Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER N—EFFLUENT GUIDELINES AND STANDARDS

[FRL 319-8]

PART 418—FERTILIZER MANUFACTURING POINT SOURCE CATEGORY

Subpart F—Ammonium Sulfate Subcategory

Subpart G—Mixed and Blend Fertilizer Subcategory

On October 7, 1974, notice was published in the FEDERAL REGISTER (39 FR 36094), that the Environmental Protection Agency (EPA or Agency) was proposing effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources within the ammonium sulfate subcategory and the mixed and blend fertilizers subcategory of the fertilizer manufacturing category of point sources.

The purpose of this notice is to establish final effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources in the fertilizer manufacturing category of point sources, by amending 40 CFR Chapter I, Subchapter N, Part 418 by adding thereto the ammonium sulfate subcategory (Subpart F), and the mixed and blend fertilizers subcategory (Subpart G). This final rulemaking is promulgated pursuant to sections 301.304(b) and (c), 306(b) and (c) and 307(c) of the Federal Water Pollution Control Act, as amended (the Act); 33 U.S.C. 1251, 1311, 1314(b) and (c), 1316(b) and (c) and 1317(c); 86 Stat. 816 et seq.; Pub. L. 92-500. Regulations regarding cooling water intake structures for all categories of point sources under section 316(b) of the Act will be promulgated in 40 CFR 402.

In addition, the EPA is simultaneously proposing a separate provision which appears as the second document in this Part II, stating the application of the limitations and standards set forth below to users of publicly owned treatment works which are subject to pretreatment standards under section 307(b) of the Act. The basis of that proposed regulation is set forth in the associated notice of proposed rulemaking.

The legal basis, methodology and factual conclusions which support promulgation of this regulation were set forth in substantial detail in the notice of public review procedures published August 6, 1973 (38 FR 21202) and in the notice of proposed rulemaking for the ammonium sulfate subcategory and the mixed and blend fertilizers subcategory. In addition, the regulations as proposed were supported by two other documents: (1) the document 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" (September 1974) and (2) the document entitled "Economic Analysis of Proposed Effluent Guidelines for the Fertilizer Manufacturing Industry (Phase II)" (September 1974). 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 proposed rulemaking.

Interested persons were invited to participate in the rulemaking by submitting written comments within 30 days from the date of publication. Prior public participation in the form of solicited comments and responses from the States, Federal agencies, and other interested parties were described in the preamble to the proposed regulation. The EPA has considered carefully all of the comments received and a discussion of these comments with the Agency's response thereto follows.

(a) SUMMARY OF COMMENTS

The following responded to the request for written comments contained in the preamble to the proposed regulation: The Fertilizer Institute and Dow Badische Company.

Each of the comments received was carefully reviewed and analyzed. The following is a summary of the significant comments and the Agency's response to them.

(1) A comment was made requesting that the regulations for ammonium sulfate specifically exclude ammonium sulfate produced by the caprolactam process.

This was made clear in the development document but the exclusion has been added to the regulation.

(2) One commenter stated that for granulation plants, costs should be higher because down time for grade changes and cleaning of sparger pipes was not considered.

Effluent control costs are primarily related to the amount of production throughput rather than the total number of operating days per year. Estimates of annual production were based upon information obtained from informed industry sources and are believed to accurately reflect annual production tonnages.

Nevertheless, the length of the operating season could be understated due to the fact that production down time was not fully accounted for. Although this should not affect effluent control costs, it is possible that labor costs in the production model have been underestimated. Yet, labor costs are estimated to be 49 percent of direct production expenses for a 20 ton per hour Ammoniation-Granulation plant. Thus, a 20 percent increase in labor cost as the result of down time would change total production cost by less than 1 percent. Therefore, inaccurate treatment of down time should not have a significant effect on the conclusions of the economic analysis.

(3) One commenter stated that the number of employees should be increased 50 to 75 percent to include personnel in addition to production personnel.

Estimates of the average number of employees were obtained from sources familiar with granulated fertilizer plants and included non-production personnel.

(4) One commenter stated that statements to the effect that normal superphosphate (NSP) plants will not need additional controls for zero discharge should be corrected.

This is an incorrect interpretation of the Economic Analysis document. NSP production is not covered by this regulation. NSP is a raw material for some mixed fertilizers. In spite of the fact that not all NSP plants have controls in place, most plants do have BPT treatment installed. Therefore, the assumption that the transfer price for NSP to the ammoniater-granulator plant includes pollution control costs is reasonable.

(5) One commenter stated that an interest rate of 7.5 percent was used in the report instead of current levels of 10 to 12 percent.

The interest rate on long term debt used in the determination of the cost of capital reflects both current interest rates and the cost of imbedded debt. Whereas it is true that present interests are in the range of 10 to 12 percent, the cost of old debt is considerably lower. Therefore, it would be incorrect to use only current interest rates in the analysis, since it would cause the present value of the existing investment in the fertilizer plant to be understated.

(6) One comment was that equipment costs for effluent control were based on 1973 levels and increases of up to 20 percent have occurred since that time.

Although installed equipment costs have increased significantly since 1973, it is believed that the basic relationships between pollution control costs and plant cash flows and profits are substantially unchanged. In spite of the fact raw materials prices are up sharply, there have also been major increases in fertilizer prices. Hence, rising revenues should be adequate to cover higher pollution abatement equipment costs.

(7) 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 a 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.

(8) 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 contractor has extensive knowledge of

the industry and from this knowledge, and other sources, 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.

(9) 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 it was determined that plants in Alabama and Illinois are representative of plants in the entire industry.

(10) 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 offgases in addition to the dryer and cooler offgases, 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.

