CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

PART 420—IRON AND STEEL MANUFACTURING 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 applicable, as defined in section 304(b) of the Act, are proposed in fulfillment of these requirements.

(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 applicable, as defined in section 304(b) of the Act. The report "Development Document" referred to below provides, pursuant to section 304(c) of the Act, information on such 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 titled "Development Document" referred to below provides, pursuant to section 304(c) of the Act, information on such 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.

(2) New sources. Section 306 of the Act requires the achievement by new sources of the Federal standard of performance for new sources for the iron and steel manufacturing point source category pursuant to section 306 of the Act. The regulations proposed herein set forth the standards of performance applicable to new sources for the hot forming-primary subcategory (Subpart Q), the cold rolling subcategory (Subpart R), the pickling-subcategory (Subpart S), the pickling-sulfuric acid-batch and continuous subcategory (Subpart T), the hot coatings-galvanizing subcategory (Subpart U), the cold coatings-sprayed subcategory (Subpart V), and the continuous galvanizing subcategory (Subpart W). The regulations proposed herein set forth the standards of performance applicable to new sources for the iron and steel manufacturing point source category pursuant to section 304(b) of the Act, information on such 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 titled "Development Document" referred to below provides, pursuant to section 304(c) of the Act, information on such 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 regulation set forth below will amend 40 CFR 420—Iron and steel manufacturing point source category by amending certain sections of the basic oxygen furnace (wet air pollution control methods) subcategory (Subpart O), the continuous casting and slab molding subcategory (Subpart L), and adding effluent limitations and guidelines for existing sources for the hot forming-primary subcategory (Subpart M), the hot forming-section subcategory (Subpart N), the hot coatings-flat subcategory (Subpart P), the pickling-sulfuric acid-batch and continuous subcategory (Subpart R), the cold rolling subcategory (Subpart S), the pickling-sulfuric acid-batch and continuous subcategory (Subpart T), the hot coatings-flat subcategory (Subpart U), the miscellaneous runoff-storage piles, casting and slugging subcategory (Subpart V), the pickling-combination acid-batch and continuous subcategory (Subpart W), the cold coatings-sprayed subcategory (Subpart X), the wire picking and coating subcategory (Subpart Y) and the continuous galvanizing subcategory (Subpart Z).

(b) Summary and basis of interim effluent limitations and guidelines for existing sources, proposed effluent limitations and guidelines for existing sources to be achieved by the application of the best available technology economically achievable, proposed standards of performance for new sources, and proposed pretreatment standards for both new and existing 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 the potential differences in raw material used, product produced, manufacturing process employed, age, size, waste characteristics and other factors required development of different limitations for different segments of the point source category. The raw waste...
characteristics for each such segment were then identified. To each such segment, flow and volume of water used in the process employed, the sources of waste and waste waters in the operation and the constituents all waste water. The constituents of the waste waters which should be subject to effluent limitations were identified. The control and treatment technology 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 in the industry. It also included an identification, in terms of the amount of constituents and the chemical, physical, and biological characteristics of pollutants, of the application of various types of control, treatment, and incineration technology currently available. 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 each of the technologies upon other pollution problems, including air, solid waste, noise and radiation were identified. The energy requirements of each control technology were also determined as well as the cost of the application of each technology. The information, as outlined above, was synthesized in order to determine what levels of technology constitute the "best practicable control technology currently available." In identifying technology, various factors were considered. These included the total cost of application of technology in relation to the efficiency and effectiveness of the particular control technology. The design and operation of and the chemical, physical, and biological characteristics of pollutants, the application of various types of control technology, 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.

The pretreatment standards proposed herein are intended to be complementary to the pretreatment standards proposed for existing sources under 40 CFR 128. The basis for such standards is set forth herein are intended to be complementary to the pretreatment standards proposed for existing sources under sections 301 and 304(b) of the Act.

The Agency has previously promulgated regulations for the basic oxygen furnace (wet air pollution control methods) subcategory (Subpart G), the vacuum degassing subcategory (Subpart K), the continuous and slab molding subcategory (Subpart L) for the carbon steel industry. Because the numerical limitations for these subcategories are the same for alloy and stainless steel, sections 420.70, 420.110 and 420.130 are herein amended to specifically include alloy and stainless steel. Because the hot forming and cold finishing segments for both carbon and specialty steel are being simultaneously promulgated as "steel" includes both carbon and specialty steel. The methodology being used to establish the limits for the basic oxygen furnace (wet air pollution control methods) subcategory (Subpart G), the vacuum degassing subcategory (Subpart K) and the continuous and slab molding subcategory (Subpart L) for the specialty steel industry is discussed below.

The provisions relating to the tin and chrome coating of strip steel have not been included in this regulation because the Agency is required under Section 308 of the Act to promulgate, and has promulgated, effluent limitations and guidelines for the Electroplating Point Source Categorization (Subparts K and L). The treatment technology was discussed in the Contractors Draft Report. The costs that have been included in the calculations of total water pollution control costs to the industry.

Consideration is being given to changing the units of some of the limitations. As proposed, the kilogram of pollutant per kg (lbs/1000 lbs) of steel product may be changed to kilograms of pollutant per kg (lbs/1000 lbs) of acid purchased and regenerated.

For cold rolled or hot coated products the units of kilograms of pollutant per kg (lbs/1000 lbs) of steel product may be changed to kilograms of pollutant per 1000 square meters (lbs per unit area in square yards) of product. The Agency will be acquiring additional data on which to evaluate these changes. Comments, data and recommendations from outside sources to assist us in this evaluation are solicited.

Further consideration will be given to comments received on any of these issues. The appropriateness or need for a subcategory by size or age of facility has been considered and is discussed in comments two and four. However, the Agency is particularly interested in receiving further comments, data, and recommendations that will provide a basis for further evaluation of this issue.

Energy consumption for the operation of all pollution control facilities has been considered and is discussed in part iv and in comment twenty. Comments, data, and recommendations that will provide a basis for further evaluation of this issue are also solicited.

(2) Summary of considerations with respect to the basic oxygen furnace (wet air pollution control methods) subcategory (Subpart G), the vacuum degassing subcategory (Subpart K), the continuous and slab molding subcategory (Subpart L), the hot forming-primary subcategory (Subpart M), the hot forming-section subcategory (Subpart N), the hot forming-section subcategory (Subpart P), the pickling-sulfuric acid-batch and continuous subcategory (Subpart Q), the pickling-hydrochloric acid-batch and continuous subcategory (Subpart Q), the cold rolling subcategory (Subpart Q), the hot coating-galvanizing subcategory (Subpart T), the hot coatings-terms subcategory (Subpart U), the miscellaneous cold forming processes, coating and slitting subcategory (Subpart V), the pickling-combination acid-batch and continuous subcategory (Subpart W), the scale removal-kolene and hydride subcategory (Subpart X), the wire pickling and coating subcategory (Subpart Y) and the continuous alkaline cleaning subcategory (Subpart Z), of the iron and steel manufacturing point source category.

(i) Categorization. An evaluation of the forming and finishing operations was necessary to determine whether or not subcategorization would be required in order to prepare an effluent limitations guideline or guidelines which would be both applicable and yet representative and appropriate for the operations and conditions to be controlled. With respect to identifying any relevant, discrete subcategories for the iron and steel industry, the following factors in addition to those listed under general methodology were considered in determining industry subcategories for the purpose of the application of effluent limitations guidelines and standards of water pollution control facilities has also been considered and is discussed in part iv and in comment twenty. Comments, data, and recommendations that will provide a basis for further evaluation of this issue are also solicited.
Pressure slab molding is the casting of a slab, billet or bloom from molten steel. This operation involves the production of a primary steel shape (such as skelp or strip) from alloy or stainless steel by immersion in a bath of a molten salt such as kohlen or hydride.

Manufacturing Processes

The inherent manufacturing or production processes associated with the production of a diversity of steel products form the principal basis for defining subcategories. This factor is particularly important in establishing initial market segmentations. For example, the product types associated with hot steel working differ inherently from those for cold production.

Hot working of steel involves the deformation of steel at elevated temperatures (2100° F to 2450° F) whereas the cold finishing processes are carried out at lower temperature ranges (less than 1000° F). Hot forming operations require relatively large pieces of machinery and auxiliary equipment to be used, whereas cold finishing processes do not require large equipment when finishing the much smaller steel sizes (less than a ton of steel for some finishing operations).

Although hot forming and cold rolling operations both shape steel, hot rolling is performed at a fairly large gauge. At a smaller gauge cold working processes may be used, which at the same time as reducing the cross sectional area can also impart certain surface characteristics. For example, cold steel can be rolled down to .08" in thickness in a hot strip mill, but to reach a tin mill gauge, such as .008", the steel must be cold rolled, possibly several times.

Similarly, the processes of surface preparation by chemicals (pickling or surface coating) do not incorporate any of the principal forming or shaping operations. Moreover, the surviving processes involved themselves differ substantially in that, for example, pickling by sulfuric, hydrochloric or nitric and hydrofluoric acid immersion and the cathodic depolarization processes involved in coating the steel with zinc or tin leads.

Pickling processes clean the metal surface by the use of chemical means (acid) while coating operations coat the surface of the steel with another metal in order to impart surface characteristics, such as corrosion resistance (Goo final products). Pickling and coating processes may be either batch type or continuous.

