at the EPA Information Center, Room 227, West Tower, Waterside Mall, 401 M Street, SW., 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 November 6, 1974, 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 FR 21202).

Dated: September 20, 1974.

JOHN QUARLES,  
*Acting Administrator.*

#### PART 418—FERTILIZER MANUFACTURING POINT SOURCE CATEGORY

##### Subpart F—Ammonium Sulfate Production Subcategory

- Sec.
- 418.60 Applicability; description of the ammonium sulfate production subcategory.
- 418.61 Specialized definitions.
- 418.62 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
- 418.63 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
- 418.64 [Reserved].
- 418.65 Standards of performance for new sources.
- 418.66 Pretreatment standards for new sources.

##### Subpart G—Mixed and Blend Fertilizer Production Subcategory

- 418.70 Applicability; description of the mixed and blend fertilizer production subcategory.
- 418.71 Specialized definitions.
- 418.72 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
- 418.73 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
- 418.74 [Reserved].
- 418.75 Standards of performance for new sources.
- 418.76 Pretreatment standards for new sources.

**AUTHORITY:** Secs. 301, 304(b) and (c), 306(b) and 307(c) of the 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 F—Ammonium Sulfate Production Subcategory

- § 418.60 Applicability; description of the ammonium sulfate production subcategory.

The provisions of this subpart apply to discharges resulting from the production of ammonium sulfate by the synthetic process and by coke oven by-product recovery.

##### § 418.61 Specialized definitions.

For the purpose of this subpart:

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

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

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategory and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations. The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available: There shall be no discharge of process waste water pollutants to navigable waters.

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

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by

a point source subject to the provisions of this subpart after application of the best available technology economically achievable: There shall be no discharge of process waste water pollutants to navigable waters.

§ 418.64 [Reserved]

§ 418.65 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 418.66 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act for a source within the ammonium sulfate production subcategory, which is a user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the standard set forth in part 128 of this chapter, except that, for the purpose of this section, § 128.133 of this chapter shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works shall be the standard of performance for new sources specified in § 418.65: *Provided*, That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall, except in the case of standards providing for no discharge of pollutants, be correspondingly reduced in stringency for that pollutant."

Subpart G—Mixed and Blend Fertilizer Production Subcategory

§ 418.70 Applicability; description of the mixed and blend fertilizer production subcategory.

The provisions of this subpart are applicable to discharges resulting from the production of mixed fertilizer and blend fertilizer.

§ 418.71 Specialized definitions.

For the purpose of this subpart:

(a) Except as provided below, the general definitions, abbreviations and

methods of analysis set forth in Part 401 of this chapter shall apply to this subpart.

(b) The term "mixed fertilizer" shall mean a mixture of wet and/or dry straight fertilizer materials, mixed fertilizer materials, fillers and additives prepared through chemical reaction to a given formulation.

(c) The term "blend fertilizer" shall mean a mixture of dry, straight and mixed fertilizer materials.

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

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

source subject to the provisions of this subpart after application of the best practicable control technology currently available: There shall be no discharge of process waste water pollutants to navigable waters.

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

The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable: There shall be no discharge of process waste water pollutants to navigable waters.

§ 418.74 [Reserved]

§ 418.75 Standards of performance for new sources.

The following standards of performance establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a new source subject to the provisions of this subpart: There shall be no discharge of process waste water pollutants to navigable waters.

§ 418.76 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act for a source within the mixed and blend fertilizer production subcategory, which is a user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to the navigable waters), shall be the standard set forth in Part 128 of this chapter, except that, for the purpose of this section, § 128.133 of this chapter shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works shall be the standard of performance for new sources specified in § 418.75: *Provided*, That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall, except in the case of standards providing for no discharge of pollutants, be correspondingly reduced in stringency for that pollutant."

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