(11) 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.

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

Electric power costs have risen since 1973. However, energy and power costs are approximately 18.9 percent of total annual pollution control costs. Since annual pollution control costs as a percent of sales for mixed fertilizer plants ranged between 0.59 percent to 1.59 percent, the increase in electric power costs should not have a measurable effect on the economic impact analysis.

(13) One commenter noted that estimated costs for mixed fertilizer appeared to be too high. It was also noted that the cost estimated for a blend fertilizer plant air pollution control system may impose an excessive burden on small plants.

For mixed fertilizer, if the cost estimate is high, as alleged, the actual economic impact on the industry would be less and thus the economic impact is conservative. Costs for blend plant air pollution control are not required under this regulation but may be required by future air regulations.

(14) Questions have been raised concerning the availability of standards or guidelines applicable to the disposal of solid wastes resulting from the operation of pollution control systems.

The principles set forth in "Land Disposal of Solid Wastes Guidelines" (40 CFR 241) may be used as guidance for acceptable land disposal techniques. Potentially hazardous wastes may require special considerations to ensure their proper disposal. Additionally, state and local guidelines and regulations should be considered wherever applicable.

(B) Revision of the Proposed Regulations Prior to Promulgation

As a result of public comments and continuing review and evaluation of the proposed regulation by the EPA, the following change has been made in the regulation. An addition was made to paragraph 418.60 to exclude applicability of the regulation to ammonium sulfate produced as a by-product of caprolactam production.

(C) Economic Impact

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.

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 ammonium 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.

(D) Cost-Benefit Analysis

The detrimental effects of the constituents of waste waters now discharged by point sources within the formulated fertilizer segment of the fertilizer manufacturing point source category are discussed in Section VI of the report entitled "Development Document for Effluent Limitations Guidelines for the Formulated Fertilizer Segment of the Fertilizer Manufacturing Point Source Category" (November 1974). It is not feasible to quantify in economic terms, particularly on a national basis, the costs resulting from the discharge of these pollutants to our Nation's waterways. Nevertheless, as indicated in Section VI, the pollutants discharged have substantial and damaging impacts on the quality of water and therefore on its capacity to support healthy populations of wildlife, fish and other aquatic wildlife and on its suitability for industrial, recreational and drinking water supply uses.

The total cost of implementing the effluent limitations guidelines includes the direct capital and operating costs of the pollution control technology employed to achieve compliance and the indirect economic and environmental costs identified in Section VIII and in the supplementary report entitled "Economic Analysis of Proposed Effluent Guidelines for the Fertilizer Manufacturing Industry (Phase II)" (September 1974). Implementing the effluent limitations guidelines will substantially reduce the environmental harm which would otherwise be attributable to the continued discharge of polluted waste waters from existing and newly constructed plants in the fertilizer industry. The Agency believes that the benefits of thus reducing the pollutants discharged justify the associated costs which, though substantial in absolute terms, represent a relatively small percentage of the total capital investment in the industry.

(e) Publication of Information on Processes, Procedures, or Operating Methods Which Result in the Elimination or Reduction of the Discharge of Pollutants

In conformance with the requirements of Section 304(c) of the Act, a manual entitled, "Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Formulated Fertilizer Segment of the Fertilizer Manufacturing Point Source Category," has been published and will be available for purchase from the Government Printing Office, Washington, D.C. 20402 for a nominal fee.

(f) Final Rulemaking

In consideration of the foregoing, 40 CFR Chapter I, Subchapter N, Part 418 Fertilizer Manufacturing Point Source Category, is hereby amended by adding additional subparts F and G to read as set forth below. This regulation is being

promulgated pursuant to an order of the Federal District Court for the District of Columbia entered in Natural Resources Defense Council, Inc. v. Train (Cv. No. 1609–73). That order requires that effluent limitations requiring the application of best practicable control technology currently available for this industry be effective upon publication. Accordingly, good cause is found for the final regulation promulgated below establishing best practicable control technology currently available for each subpart to be effective on January 14, 1975.

The final regulation promulgated below establishing the best available technology economically achievable, the standards of performance for new sources and the new source pretreatment standards shall become effective on February 13, 1975.

Dated: January 7, 1975.

JOHN QUARLES,
Acting Administrator.

Subpart F—Ammonium Sulfate Production Subcategory

Sec.
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418.61 Specialized definitions.
418.62 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
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]
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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 Preatment standards for new sources.

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

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. The provisions of this subpart do not apply to ammonium sulfate produced as a by-product of caprolactam production.

§ 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 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 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.

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 standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the ammonium sulfate subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR 128 (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 same standard as set forth in 40 CFR 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

Pollutant or pollutant property	*Pretreatment standard*
BOD5	No limitation.
TSS	Do.
pH	Do.
Ammonia (as N)	30 mg/l.

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 40 CFR Part 401 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 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 of 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 standard for new sources.

The pretreatment standard under section 307(c) of the Act for a new source within the mixed and blend fertilizer subcategory which is a user of a publicly owned treatment works and a major contributing industry as defined in 40 CFR Part 128 (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 same standard as set forth in 40 CFR Part 128, for existing sources, except that, for the purpose of this section, 40 CFR 128.121, 128.122, 128.132 and 128.133 shall not apply. The following pretreatment standard establishes the quantity or quality of pollutants or pollutant properties controlled by this section which may be discharged to a publicly owned treatment works by a new source subject to the provisions of this subpart:

Pollutant or pollutant property	*Pretreatment standard*
BOD5	No limitation.
TSS	Do.
pH	Do.
Ammonia (as N)	30 mg/l
Nitrate (as N)	Do.
Total phosphorus (as P)	35 mg/l

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