Coating operations use a variety of metals as raw coating materials. For example, tin plate and galvanized steel generally have no continuous coat over the tin or zinc. Alloy steel wire may be coated with copper to assist in subsequent drawing operations, e.g., hot formed (unfinished) steel versus galvanized finished product. This factor was useful in substantiating subcategories where discrete differences suggested additional consideration was not relevant to the miscellaneous runoff subcategory. In addition to the more clearly defined final products, raw materials used, and the capacity for some subcategories to be more clearly defined final products, the surface area of the product being hot rolled affects the rate at which water temperature and quality of the wastewater generated must be applied, and thus the quality and quantity of the product (see waste water characteristics and treatability).
Final product analysis augments the basis for subcategorization by raw materials in relation to the pickling and coating operations. Specfic selection of pickling acid is made when defining final product surface or appearance characteristics are desired. Additionally, the particular pickling acid used is dependent on the type of steel being pickled. Likewise when certain product coating requirements are needed (for corrosion resistance) the use of raw materials are differentialed.

**RAW MATERIALS**

Raw materials helped to support subcategorization. This factor is intended to incorporate both the characteristic nature of the steel inputs to the subcategories as well as the subcategorization of raw materials employed in each subcategory, e.g., acids, coatings and the like.

Hot forming operations utilise a limited source of steel inputs. Primary blooming and slabbing mills use large bulky ingots (some over 300 tons) as their only raw material. Products with a well defined cross-sectional area such as billets, rails, beams, bars are formed from hot blooms which are of certain cross-sectional area (at least 1 inch). Hot slabs are the base material for the production of plates, strip and sheet steel or skelp. Hot rolled skelp is used in the production of welded tubular products. Production of seamless tubular products utilize solid round bars or billets as the source of raw material. The consideration of raw materials into the hot forming processes further substantiates the use of the manufacturing processes as a basis for subcategorization.

The intermediate raw materials employed in each subcategory strengthens the axes as well as the subcategorization of raw materials. Pickling processes may use different types of raw materials (i.e., sulfuric, nitric-hydrofluoric or hydrochloric acid) to produce the desired results. Coating operations employ different raw materials to impart the desired coating. For example, molten zinc is the primary raw material. Furthermore, the characteristics of the steel subcategory substantiate the use of the manufacturing processes as a basis for subcategorization.

**WASTEWATER CHARACTERISTICS AND TREATABILITY**

While there are many inherent similarities in raw wastewater characteristics and treatability between subcategories, there are also significant differences. As a consequence, this factor was very important in reaching the defined subcategorization. Analysis of the available data indicates the presence of certain pollutants in wastewater from particular manufacturing operations. As a consequence the wastewater characteristics further substantiate the subcategorization scheme. Tin, lead, chromium, copper and zinc are predominantly characteristic wastewater constituents of coating operations (due to raw materials) and not typically present in hot forming, rolling or carbon steel pickling processes and consequently they are not found in these wastewaters. Furthermore, investigation of wastewater characteristics together with raw material considerations substantiates the basis for the coating subcategories. The presence of lead in terms coating operation wastewaters serves as another basis for differentiating terms coating from galvanized coatings and also differentiates terne coating from all other coatings subcategories.

The data also reveals that oil and grease are characteristic wastewater constituents of hot forming and cold rolling processes. The available information does not support subcategorization on the basis of the various types of oil and grease found in either the manufacturing processes or the process water. However, this analysis also indicates that the oil and grease levels in pickling and coating wastewaters (without commingling with cold rolling wastes) are substantially less than those levels found in the hot forming and cold rolling operations. This strongly suggests a basis for subcategorization according to wastewater characteristics.

Continuing with the wastewater analysis, consideration of subdivisions and characteristics and levels of concentration revealed that the suspended solids from the hot forming operations are generally lower in size, heavier, and more easily removed from the wastewater than those solids produced in the cold-forming operations. Even within the various hot forming operations, the particle size of the suspended solids varies. The relatively good quality of water used during the hot forming-flat step, compared to the surface quality during previous primary rolling steps, usually results in the generation of lesser quantities of mill scale than in primary rolling steps. The particle size will be generally smaller and consequently more difficult to settle and remove from the wastewater. Therefore, treatability factors complement the manufacturing process basis for subcategorization.

**GAS CLEANING EQUIPMENT**

Certain manufacturing operations (steelmaking, pickling and hot coating) require the use of wet gas cleaning equipment. The pungency and corrosive nature of acid vapors from pickling operations require the use of fume hood scrubbers or similar types of equipment. Since gas cleaning equipment is a unique mechanism for vapor control these operations are considered and differentiated from other manufacturing operations and from other methods of treatability.

**SIZE AND AGE**

Plant size and age, per se, are not viable factors for subcategorization of the steel industry. Information compiled during this study and previous steel industry investigations do not reveal any discernible relationship between these factors and raw waste loads, effluent quality, treatability, or any other basis for subcategorization.

Size was considered as a possible factor for subcategorization but from analysis of the compiled data size, per se, does not indicate plant age alone is factor. The steel industry is old. Some of the old mills still incorporate early operating ideas and practices. However, many of these mills are very large and have incorporated the latest operating ideas and practices. In addition, most old mills have been updated by internal changes in process, design, and equipment. Therefore, to say that a mill was built 50 years ago does not necessarily mean that it is not particularly meaningful in terms of interpreting mill practices. In particular, no consistent pattern between mill age and raw waste characteristics has been identified.

**LAND AVAILABILITY (LOCATION)**

Examination of the raw waste characteristics, process water application rates, discharge rates, effluent quality and pertinent factors relative to plans location reveals no general relationship or pattern. Land availability (location), per se, is not a viable factor for subcategorization of the steel and iron industry. Although one plant was located in an area of net evaporation and used solar evaporation to some extent to control its wastes, it is the opinion of the Agency that this technology is not widely applicable to the steel industry as a whole, most of which is located in net precipitation areas. Additionally, the only subcategory where land availability was a factor was in pipe and tube, where plants not integrated with other steel operations generally had land available and used it for settling ponds. Integrated pipe mills, however, generally had the same land availability problems as the rest of the integrated steel industry. It is recognized that at older mills, the mill buildings may be crowded together, so the technology suggested for BAT and BPEC minimum land requirements.

**PROCESS WATER USAGE**

Examination of the available data indicates that within well defined ranges process water usage can be directly correlated to the various manufacturing operations. This correlation exists on the basis of the subcategorization scheme by manufacturing processes. Differences in...
12994

RULES AND REGULATIONS

cal (see size factor) of a categorized manufacturing process was considered. The results indicated that on a per ton of steel basis, process water usage is not dependent upon the scale of the manufacturing operation. It was observed, though, that much larger volumes of process cooling water are generally required for the continuous casting processes than that which is needed for the cold forming operations, thus further substantiating the subcategorization by manufacturing process.

Considerations of age, location and raw materials revealed no discernable differences in process water usage. Process water usage parallels the subcategorization by final product considerations (see, final product categories)

- Type of Steel Produced

Originally, the alloy and stainless steel segments of the steel industry were considered to be separate categories. After examination of the data bases for these two segments, it was determined that in many cases, the same companies were responsible for both the alloy and stainless steel production. It was necessary to determine whether: (1) the return on investment from continued operation of these plants was sufficient to allow the firms to make new investments for pollution control equipment and, (2) the firms would be able to raise sufficient capital to provide pollution control equipment for these plants in the context of the total capital requirements of the firms.

On August 1, 1974, EPA requested that comments be submitted on the final product factor (see final product factors) of the region, submit, by September 15, 1974, data concerning, estimates of investment and annual costs for pollution control equipment. The results indicated that on a per ton basis of raw materials the alloy and stainless steel limits are comparable, and in accordance with the preamble to the proposed effluent limitations guidelines, the alloy and stainless steel limitations would be appropriate (see final products factor) where data leads to the conclusion that conditions in the Mahoning River Valley region warrant the establishment of region-specific effluent limitations. The primary purpose of the study was to assess the likelihood that major economic dislocations would result in the region from plant closures if region-specific factors were not considered in establishing effluent limitations guidelines for facilities located therein. In order to make this assessment, it was necessary to determine whether: (1) the return on investment from continued operation of these plants was sufficient to allow the firms to make new investments for pollution control equipment and, (2) the firms would be able to raise sufficient capital to provide pollution control equipment for these plants in the context of the total capital requirements of the firms.

In addition to similar economic disadvantages resulting from age and size characteristics, facilities in the region are unique with respect to the physical and operating characteristics of the facilities located therein, and the importance of the facilities to the economy of the region. Tentative analysis of available data and the consultant's evaluation thereof indicates that the imposition of pollution control costs is likely to substantially degrade the already marginal profitability of these plants. Tentative analysis of cash flows developed from company data submitted on a "stand-alone" basis for average case and best case conditions, appear to substantiate this conclusion. The cash flows for all evaluated facilities are expected to be negative even under the best case circumstances. On this basis, the Mahoning Valley operations of one of the companies submitting data is expected to have negative cash flows even under the best conditions.

The likelihood of a plant closing in a particular community as a result of the unavailability or inability of its owners to invest the sums necessary to meet effluent limitations does not justify the relaxation of those limitations. On the contrary, the legislative history of the Act indicates Congressional awareness that plant closures may result. Similarly, the combination of disadvantageous age, size, and land availability (location) factors which apparently results in the...
marginal economic status of the Mahoning Valley, the law does not require the relaxation of standards which would otherwise be applicable. What does justify a relaxation of otherwise applicable standards is the requirement in section 304(b)(1)(B) of the Act that the assessment of best practicable control technology available will include, inter alia, consideration of the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application. The total cost of application of technology includes external costs such as potential unemployment, dislocation, and that area other industries in the region. It is this consideration of external costs in relation to the effluent reduction benefits to be achieved which establishes the propriety of exempting point sources located within the Mahoning River Valley region from required compliance with the nationwide effluent limitations based on best practicable control technology currently available. As discussed previously, the cost of the nationwide effluent limitations to facilities in the Mahoning Valley which share region-specific economic disadvantages appears likely to lead to lead closures, the results of which would be heavy unemployment and severe economic dislocation in this multi-county region.

Steel production is the largest single factor in the economy of the Mahoning River valley, a region with a population of 550,000 and a total payroll of $90 million. In terms of jobs and payroll, the steel industry employs more people, approximately 15%, and provides more jobs, approximately 20%, than any other industry in the region. Of more significance than the percentages of employment and payroll, however, is the absolute magnitude of the employment and payroll statistics. Steel industry operations in the two-county region accounted for 27,000 jobs and a taxable payroll of $31 million in the first quarter of 1976. According to a study conducted for a local economic development agency in 1972, the industry, in addition to its own payroll of $31 million, purchased $90 million in goods and services from the local economy, supporting an additional 3,000 jobs with a total payroll of about $21 million, and generated between 19% and 27% of the region's $142 million in total economic activities for the local economy, including the industry's own payroll.

The relief granted from severe economic impacts in the Mahoning River Valley region, which impact is likely to occur absent such relief, is the exemption of point sources located within that region from the effluent limitations based on best practicable control technology currently available. Nevertheless, the Agency fully expects that authorities granting permits, pursuant to section 402 of the Federal Water Pollution Control Act, as amended, shall not allow point sources in that region to discharge pollutants in any greater amounts than are currently being discharged by those sources.

As to requirements which will be applicable to the Mahoning River Valley plants, it is today proposing limitations which establish the degree of effluent reduction accomplished by BAT, under section 301(b)(2) of the Act. The proposed effluent limitations for plants in the Mahoning Valley are identical to those required to be met by the plants located in the industry. Section 301(c) authorizes modifications to be made in these limitations under certain circumstances, based in part on economic conditions applicable to individual owners and operators. Modifications under 301(c) may not, of course, reduce the level of treatment below that required by BAT, or to achievable state water quality standards. Since the Agency is not establishing BAT limits for the Mahoning Valley plants, a special provision is being made which will confine any such 301(c) modifications for Mahoning Valley plants to levels comparable to a region-specific BAT installed at an economically feasible pace.

(ii) Waste characteristics.

(1) Subpart G—Basic Oxygen Furnace-Web Air Pollution Control Methods Subcategory. The known significant pollutants or constituents in the wastewater resulting from the Basic Oxygen Furnace-Web Air Pollution Control Methods Subcategory include suspended solids, fluoride and pH.

(2) Subpart H—Vacuum Degassing Subcategory. The known significant pollutants or constituents in the wastewaters from the Vacuum Degassing Subcategory include suspended solids, lime, manganese, lead, nitrate and pH.

(3) Subpart I—Continuous Casting and Pressure Slab Molding Subcategory. The known significant pollutants or constituents in the wastewaters from the Continuous Casting and Pressure Slab Molding Subcategory include suspended solids, zinc, manganese, lead, nitrate and pH.

(4) Subpart M—Hot Forging-Primary Subcategory. The known significant pollutants or constituents in the wastewaters from the Hot Forging-Primary Subcategory include suspended solids and oil and grease.

(5) Subpart N—Hot Forging-Section Subcategory. The known significant pollutants or constituents in the wastewaters from the Hot Forging-Section Subcategory include suspended solids and oil and grease.

(6) Subpart O—Hot Forging-Flat Subcategory. The known significant pollutants or constituents in the wastewaters from the Hot Forging-Flat Subcategory include suspended solids and oil and grease.

(7) Subpart P—Piping and Tubing Subcategory. The known significant pollutants or constituents in the wastewaters from the Piping and Tubing Subcategory include suspended solids and oil and grease.

(8) Subpart Q—Piping-Sulfuric-Acid-Based Subcategory. The known significant pollutants or constituents in the wastewaters from the Piping-Sulfuric Acid-Based Subcategory include suspended solids, dissolved iron and pH.

(9) Subpart R—Pickling-Hydrochloric Acid-Batch Subcategory. The known significant pollutants or constituents in the wastewaters from the Pickling-Hydrochloric Acid-Batch Subcategory include suspended solids, dissolved iron and pH.

(10) Subpart S—Cold Rolling Subcategory. The known significant pollutants or constituents in the wastewaters from the Cold Rolling Subcategory include suspended solids and oil and grease.

(11) Subpart T—Hot Coatings-Galvanizing Subcategory. The known significant pollutants or constituents in the wastewaters from the Hot Coatings-Galvanizing Subcategory include suspended solids, oils and greases, zinc, chromium, and pH.

(12) Subpart U—Hot Coatings-Terne Subcategory. The known significant pollutants or constituents in the wastewaters from the Hot Coatings-Terne Subcategory include suspended solids, chrome (hexavalent and dissolved), iron, cyanide and pH.

(13) Subpart W—Combination Acid-Batch and Continuous Subcategory. The known significant pollutants or constituents in the wastewaters from the Combination Acid-Batch and Continuous Subcategory include suspended solids, chromium, iron, fluoride, nickel and copper.

(14) Subpart X—Wire Pickling and Coating Subcategory. The known significant pollutants or constituents in the wastewaters from the Wire Pickling and Coating Subcategory include suspended solids, chromium, iron, cyanide, fluoride, nickel and copper.

(15) Subpart Z—Continuous Alkaline Cleaning Subcategory. The known significant pollutants or constituents in the wastewaters from the Continuous Alkaline Cleaning Subcategory include suspended solids, chromium, iron, cyanide and pH.

(16) Subpart K—Wastewaters from the Vacuum Degassing Subcategory result from the scrubbing of the gases under vacuum.

(17) Subpart L—Wastewaters from the Continuous Casting and Pressure Slab Molding Subcategory result from the use of water to scrub particulates and vapors from the emissions from a basic oxygen furnace.

(18) Subpart M—Wastewaters from the Vacuum Degassing Subcategory result from washing out of the mold.
surface of the steel with water and from the water used to transport the scale through the flume beneath the mill line. The effluents contain suspended particulate from mill scale and oils and greases which originate in the hydraulic and lubricating systems. Additional wastewaters can result if noncontact hot mill and reheating furnace cooling water is mixed with the contact wastewaters. These noncontact water sources should be kept segregated to optimize treatment efficiencies and to minimize treatment costs and loads discharged.

(6) Subpart X—Hot Forming—Section Subcategory. Wastewaters from Hot Forming—Section Subcategory operations result from washing scale from the surface of the steel with water and from the water used to transport the scale through the flume beneath the mill line. The effluents contain suspended solids from mill scale and oils and greases which originate in the hydraulic and lubricating systems. Additional wastewaters can result if noncontact hot mill and reheating furnace cooling water is mixed with the contact wastewaters.

(7) Subpart X—Hot Forming—Flat Subcategory. Wastewaters from Hot Forming—Flat Subcategory operations result from washing scale from the surface of the steel with water and from the water used to transport the scale through the flume beneath the mill line. The effluents contain suspended solids from mill scale and oils and greases which originate in the hydraulic and lubricating systems. Additional wastewaters can result if noncontact hot mill and reheating furnace cooling water is mixed with the contact wastewaters.

(8) Subpart Q—Pickling—Sulfuric Acid Batch and Continuous Subcategory. Wastewaters from Pickling—Sulfuric Acid Batch and Continuous Subcategory operations result from the necessary operating procedures during the pickling process. These wastewaters contain suspended solids in the form of general area dirt and debris, which gets into the rolling solutions during normal operations.

(9) Subpart R—Pickling—Hydrochloric Acid—Batch and Continuous Subcategory. Wastewaters from Pickling—Hydrochloric Acid—Batch and Continuous Subcategory operations result from the necessary operating procedures during the pickling process. These wastewaters contain suspended solids in the form of general area dirt and debris, which gets into the rolling solutions during normal operations.
Subcategory. Current control and treatment technology practiced in the specialty steel industry includes sedimentation units, clarification and filtration, along with control for end-of-process treatment of process wastewater. This subcategory was compared with that for the carbon steel industry, and it was determined that there was no demonstrable difference between these operations, the carbon and specialty steel segments. Since the existing treatment at the specialty steel operations was judged to be inadequate, the technology in use in the carbon steel segment was directly transferred.

(a) The best practicable control technology currently available for continuous casting and pressure slab molding operations consists of a sedimentation basin with continuous drain-out of settled solids and an oil skimmer for floating oil or grease. Automatic removal of settled solids and flat bed, sand, or mixed media filtration of the entire recycle flow, with minimal blowdown.

(b) The best available technology economically achievable and new source performance standards applicable to those primary scale pits include all parts of the above system, plus additional pressure filtration step to treat the blowdown stream.

Subcategory. The control and treatment technologies which are available are primarily end-of-process treatment technologies which are available are primarily end-of-process treatment and reuse techniques. A reference level of treatment which can be added to the operating unit scale pit (settling unit) would consist of underflow baffle with oil skimmer, followed by recycle with blowdown, taking into account the limitations were adjusted accordingly.

(c) The best practicable control technology currently available for the hot forming-primary subcategory, includes a primary scale pit, oil skimmer, followed by recycle of 494 gpt (692 gpt for specialty steel) to the flume for clarification, and a primary scale pit (settling unit) would consist of underflow baffle with manual removal of the oil and grease. 

Subcategory. The control and treatment technologies which are available are primarily end-of-process treatment and reuse techniques. A reference level of treatment which can be added to the operating unit scale pit (settling unit) would consist of underflow baffle with oil skimmer, followed by recycle with blowdown, taking into account the limitations were adjusted accordingly.

(d) The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives includes a cooling tower and recycle. This is followed by a clarifier with a vacuum filter on the overflow, and a filter on the overflow. At this point 945 gpt (1220 gpt for specialty steel) is discharged.

Subcategory. The control and treatment technologies which are available are primarily end-of-process treatment and reuse techniques. A reference level of treatment which can be added to the operating unit scale pit (settling unit) would consist of underflow baffle with oil skimmer, followed by recycle with blowdown, taking into account the limitations were adjusted accordingly.

Subcategory. The control and treatment technologies which are available are primarily end-of-process treatment and reuse techniques. A reference level of treatment which can be added to the operating unit scale pit (settling unit) would consist of underflow baffle with oil skimmer, followed by recycle with blowdown, taking into account the limitations were adjusted accordingly.

Subcategory. The control and treatment technologies which are available are primarily end-of-process treatment and reuse techniques. A reference level of treatment which can be added to the operating unit scale pit (settling unit) would consist of underflow baffle with oil skimmer, followed by recycle with blowdown, taking into account the limitations were adjusted accordingly.
levels of treatment can be obtained using oil skimming and automatic removal equipment on the scale pit, followed by clarification. Oil skimming eliminates free or high rate filtration, followed by recycle with blowdown or total recycle. A cooling tower is normally included in the process to help break the oily emulsions of the latex waters with cold rolling mill wastes, adding a settling stage to blend pickling rinse waste waters. The equalized solution feed to control temperature.

Data indicated that there was no demonstrable difference between the carbon and alloy segments of the hot forming-flat plate subcategory as far as water use or raw waste. However, the water use in the specialty steel hot forming-flat plate subcategory was about twice as high as for the carbon steel analog. The limitations for this subcategory were adjusted accordingly.

A cooling tower is normally included in the clarification with chemical flocculation and clarifier, with 3207 gpt of the clarifier effluent recycled to the flume. The remaining 1365 gpt is filtered and discharged to a cooling tower in 1002 gpt, resulting in zero discharge to navigable waters. The best practicable control technology currently available for the pipe and tube-integrated mills subcategory, includes a cooling tower, oil skimmer and clarifier, with 3207 gpt of the clarifier effluent recycled to the flume. The remaining 1365 gpt is filtered and discharged to a cooling tower of the 1002 gpt, resulting in zero discharge to navigable waters. For the isolated mills subcategory, BPTCTA is identical to that for integrated mills except that ponds replace the clarifiers and filters in the integrated mills model.

The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives for the hot forming-flat plate subcategory are identical to the best practicable control technology currently available for the hot forming-flat plate subcategory, with the addition of a cooling tower, after which 3850 gpt for alloy) is recycled to the process. The remainder (4000 gpt for alloy) is discharged after filtration.

The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives for the hot forming-flat plate subcategory are applicable to those continuous operations with neutralization facilities, BAT consists of advanced neutralization systems (e.g. countercurrent rinsing) are very useful in reducing wastewater volumes. Neutralization facilities, BAT consists of advanced neutralization systems (e.g. countercurrent rinsing) are useful in reducing wastewater volumes. Neutralization facilities, BAT consists of advanced neutralization systems (e.g. countercurrent rinsing) are useful in reducing wastewater volumes. Neutralization facilities, BAT consists of advanced neutralization systems (e.g. countercurrent rinsing) are useful in reducing wastewater volumes. Neutralization facilities, BAT consists of advanced neutralization systems (e.g. countercurrent rinsing) are useful in reducing wastewater volumes. Neutralization facilities, BAT consists of advanced neutralization systems (e.g. countercurrent rinsing) are useful in reducing wastewater volumes. Neutralization facilities, BAT consists of advanced neutralization systems (e.g. countercurrent rinsing) are useful in reducing wastewater volumes.
of technology available involves the use of rinse waters in a cascade counter-current rinsing system to control the generation of acid wastes. The continuous fume hood scrubber; aeration and mixing followed by one day of settling. The continuous rinsing system uses one day of settling. For combination operations, oil skimming, equalization, chemical treatment and flocculation, air flotation, surface skimming, and a settling lagoon with 2 to 5 days retention. For direct application operations, BPTCA includes oil skimming, equalization, chemical treatment and flocculation, air flotation, surface skimming, and a settling lagoon with 2 to 5 days retention.

The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives for rinse operations. For continuous operation, BPTCA includes oil skimming, equalization, chemical treatment and flocculation, air flotation, surface skimming, and a settling lagoon with 2 to 5 days retention. For direct application operations, BPTCA includes oil skimming, equalization, chemical treatment and flocculation, air flotation, surface skimming, and a settling lagoon with 2 to 5 days retention.

The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives for rinse operations. BPTCA includes oil skimming, equalization, chemical treatment and flocculation, air flotation, surface skimming, and a settling lagoon with 2 to 5 days retention.
utest and by recycling the fume hood scrubber waters. The plants visited were not using any of the available treatment techniques, but never-the-less were achieving the BPTCJA ef fluent loads by careful management of maintenance and operating procedures to minimize waste load generation.

(a) The best practicable control technology currently available for the hot cost-berne subcategory includes for both rinsing and fume hood scrubbing operations, segregated collection, equalization, neutralization by waste blending, mixing, and settling (one day retention) and oil skimming.

(b) The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives includes for rinsing operations, countercurrent rinses, neutralization by chemical addition, and a settling lagoon with 2 to 5 days retention. For fume hood scrubbing operations, recirculation by chemical addition and a settling lagoon with 2 to 5 days retention. Therefore, for facilities with casting and slagging operations, the waste waters from this industry in the form of soluble substances. Other substances requiring only minimal custodial control and treatment techniques. Treatment technologies presently in place consist of mixing with other process wastewaters and settling.

(a) The best practicable control technology currently available for the continuous alkaline cleaning subcategory is identical to the best practicable control technology currently available. Solid waste control must be considered.

Consideration has also been given to the solid waste aspects of water pollution controls. The processes for treating the waste waters from this industry produce considerable volumes of sludges. Much of this material is inert iron oxide which can be reused profitably. Other sludges not suitable for reuse must be disposed of to land fills. Being precipitats, they are by nature relatively insoluble substances.

Best practicable control technology and best available control technology as they are known today, require disposal of the hazardous waste liquids and solidified waste waters in this industry in the form of solids 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 protect the environment from these potentially hazardous or harmful con-


...will contribute significantly to reductions of effluent loads while contributing only minimally to air pollution problems since the pollutant parameters in this segment are almost entirely nonvolatile materials.

The effect of water pollution control measures on energy requirements has also been determined. The additional electrical energy required to operate water pollution control facilities for the processes covered to achieve both the BPCTCA (1977) and the BATEA (1982) effluent limitations amounts to approximately five percent of the electrical energy used by the steel industry in 1973 but it will be an insignificant percentage of the total energy consumption of the industry. These calculations are based on the assumptions listed in Section VIII of the Development Document and on data from the AISI statistical report for 1972.

(vii) Economic Impact Analysis

Studies of the economic impact of these regulations are under way and will be reported in the near future as separate reports entitled "Economic Analysis of Effluent Guidelines, Iron and Steel Industry" and "Economic Analysis of Effluent Guidelines, Specialty Steel Industry".

The inflationary impact of these regulations has been considered in accordance with Executive Order 11700. The report entitled "Development Document for Interim Final Effluent Limitations Guidelines and Proposed New Source Performance Standards for the Forming, Finishing and Specialty Steel Segments of the Iron and Steel Manufacturing Category" details the analysis undertaken in support of the interim final regulation set forth herein and is available for inspection at EPA Public Infolndery, reference number P.R. 21202, Room 2032, EPA Library, Waterside Mall, 401 M St., S.W., Washington, D.C., at all EPA regional offices, and at State water pollution control offices. Supplementary analyses prepared for EPA of the possible economic effects of regulation are also available for inspection at EPA. A copy of these documents is being sent to persons or groups listed below who have placed themselves on the mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 F.R. 21202, August 6, 1973). An addendum is being prepared to this report. Persons wishing to obtain a copy may write the Environmental Protection Agency, Effluent Guidelines Division, Washington, D.C. 20460, Attention: Distribution Officer, WH-552.


(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 limitation guidelines and standards for the iron and steel manufacturing category. All participating agencies have been informed of project developments. Initial drafts of the Development Document were sent to all participants and comments were solicited on these reports. The following are the principal agencies and groups consulted: (1) Effluent Standards and Water Quality Information Advisory Committee; (2) Corps of Engineers; (3) State water pollution control agencies; (4) U.S. Department of Commerce; (5) U.S. Department of the Interior; (6) Federal Energy Office; (7) National Wildlife Federation; (8) Natural Resources Defense Council; (9) Water Pollution Control Federation; (10) National Commission on Water Quality; (11) American Iron and Steel Institute; (12) American Chemical Society; (13) National Steel and Sugar Association; (14) Carpenter Technology Corporation; (15) Ohio Environmental Protection Agency; (16) U.S. Department of Housing and Urban Development; (17) U.S. Department of Commerce; (18) Western Electric Company; (19) Public Interest Environmental Group; (20) Business Men for the Public Interest; (21) National Commission on Water Quality; (22) American Iron and Steel Institute; (23) United States Steel Corporation; (24) Carnegie-Mellon University; (25) American Public Health Association; (26) National Commission on Air Quality; (27) American Water Works Association.

The primary issues raised in the development of the interim final effluent limitations and guidelines and the treatment of these issues herein are as follows:

(i) Comments have been received to the effect that the effluent limitations guidelines should specify the net loads to be discharged rather than absolute loads.

The effluent limitations have generally been developed on a gross or absolute basis. However, the Agency recognizes that in certain instances pollutants will...
ment or discharge; the quantity of each pollutant or pollutant property attributed to the source. Treatment limits on specific source parameters (subcategories M through V) shall not exceed the specified limitation for that particular waste source. For example, if a plant's waste has been extended to discharge 5 lbs/day of tin from its terms platting operation, it would not be allowed to discharge 10 lbs/day of tin because the terms line wastes were combined with cold rolling wastes for treatment. However, in the instance of the use of pickling wastes to assist in the breaking of etanilised oils from cold rolling wastes, some added waste discharges are permitted by the regulation. The cost savings that could be achieved by the use of one waste stream to treat another waste stream was considered sufficient to justify permitting additional loads to be discharged.

(4) One comment was that the Agency's position on deep well disposal does not correspond with that contained in a Bureau of Mines report, which concludes that deep well injection is not desirable from the standpoint of protecting the environment. The alternatives available for the control, treatment and for recovery and reuse and the effectiveness, cost and environmental impact of alternatives must be considered. Deep well injection as a means of waste disposal or storage is technically feasible in some areas and may be less costly than treatment, recovery, regeneration, or reuse, but that does not necessarily make it desirable from the standpoint of protecting the environment. The alternatives are subject to the control, treatment and for recovery and reuse and the effectiveness, cost and environmental impact of alternatives must be considered.

(5) One industry source commented that non-contact cooling water flows should not be limited.

The applicability section of Subparts M through V (the "operations" oriented subparts) all specify that the limitations apply only to the process wastewater discharges.

(6) The contemplated regulation for carbon steel published in the Federal Register has been criticized for not covering the continuous sulfuric acid pickling operations. Additional field survey and plant visit work has now been completed and the regulation is expected to apply to both batch and continuous sulfuric acid pickling.

(7) One comment was received that the dual metric and English unit tables with the same numbers were wasteful and undesirable. The regulation has been revised to delete the repetitive part of each table, but both unit headings have been retained over the remaining part of each table.

(8) One commenter stated that installation of BATEA recommended technology (sulfuric acid recovery via atmospheric or vacuum crystallization) for Batch Sulfuric Acid Pickling- Concentrated would require the abandonment of all the previously installed BPTCA technology (neutralization). The Agency contends that this is not the intent of EPA policy for the implementation of BATEA technology; nor is it the intent of EPA to mandate the installation and subsequent abandonment of BPTCA technology. Based upon the current technological practices within the iron and steel industry, treatment models were developed as changeable options modified to allow for flexibility. It has been shown to achieve the limitations and employed for costing purposes.

Furthermore, consideration for those iron and steel facilities which currently practice neutralization was taken into account in developing the treatment models so that those continuous pickling operations with existing neutralization facilities could continue with their current technology. For those presently not treating pickling liquor wastes, it was reasoned that an economic envionment would suggest the implementation of sulfuric acid recovery technology as a suitable alternative in order to comply both with BPTCA and BATEA limitations.

This commenter has further indicated that a by-product from the recovery of pickling wastes, i.e., sulfuric acid recovery, is commercially unmarketable and cannot be used as landfill. The Agency contends that this by-product can be landfill if the proper precautions are implemented. EPA's Office of Solid Waste Management Programs has initiated various grants and contracts investigating the environmentally sound disposal techniques. The industry is therefore referred to various EPA publications pertaining to the landfill disposal of industrial wastes, such as EPA/550/556/W-156 February 1975, "Industrial Waste Management, Seven Conference Papers", EPA/650/60/146, March 1975, "Hazardous Waste Management Facilities in the United States" and EPA/550/556/W-156 September 1975, "Landfill Disposal of Hazardous Wastes", a review of literature and known approaches.

(9) Comments were received questioning the rationale for setting the pretreatment limits on oil and grease and some heavy metals at the BPTCA limitations. The pretreatment portion of the regulation published as an advanced notice of proposed regulation (ANPR-FR August 21, 1975) was prepared on the basis of load limits (for these parameters in these subparts where load limits are specified for BPTCA or BATEA) and concentration limits in these subparts where loads are not limited. This has now been changed to load limits which has been set at 100 mg/l to be consistent with the general pretreatment guidelines. For those owned treatment works (POTW) normally do not provide facilities specifically for treatment or removal of heavy metals, Pretreatment to the
same levels as for direct discharge is therefore indicated for the heavy metals. The load limits for pretreatment have thus been set at the load limit for direct discharge.

(10) Industrial sources have commented that the recommended process flows or water usage rates are too restrictive a number of subcategories.

EPA has developed effluent limitations guidelines based on effluent loads. Flows and concentrations have been determined from these loads for the purposes of hydraulic and equipment design of the treatment models. The industry retains the option to choose whatever flows, concentrations, and treatment designs it wishes so long as BEPTCA, BATEA, and NSPS load limitations are achieved.

(11) Some commenters protested the 1 mg/l limitation on dissolved iron in the pretreatment standards, citing the use of iron in municipal sewage plants as iron that is generally wet to achieve phosphorous reduction, and noting that iron will be removed through the air oxidation commonly used in municipal treatment plants.

Further study indicates that this is a valid objection and accordingly, the limitation on dissolved iron has been developed as a 50 mg/l in the pretreatment standards for new or existing sources.

(12) The comment was made that the best available technology economically achievable had been confused with the best available demonstrated control technology.

In the preparation of the regulation, the Agency was fully aware of the differences between new sources and existing sources. In many cases it is far easier for a new source to utilize a technology than for an existing source, which may have an accumulation of many years of piping and lines. However, the technologies selected have generally been as applicable to older plants as to new plants, since for the most part they do not require in-process changes, but rather the installation of a control unit on the end of the pipe and connection to the process intake pipe for recirculation.

(13) Some commenters observed that the Agency had failed to establish guidelines for some categories, such as hot-rolling, recollers, slitting and shearing.

Although these operations are performed extensively in steel mills, particularly in the cold mills, they were omitted from the scope of this study because as the AESE recognized in their comments, these are not generally wet to achieve phosphorous reduction, and the Agency feels that these sources are of minor importance, as far as effluent loads are concerned, compared to the operations which were covered.

(14) One commenter stated that no consideration was given to the destruc-tive use of water and that the recycling cycle, particularly at the BATEA level, results in the unnecessary destruction of water.

A means to dissipate heat is frequently a necessity if a recycle system is to be employed. The evaporation of water in cooling towers or from ponds is the most commonly employed means to accomplish this. However, fin-tube heat exchangers and tubular condensers can be used to achieve cooling without evaporation of water. Such systems are used in the petroleum processing and some electric power generating stations. (See page 548, Federal Power Generating Point Source Category.)

The Agency also feels that recognition of the evaporation of water in reuse systems and hence loss of availability to potential downstream users should be balanced with recognition that evaporation also occur in once through cooling systems, as shown in the specialty steel study. The stream will remain at temperature equilibrium with its environment, it will get there by evaporation, i.e., with just as certain a loss of water. Additionally, the use of the process system permits lessening the intake flow requirements.

(15) Some commenters observed that it was not practically possible for any existing treatment system to be designed and installed to meet the deadlines established by the regulations and suggested that the permits allow for a compliance schedule.

The Act established the deadlines by which the various effluent limitations guidelines will be met, and fast must be met with by industries. The Agency may not legally establish other schedules.

(16) Many comments were received regarding the nonprocess subcategories, i.e., those for miscellaneous runoffs from casting, slagging and storage piles, for utility blowdown, for cooling water blowdown and for maintenance department wastes. The comments took the general tone that the limits were unsupported, and that these subcategories should be regulated on a case-by-case basis.

After a re-examination of the database, and in the context of other regulations, it was concluded that the last three subcategories should be deleted from the interim final regulation. The problems associated with steam and electric generation will be dealt with in the steam supply industry, as will non-contact cooling water. It was concluded that maintenance department wastes, because they are so highly variable, should be regulated on a case by case basis. The regulation for storage piles and casting and slagging however, will be retained.

(17) Comments were received to the effect that limitations based on hydrochloric acid regeneration do not adequately take into account the magnitude of the current energy shortage or the costs relative to the benefit.

The Agency is establishing limitations which can be achieved either by neutralization or by acid regeneration. While these regulations specify only the allowable limits and not the treatment technology, the limitations are based on what the Agency believes to be a feasible method of achievement. In the specialty steel study the Agency based its treatment model on the accepted technology of acid regeneration as the preferred pollution control technique and has based their treatment model on this technology and has developed the costs accordingly. This does not preclude the use of neutralization or any other technology which will meet the allowable unit effluent loads specified.

(18) Many comments were received relative to the contractor's suggested subcategorization of the specialty steel industry and the limitations which the contractor considered appropriate. Some of the technologies which were suggested were stated to be technically unfeasible or inapplicable.

The specialty steel industry study has been extensively revised, including the subcategorization. This study has been integrated with the carbon steel study, and it was found that many operations are indistinguishable from those found in the carbon steel sector, as far as waste loads and water usage rates. In accordance with this, many subcategories have been combined with these for carbon steel. The limits have been adjusted accordingly. In other categories, such as hot-forming, where higher water usage rates were found for specialty steel than for carbon steel, the limitations have been adjusted accordingly. Since the revisions to the specialty steel study were so extensive and fast we are unable to repeat here the comments and enumerate the revisions which were made because of these comments.

(19) Many commenters believed that the guidelines for the pickling of specialty steel should be expressed in terms of concentrations, rather than as mass loadings related to production, citing wide variances in the water usage rates as their rationale.

During the course of the revisions to the specialty steel study, the pickling and cleaning subcategories were revised and the subcategorization changed. Due to the revision it was found that the subcategories which had been developed had fairly uniform waste loads and water use rates, making the limitations as concentrations rather than as mass loadings related to production a valid approach. Establishing the limitations as concentrations would do nothing to ensure that the total discharge of pollutlons would be diminished, since it would permit treatment by dilution.

(20) One commenter noted that recovery of the nitric-hydroiodic acid pickle liquors should be encouraged, citing the value of the metals contained in the waste pickle liquor.

Although there is a project on-going in Sweden at this time, exploring the feasibility of acid regeneration and metals recovery, to our knowledge this has not been applied anywhere on a
commercial scale, and as such, cannot be used as a basis for limitations. However, should this technique prove itself, the limitations may be revised to reflect it.

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. Trais et al. (Ct. No. 1609-73) which requires the promulgation of regulations for this industry category no later than March 15, 1976. This order also requires that such regulations become effective immediately upon publication. In addition, the interim final regulations establishing limitations on the discharge of pollutants from point sources in this category so that the discharge of pollutants from point sources in this category so that the present provisions are not superseded have been included.

Considering the foregoing, CPR Part 420 is hereby amended as set forth below.


RUSSELL E. TRAIN, Administrator.

Part 420 is amended as set forth below:

Subpart G—Basic Oxygen Furnace (Wet Air Pollution Control Methods) Subcategory

Sec. 420.70 Applicability; description of the basic oxygen furnace (wet air pollution control methods) subcategory.

Subpart K—Vacuum Degasging Subcategory

Sec. 420.110 Applicability; description of the vacuum degassing subcategory.

Subpart L—Continuous Casting and Pressure Slab Molding Subcategory

Sec. 420.120 Applicability; description of the continuous casting and pressure slab molding subcategory.

Subpart N—Hot Forming-Primary Subcategory

Sec. 420.190 Applicability; description of the hot forming-primary subcategory.

Subpart V—Miscellaneous Runoff—Storage Piles, Casting and Slagging Subcategory

Sec. 420.200 Applicability; description of the hot-cooling-galvanizing subcategory.

Subpart W—Combination Acid Pickling (Batch and Continuous-subcategory)

Sec. 420.230 Applicability; description of the combination cold pickling subcategory.

Supplement Q—Pickling-Sulfuric Acid Batch and Continuous Subcategory

Sec. 420.170 Applicability; description of the pickling-sulfuric acid batch and continuous subcategory.

Sec. 420.171 Specialized definitions.

Sec. 420.172 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart U—Hot Cooling-Tempering Subcategory

Sec. 420.210 Applicability; description of the hot-cooling-tempering subcategory.

Sec. 420.211 Specialized definitions.

Sec. 420.212 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart V—Miscellaneous Runoff—Storage Piles, Casting and Slagging Subcategory

Sec. 420.220 Applicability; description of the miscellaneous runoffs-storage piles, casting and slagging subcategory.

Sec. 420.221 Specialized definitions.

Sec. 420.222 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Sec. 420.230 Applicability; description of the combination cold pickling subcategory.

Sec. 420.231 Specialized definitions.

Sec. 420.232 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.
RULES AND REGULATIONS

Subpart X—Scale Removal (Kolene and Hydride) Subcategory

Sec. 420.240 Applicability; description of the scale removal subcategory.

420.241 Specialized definitions.

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

Subpart Y—Wire Pickling and Coating Subcategory

420.250 Applicability; description of the wire pickling and coating subcategory.

420.251 Specialized definitions.

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

Subpart Z—Continuous Alkaline Cleaning Subcategory

420.260 Applicability; description of the continuous alkaline cleaning subcategory.

420.261 Specialized definitions.

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

Subpart L—Continuous Casting and Pressure Slab Molding Subcategory

420.120 Applicability; description of the continuous casting and pressure slab molding subcategory.

420.130 Applicability; description of the hot forming-primary subcategory.

The provisions of this subpart are applicable to process waste water discharges resulting from the reduction of a hot steel ingot between the surfaces of rotating steel rollers and the intermediate steps, e.g., spray removal of scale, hot scarifying, etc., in the progression of the product to produce slabs and blooms.

420.131 Specialized definitions.

For the purpose of this subpart:

(a) The term “product” shall mean bloom or slab.

(b) The term “Mahoning Valley” shall mean the watershed drained by the Mahoning River upstream of the Ohio-Pennsylvania border.

§ 420.132 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, the Administrator or the State shall establish for the discharge as part of the process, the following limitations are to be added to the base limitations set forth in paragraph (a):

(a) For carbon steel hot forming-primary operations:

(b) For stainless steel hot forming-primary operations:

The provisions of this subpart are applicable to process wastewater discharges resulting from the steelmaking operations conducted for the manufacturing of steel (either carbon or specialty) in a basic oxygen furnace equipped with a wet dust collection system.

2. Section 420.110 is amended to read as set forth below:

§ 420.110 Applicability; description of the basic oxygen furnace (wet air pollution control methods) subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the steelmaking operations conducted for the manufacturing of steel (either carbon or specialty) in a basic oxygen furnace equipped with a wet dust collection system.

3. The title of Subpart L and § 420.120 are amended to read as set forth below:

Subpart L—Continuous Casting and Pressure Slab Molding Subcategory

§ 420.120 Applicability; description of the continuous casting and pressure slab molding subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the operations in which steel (either carbon or specialty) is continuously cast or in which alloy or stainless steel is cast into slabs by the pressure slab molding process.

420.130 Applicability; description of the hot forming-primary subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the production of steel (either carbon or specialty) in the vacuum degassing subcategory.

1. Section 420.70 is amended to read as set forth below:

§ 420.70 Applicability; description of the basic oxygen furnace (wet air pollution control methods) subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the steelmaking operations conducted for the manufacturing of steel (either carbon or specialty) in a basic oxygen furnace equipped with a wet dust collection system.

2. Section 420.110 is amended to read as set forth below:

§ 420.110 Applicability; description of the vacuum degassing subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the steelmaking operations conducted for the manufacturing of steel (either carbon or specialty) in a basic oxygen furnace equipped with a wet dust collection system.

3. The title of Subpart L and § 420.120 are amended to read as set forth below:

Subpart L—Continuous Casting and Pressure Slab Molding Subcategory

§ 420.120 Applicability; description of the continuous casting and pressure slab molding subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the operations in which steel (either carbon or specialty) is continuously cast or in which alloy or stainless steel is cast into slabs by the pressure slab molding process.

420.130 Applicability; description of the hot forming-primary subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the production of steel (either carbon or specialty) in the vacuum degassing subcategory.

1. Section 420.70 is amended to read as set forth below:

§ 420.70 Applicability; description of the basic oxygen furnace (wet air pollution control methods) subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the steelmaking operations conducted for the manufacturing of steel (either carbon or specialty) in a basic oxygen furnace equipped with a wet dust collection system.

2. Section 420.110 is amended to read as set forth below:

§ 420.110 Applicability; description of the vacuum degassing subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the steelmaking operations conducted for the manufacturing of steel (either carbon or specialty) in a basic oxygen furnace equipped with a wet dust collection system.

3. The title of Subpart L and § 420.120 are amended to read as set forth below:

Subpart L—Continuous Casting and Pressure Slab Molding Subcategory

§ 420.120 Applicability; description of the continuous casting and pressure slab molding subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the operations in which steel (either carbon or specialty) is continuously cast or in which alloy or stainless steel is cast into slabs by the pressure slab molding process.
resulting from the progressive squeezing and cutting of the blooms into series of rolls to produce a wide variety of shapes including billets, bars, rods, rails, and structural sections.

§ 420.141 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 "product" shall mean billet, bar, rod or structural section.

(c) The term "Mahoning Valley" shall mean the watershed drained by the Mahoning River upstream of the Ohio-Pennsylvania border.

§ 420.142 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 factors related to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from those 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 from 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:

(b) The limitations set forth above in this section shall not apply to any operation located in the Mahoning Valley which operation would otherwise be subject to the provisions of this section.

Subpart O-Hot Forming-Flat Subcategory

§ 420.150 Applicability; description of the hot forming-flat subcategory.

The provisions of this subpart apply to process wastewater discharges resulting from the reduction of heated slabs to plates, strip and sheet steel, or skelp.

§ 420.151 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 "product" shall mean plate, strip and sheet steel, or skelp.

(c) The term "plate" shall mean those flat, hot-rolled, finished products with the following dimensions: between 8 and 48 inches wide and at least 0.18 inches thick; over 48 inches wide and at least 0.18 inches thick. Products less than 8 inches wide, but more than 0.23 inches thick may be considered flat bars, and therefore defined as sections.

(d) The term "Mahoning Valley" shall mean the watershed drained by the Mahoning River upstream of the Ohio-Pennsylvania border.

§ 420.152 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 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 those 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 from 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:

(a) For operations producing carbon steel plate:

(b) For all other operations producing flat products (not strip and sheet):

FEDERAL REGISTER, VOL. 41, NO. 61—MONDAY, MARCH 29, 1976
§ 420.150 Applicability; description of the process. The establishment of the guidelines. On
different from the factors considered in
such discharger are fundamentally dif-
ficts) that factors relating to the equip-
has the authority to issue
gorization and effluent levels established.
which can affect the industry subcate-
ator (or the State) will make a written
is, however, possible that data which
would affect these limitations have not
been available and, as a result, these limita-
tions should be adjusted for certain
plants in this industry. An individual
discharger or other interested person
may submit evidence to the Regional Ad-
mistrator (or to the State, if the State
has the authority to issue NPDES per-
mits) that factors relating to the equip-
ment or facilities involved, the process
application of the factors considered to
such discharger are fundamentally dif-
ferent from the factors considered in
the establishment of the guidelines. On
the basis of such evidence or other avail-
able information, the Regional Admin-
istrator (or the State) will make a written
finding that such factors are or are not
fundamentally different for that facil-
ty, as specified in the Development Document. If such funda-
mentally different factors are found to
exist, the Regional Administrator or the
State shall establish for the discharger
effluent limitations in the NPDES per-
mit 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 dis-
prove such limitations, specify other limita-
tions, or initiate proceedings to re-
view these limitations.

(d) The limitations set forth above in this
section shall not apply to any opera-
tion located in the Mahoning Valley
which operation would otherwise be sub-
ject to the provisions of this section.

§ 420.160 Applicability; description of the pipe and tube subcategory.
The provisions of this subpart are ap-
plicable to process wastewater discharges
resulting from operations that produce
pipe or tube.

§ 420.161 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 “product” shall mean
steel tubular products to include welded
and seamless products.
(c) The term “Mahoning Valley” shall
mean the watershed drained by
the Mahoning River upstream of the
Ohio—Pennsylvania border.

§ 420.162 Effluent limitations guidelines
representing the degree of effluent
reduction attainable by the applica-
tion 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 ma-
terials, manufacturing processes, products
produced, treatment technology avail-
able, energy requirements and costs)
which can affect the industry subcate-
gorization and effluent levels established.
It is, however, possible that data which
would affect these limitations have not
been available and, as a result, these limita-
tions should be adjusted for certain
plants in this industry. An individual
discharger or other interested person
may submit evidence to the Regional Ad-
mistrator (or to the State, if the State
has the authority to issue NPDES per-
mits) that factors relating to the equip-
ment or facilities involved, the process
application of the factors considered to
such discharger are fundamentally dif-
ferent 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 find-
ing that such factors are or are not funda-
mentally different for that facility
compared to those specified in the Devel-
opment Document. If such fundamen-
tally 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 limits-
tations established herein, to the extent
dicated by such fundamentally different
factors. Such limitations must be
approved by the Administrator of the
Environmental Protection Agency. The Ad-
mnistrator may approve or dis-
prove such limitations, specify other
limitations, or initiate proceedings to re-
view these regulations.

§ 420.170 Applicability; description of the pickling-sulfuric acid-batch
and continuous subcategory.
The provisions of this subpart are ap-
plicable to process wastewater discharges
resulting from the immersion of steel
in a sulfuric acid bath for the chemical
removal of scale, and from the rinsing
operations which follow such immersion.

§ 420.171 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 “product” shall mean
steel material that is pickled by immer-
sion in sulfuric acid.
(c) The term “batch” refers to the
movement of steel through the pickling
operation in batches, bundles, as coiled
wire, rods, etc.
(d) The term “continuous” refers to
the continuous movement of the steel
through the pickling solution, as strip,
etc.
(e) Vacuum eductor condenser water
is considered to be noncontact cooling
water.
promulgation of this regulation for new-
with existing facilities as of the final pro-
tions are also intended to apply to waste-
and fume hood scrubbers associated with picking and acid recovery systems.

§ 420.181 Specialized definitions.
For the purpose of this subpart: (a) Except as term defined below, the general definitions, abbreviations and methods of analysis set forth in 40 CFR 401 shall apply to this subpart.
(b) The term “product” shall mean metal material that is picked in hydro-
chloric acid.
(c) The term “dissolved iron” shall mean that portion of iron determined utilizing the approved method for total iron following preliminary treatment as described in paragraph 4.1.1, page 66, of the Methods for Chemical Analysis of Water and Waste, 1971, EPA, Analytical Quality Control Laboratory, Cincinnati, Ohio.
(d) The term “Mahoning Valley” shall mean the watershed drained by the Mahoning River upstream of the Ohio-Pennsylvania border.
(e) The term “concentrates” shall mean those process wastewaters in which steel is immersed for the purpose of scale removal in a pickling operation and which have a total iron content greater than one percent (1%).
(f) The term “rinses” shall mean those process wastewaters in which steel is immersed for the purpose of rinsing off or removing the pickling solution.
(g) The term “fume scrubber” shall mean a wet air pollution control device used to remove and clean the fumes originating in the pickling operation.

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

In establishing the limitations set forth in this section, EPA took into account all information it was able to collect and develop 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 discharges 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 documents. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall be established 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 disappro
d from such limitations, or initiate proceedings to re-

VOL. 41, NO. 61—MONDAY, MARCH 29, 1976
(c) For rinses:

- **Metric units, kg/kg of product; English units, lb/lb of product**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissolved iron</td>
<td>0.0017</td>
<td>0.0003</td>
</tr>
<tr>
<td>Oil and grease</td>
<td>0.0017</td>
<td>0.0003</td>
</tr>
<tr>
<td>pH</td>
<td>6.0</td>
<td>9.5</td>
</tr>
</tbody>
</table>

*This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpt. B).*

(d) For those pickling operations that utilize a wet fume hood scrubber over the pickling tanks, the following effluent limitations are to be added to the limitations set forth in paragraphs (a) or (b) or (c) above.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissolved iron</td>
<td>0.0017</td>
<td>0.0003</td>
</tr>
<tr>
<td>Oil and grease</td>
<td>0.0017</td>
<td>0.0003</td>
</tr>
<tr>
<td>pH</td>
<td>6.0</td>
<td>9.5</td>
</tr>
</tbody>
</table>

*This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpt. B).*

(e) The limitations set forth above in this section shall not apply to any operation located in the Mahoning Valley which operation would otherwise be subject to the provisions of this section.

Subpart S—Cold Rolling Subcategory

§ 420.190 Applicability; description of the cold rolling subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the passing of unheated metal through a pair of rolls for the purpose of reducing its thickness, by producing a smooth surface, or of developing controlled mechanical properties in the metal. Depending on product and process requirements, the rolling solutions used to cool and lubricate during the reduction operations may be recirculated throughout all mill stands; applied once-through on all stands; or used in various combinations of recirculation and direct application.

§ 420.191 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 “product” shall mean steel material that is cold rolled.

(c) The term “recirculation” shall mean an operating mode utilizing reuse of solutions at all stands of the cold rolling mill.

(d) The term “combination” shall mean an operating mode utilizing once-through solution addition at all stands.

(e) The term “Mahoning Valley” shall mean the watershed drained by the Mahoning River upstream of the Ohio-Pennsylvania border.

§ 420.192 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 material, 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 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 procedures to revise these regulations. The following limitations shall be established for the discharger specified 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 procedures to revise these regulations. The following limitations shall be established for the discharger specified 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 procedures to revise these regulations. The following limitations shall be established for the discharger specified 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 procedures to revise these regulations. The following limitations shall be established for the discharger specified 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 procedures to revise these regulations.
§ 420.202 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 currently available, energy requirements and costs) which can affect the industry subcategorization and effluent limits 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 and 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 substantially different from that facility compared to those specified in the Development Document. If such fundamental differences 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) 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:

\[
\begin{array}{l|l|l}
\text{Effluent characteristic} & \text{Maximum for any 1 day} & \text{Average daily} \\
\text{Effluent limitations} & \text{value for 30 consecutive days} & \text{value exceeded before} \\
\hline
\text{Oil and grease} & 0.1250 & 0.0750 \\
\text{Zinc} & 0.0500 & 0.0125 \\
\text{Chromium} & 0.1000 & 0.0075 \\
\text{Residual} & 0.0050 & 0.0005 \\
\text{pH} & \text{within the range } 6.0 \text{ to } 9.0 & \\
\end{array}
\]

(b) The limitations set forth above in this section shall not apply to any operation located in the Mahoning Valley which would otherwise be subject to the provisions of this section.

Subpart U—Hot Coating-Terne Subcategory

§ 420.210 Applicability; description of the hot-coating-terne subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the operations pertinent to the immersion of steel in a molten bath of lead and tin metals, inclusive of the operations preceding and subsequent to the dip phase.

§ 420.211 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 "product" shall mean steel material that follows the steps relative to the production of a hot dipped, terne coated product.

(c) The term "Mahoning Valley" shall mean the watershed drained by the Mahoning River upstream of the Ohio-Pennsylvania border.

§ 420.212 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 currently available, energy requirements and costs) which can affect the industry subcategorization and effluent limits 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) 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:

\[
\begin{array}{l|l|l}
\text{Effluent characteristic} & \text{Maximum for any 1 day} & \text{Average daily} \\
\text{Effluent limitations} & \text{value for 30 consecutive days} & \text{value exceeded before} \\
\hline
\text{Oil and grease} & 0.1250 & 0.0750 \\
\text{Zinc} & 0.0500 & 0.0125 \\
\text{Chromium} & 0.1000 & 0.0075 \\
\text{Residual} & 0.0050 & 0.0005 \\
\text{pH} & \text{within the range } 6.0 \text{ to } 9.0 & \\
\end{array}
\]
(b) For those installations that utilize a wet fume hood scrubber as part of the coating operation, the following effluent limitations shall be added to the base limitations set forth above:

<table>
<thead>
<tr>
<th>Effluent limitations</th>
<th>Characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average for 30 consecutive days</th>
<th>Subject to written approval of Regional Administrator or the State</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>4.0</td>
<td>6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS</td>
<td>0.375 g/l</td>
<td>0.0075 g/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SS</td>
<td>0.0075 g/l</td>
<td>0.015 g/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TSS</td>
<td>0.0075 g/l</td>
<td>0.015 g/l</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(c) The limitations set forth above in this section shall not be applied to any operation located in the Mahoning Valley which would otherwise be subject to the provisions of this section.

Subpart V—Miscellaneous Runs-offs-Storage Piles, Casting, and Slagging Subcategory

§ 420.220 Applicability; description of the miscellaneous runs-offs-storage piles, casting, and slagging subcategory.

The provisions of this subpart are applicable to surface runoff from coal, limestone, and ore storage piles, and to discharges from the casting or slagging operations associated with iron and steel making processes.

§ 420.221 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 "Mahoning Valley" shall mean the watershed drained by any Mahoning River upstream of the Ohio-Pennsylvania border.

§ 420.222 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 have been apportioned to all 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 to the State, if the State has the authority to issue NPDES permits) shall 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 to the State, if the State has the authority to issue NPDES permits) shall 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 to the State, if the State has the authority to issue NPDES permits) shall make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document.

§ 420.230 Applicability; description of the combination acid pickling (batch and continuous) subcategory.

The provisions of this subpart are applicable to process waste discharges resulting from the immersion or continuous movement of steel pieces, e.g., collet wire, rods, strip, etc., in a nitric-hydrofluoric acid bath, in a sulfuric acid bath, a nitric acid bath, a hydrochloric acid bath, or in a hydrofluoric acid bath in line with a nitric-hydrofluoric acid bath, for the chemical treatment of steel from the pickling operations which follow such immersion or continuous movement. The provisions of this subpart are meant to apply to the entire pickling operation which includes the use of nitric-hydrofluoric acid as an integral part of the operation. These provisions are also intended to apply to wastewaters originating from the operation of fume hood scrubbers associated with these pickling operations.

§ 420.231 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 "product" shall mean steel material that is pickled in a combination of nitric and hydrofluoric acids which operation would otherwise be subject to the combination acid pickling operations.

(c) The terms "dissolved chromium", "dissolved nickel" or "dissolved iron", shall mean the portion of chromium, nickel or iron, respectively, determined utilizing the approved method for total chromium, total nickel or total iron, respectively, following preliminary treatment as described in paragraph 4.1.1, page 85, of the "Methods for Chemical Analysis of Water and Wastes", 1971, EPA, Analytical Quality Control Laboratory, Cincinnati, Ohio.

(d) The term "Mahoning Valley" shall mean the watershed drained by the Mahoning River upstream of the Ohio-Pennsylvania border.

§ 420.232 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 have been apportioned to all 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 to the State, if the State has the authority to issue NPDES permits) shall 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 to the State, if the State has the authority to issue NPDES permits) shall make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document.

FEDERAL REGISTER, VOL. 41, NO. 61—MONDAY, MARCH 29, 1976
practicable control technology currently available:

(a) For continuous combination acid pickling operations:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days not to exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspended solids</td>
<td>0.2192</td>
<td>0.0123</td>
</tr>
<tr>
<td>Oil and grease</td>
<td>0.1513</td>
<td>0.0147</td>
</tr>
<tr>
<td>Dissolved phosphorus</td>
<td>0.0008</td>
<td>0.0021</td>
</tr>
<tr>
<td>Dissolved iron</td>
<td>0.0610</td>
<td>0.0055</td>
</tr>
<tr>
<td>Dissolved nickel</td>
<td>0.0099</td>
<td>0.0010</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 6.0 to 9.0</td>
<td></td>
</tr>
</tbody>
</table>

This load is applicable only when these wastes are combined with cold rolling wastes (subpart B) for treatment.

(b) For combination acid pickling-batch pipe and tube operations:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days not to exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspended solids</td>
<td>0.2192</td>
<td>0.0123</td>
</tr>
<tr>
<td>Oil and grease</td>
<td>0.1513</td>
<td>0.0147</td>
</tr>
<tr>
<td>Dissolved phosphorus</td>
<td>0.0008</td>
<td>0.0021</td>
</tr>
<tr>
<td>Dissolved iron</td>
<td>0.0610</td>
<td>0.0055</td>
</tr>
<tr>
<td>Dissolved nickel</td>
<td>0.0099</td>
<td>0.0010</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 6.0 to 9.0</td>
<td></td>
</tr>
</tbody>
</table>

This load is applicable only when these wastes are combined with cold rolling wastes (subpart B) for treatment.

(c) For combination pickling-batch other operations:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days not to exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspended solids</td>
<td>0.0607</td>
<td>0.0060</td>
</tr>
<tr>
<td>Oil and grease</td>
<td>0.0239</td>
<td>0.0033</td>
</tr>
<tr>
<td>Dissolved phosphorus</td>
<td>0.0004</td>
<td>0.0004</td>
</tr>
<tr>
<td>Dissolved iron</td>
<td>0.0064</td>
<td>0.0008</td>
</tr>
<tr>
<td>Dissolved nickel</td>
<td>0.0016</td>
<td>0.0002</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 6.0 to 9.0</td>
<td></td>
</tr>
</tbody>
</table>

This load is applicable only when these wastes are combined with cold rolling wastes (subpart B) for treatment.

(d) The limitations set forth above in this section shall not apply to any operation located in the Mahoning Valley which operation would otherwise be subject to the provisions of this section.

Subpart X—Scale Removal (Kolene and Hydride) Subcategory

§ 420.240 Applicability; description of the scale removal (koline and hydride) subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the removal of scale from steel by the kolene or hydride molten salt bath methods.

§ 420.241 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 "product" shall mean steel material that follows the steps relative to scale removal operations.

(c) The terms "dissolved chromium" or "dissolved iron" shall mean that portion of chromium, or iron, respectively determined utilizing the approved method for total chromium or total iron, respectively, following preliminary treatment as described in paragraph 4.1.1, page 86, of the Methods for Chemical Analysis of Water and Wastes, 1971. EPA, Analytical Quality Control Laboratory, Cincinnati, Ohio.

(d) The term "Mahoning Valley" shall mean the watershed drained by the Mahoning River upstream of the Ohio-Pennsylvania border.

§ 420.242 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 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:

(a) For Kolene descaling operations:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days not to exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspended solids</td>
<td>0.1083</td>
<td>0.0030</td>
</tr>
<tr>
<td>Dissolved chromi-</td>
<td>0.0030</td>
<td>0.0001</td>
</tr>
<tr>
<td>mum.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissolved iron</td>
<td>0.0063</td>
<td>0.0001</td>
</tr>
<tr>
<td>Dissolved nickel</td>
<td>0.0031</td>
<td>0.0001</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 6.0 to 9.0</td>
<td></td>
</tr>
</tbody>
</table>

(b) For hydride descaling operations:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days not to exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspended solids</td>
<td>0.2223</td>
<td>0.0125</td>
</tr>
<tr>
<td>Dissolved chro-</td>
<td>0.0000</td>
<td>0.0001</td>
</tr>
<tr>
<td>minum.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissolved iron</td>
<td>0.0075</td>
<td>0.0003</td>
</tr>
<tr>
<td>Dissolved nickel</td>
<td>0.0129</td>
<td>0.0003</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 6.0 to 9.0</td>
<td></td>
</tr>
</tbody>
</table>

(c) The limitations set forth above in this section shall not apply to any operation located in the Mahoning Valley which operation would otherwise be subject to the provisions of this section.

Subpart Y—Wire Pickling and Coating Subcategory

§ 420.250 Applicability; description of the wire pickling and coating subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the immersion or continuous movement of alloy or stainless steel wire in an acid bath for the chemical removal of scale, and from the cleaning operations which follow such immersion or continuous movement. These provi-
sions are also intended to apply to wastewater originating from the operation of fume hood scrubbers associated with pickling operations as well as to the coating of alloy or stainless steel wire with another or other material to effect in subsequent drawing operations.

§ 420.251 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 "product" shall mean steel wire that follows the steps relative to the wire coating and pickling operations.

(c) The terms "dissolved chromium", "dissolved nickel", "dissolved iron", or "dissolved copper" shall mean that portion of chromium, nickel, iron or copper, respectively, determined utilizing the approved method for total chromium, total nickel, total iron or total copper, respectively, following preliminary treatment as described in paragraph 4.1.1, page 89, of the Methods for Chemical Analysis of Water and Wastes, 1971, EPA Analytical Quality Control Laboratory, Cincinnati, Ohio.

(d) The term "Mahoning Valley" shall mean the watershed drained by the Mahoning River upstream of the Ohio-Pennsylvania border.

§ 420.252 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 reverify these regulations.

(a) 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:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Effluent Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspended solids</td>
<td>0.317 mg/L</td>
</tr>
<tr>
<td>Oil and grease</td>
<td>0.125 mg/L</td>
</tr>
<tr>
<td>Dissolved chromium</td>
<td>0.003 mg/L</td>
</tr>
<tr>
<td>Dissolved iron</td>
<td>0.016 mg/L</td>
</tr>
<tr>
<td>Copper</td>
<td>0.002 mg/L</td>
</tr>
<tr>
<td>Nickel</td>
<td>0.002 mg/L</td>
</tr>
<tr>
<td>Dissolved copper</td>
<td>0.004 mg/L</td>
</tr>
<tr>
<td>pH</td>
<td>6.0 to 9.0</td>
</tr>
</tbody>
</table>

This table is applicable only when those wastes are combined with cold rolling wastes (subpart B) for treatment.

(b) The limitations set forth above in this section shall not apply to any operation located in the Mahoning Valley which operation would otherwise be subject to the provisions of this section.

Subpart Z—Continuous Alkaline Cleaning Subcategory

§ 420.260 Applicability; description of the continuous alkaline cleaning subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the continuous movement of alloy or stainless steel pieces; e.g., strip, etc.; in an alkaline bath for the removal of rolling oils, etc., and from the rinsing operations which follow such continuous movement.

§ 420.261 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 "product" shall mean steel material that follows the steps relative to the continuous alkaline cleaning operations.

(c) The terms "dissolved chromium", "dissolved nickel" and "dissolved iron", shall mean that portion of chromium, nickel or iron, respectively, determined utilizing the approved method for total chromium, total nickel or total iron, respectively, following preliminary treatment as described in paragraph 4.1.1, page 86, of the Methods of Chemical Analysis of Water and Waste, 1971, EPA Analytical Quality Control Laboratory, Cincinnati, Ohio.

(d) The term "Mahoning Valley" shall mean the watershed drained by the Mahoning River upstream of the Ohio-Pennsylvania border.
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) 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:

<table>
<thead>
<tr>
<th>Effluent characteristic</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspended solids</td>
<td>0.0156</td>
<td>0.0052</td>
</tr>
<tr>
<td>Dissolved chromium</td>
<td>0.0003</td>
<td>0.0001</td>
</tr>
<tr>
<td>Dissolved iron</td>
<td>0.00006</td>
<td>0.0002</td>
</tr>
<tr>
<td>Dissolved nickel</td>
<td>0.00015</td>
<td>0.00005</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 6.0</td>
<td></td>
</tr>
</tbody>
</table>

(b) The limitations set forth above in this section shall not apply to any operation located in the Mahoning Valley which operation would otherwise be subject to the provisions of this section.