Title 40—Protection of the Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

[FRL 509-5]

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 available as set forth in interim final form below are promulgated by the Environmental Protection Agency (EPA). On June 28, 1974, EPA promulgated a regulation adding Part 420 to Title 40 of the Code of Federal Regulations (39 FR 24114). That regulation with subsequent amendments established effluent limitations and guidelines for existing sources and standards of performance and pretreatment standards for new sources for the iron and steel manufacturing point source category. 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 G), the vacuum degassing subcategory (Subpart K), 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 forming-flat subcategory (Subpart O), the pipe and tubes subcategory (Subpart P), the pickling-sulfuric acid-batch and continuous subcategory (Subpart Q), the pickling-hydrochloric acid-batch and continuous subcategory (Subpart R), the cold rolling subcategory (Subpart S), the hot coatings-galvanizing subcategory (Subpart T), the hot coatings-terne subcategory (Subpart U), the miscellaneous runoffs-storage piles, casting and slagging 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 pursuant to sections 301, 304(b) and (c), of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314 (b) and (c), 86 Stat. 816 et seq.; P.L. 92-500) (the Act). Simultaneously, the Agency is publishing in proposed form effluent limitations and guidelines for existing sources to be achieved by the application of best available technology economically achievable, standards of performance for new point sources and pretreatment standards for existing sources and for new sources.

(a) Legal authority (1) Existing point sources.

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

Section 304(b) of the Act requires the Administrator to publish regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of the best practicable control technology currently available and the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedural innovations, operating methods and other alternatives. The regulation herein sets forth effluent limitations and guidelines, pursuant to sections 301 and 304(b) of the Act, for the hot forming-primary subcategory (Subpart M), the hot forming-section subcategory (Subpart N), the hot forming-flat subcategory (Subpart O), the pipe and tubes subcategory (Subpart P), the pickling-sulfuric acid-batch and continuous subcategory (Subpart Q), the pickling-hydrochloric acid-batch and continuous subcategory (Subpart R), the cold rolling subcategory (Subpart S), the hot coatings-galvanizing subcategory (Subpart T), the hot-coatings-terne subcategory (Subpart U), the miscellaneous runoffs-storage piles, casting and slagging 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.

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

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

Section 306 also requires the Administrator to propose regulations establishing Federal standards of performance for categories of new sources included in a list published pursuant to section 306 of the Act. The regulations proposed herein set forth the standards of performance applicable to new sources for the hot forming-primary subcategory (Subpart M), the hot forming-section subcategory (Subpart N), the hot forming-flat subcategory (Subpart O), the pipe and tubes subcategory (Subpart P), the pickling-sulfuric acid-batch and continuous subcategory (Subpart Q), the pickling-hydrochloric acid-batch and continuous subcategory (Subpart R), the cold rolling subcategory (Subpart S), the hot coatings-galvanizing subcategory (Subpart T), the hot coatings-terne subcategory (Subpart U), the miscellaneous runoffs-storage piles, casting and slagging 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).

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

Section 307(c) of the Act requires the Administrator to promulgate pretreatment standards for new sources at the same time that standards of performance for new sources are promulgated pursuant to section 306. In another section of the FEDERAL REGISTER regulations are proposed in fulfillment of these requirements.

(b) Summary and basis of interim final 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 whether differences in raw material used, product produced, manufacturing process employed, age, size, waste water constituents and other factors require development of separate limitations for different segments of the point source category. The raw waste

characteristics for each such segment were then identified. This included an analysis of the source, flow and volume of water used in the process employed, the sources of waste and waste waters in the operation and the constituents of all waste water. The constituents of the waste waters which should be subject to effluent limitations were identified.

The control and treatment technologies existing within each segment were identified. This included an identification of each distinct control and treatment technology, including both in-plant and end-of-process technologies, which is existent or capable of being designed for each segment. It also included an identification of, in terms of the amount of constituents and the chemical, physical, and biological characteristics of pollutants, the effluent level resulting from the application of each of the technologies. The problems, limitations and reliability of each treatment and control technology were also identified. In addition, the nonwater quality environmental impact, such as the effects of the application of such technologies upon other pollution problems, including air, solid waste, noise and radiation were identified. The energy requirements of each control and treatment technology were determined as well as the cost of the application of such technologies.

The information, as outlined above, was then evaluated in order to determine what levels of technology constitute the "best practicable control technology currently available." In identifying such technologies, various factors were considered. These included the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, nonwater quality environmental impact (including energy requirements) and other factors.

The data upon which the above analysis was performed included EPA permit applications, EPA sampling and inspections, consultant reports, and industry submissions.

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 in the FEDERAL REGISTER of July 19, 1973, 38 F.R. 19236. The provisions of Part 128 are equally applicable to sources which would constitute "new sources," under section 306 if they were to discharge pollutants directly to navigable waters, except for section 128.133. That section provides a pretreatment standard for "incompatible pollutants" which requires application of the "best practicable control technology currently available," subject to an adjustment for amounts of pollutants removed by the publicly owned treatment works. Since the pretreatment standards proposed herein apply to new sources, sections 420.136, 420.146, 420.156, 420.166, 420.176, 420.186, 420.196, 420.206, 420.216, 420.226, 420.236, 420.246, 420.256 and 420.266, below amend section 128.133 to specify the application of the standard of performance for new sources rather than the "best practicable" standard applicable to existing sources under sections 301 and 304(b) of the Act.

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) and the continuous casting 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 420.120 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 and proposed herein, unless specified otherwise, "steel" includes both carbon and specialty steel. The methodology behind the limitations for the basic oxygen furnace (wet air pollution control methods) subcategory (Subpart G), the vacuum degassing subcategory (Subpart K) and the continuous casting and slab molding subcategory (Subpart L) of the specialty steel industry are discussed below.

The operations relating to the tin and chrome coating of strip steel have not been included in this regulation because the Agency is required under Section 306 of the Act to promulgate, and has promulgated, effluent limitations and guidelines for the Electroplating Point Source Category (40 CFR 413). The treatment technology was discussed in the Contractors Draft Report and the costs 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. For the pickling subcategories kilograms of pollutant per kkg (lbs/1000 lbs) of steel product may be changed to kilograms of pollutant per kkg (lbs/1000 lbs) of acid purchased and regenerated.

For cold rolled or hot coated products the units of kilograms of pollutant per kkg (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 facet of these regulations. The appropriateness or need for subcategorization 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 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.

(2) Summary of conclusions with respect to the basic oxygen furnace (wet air pollution control methods) subcategory (Subpart G), the vacuum degassing subcategory (Subpart K), the continuous casting and slab molding subcategory (Subpart L), the hot forming-primary subcategory (Subpart M), the hot forming-section subcategory (Subpart N), the hot forming-flat subcategory (Subpart O), the pipe and tubes subcategory (Subpart P), the pickling-sulfuric acid-batch and continuous subcategory (Subpart Q), the pickling-hydrochloric acid-batch and continuous subcategory (Subpart R), the cold rolling subcategory (Subpart S), the hot coatings-galvanizing subcategory (Subpart T), the hot coatings-terne subcategory (Subpart U), the miscellaneous runoffs-storage piles, casting and slagging 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 broadly 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 performance: gas cleaning equipment; waste treatability; aqueous waste loads; process water usage and type of steel produced.

After considering all of these factors, it was concluded that the industry is comprised of separate and distinct processes with enough variability in product and waste to require categorizing into a number of discrete subcategories. The individual processes, products, and the wastewater characteristics comprise the most significant factors in the categorization of this most complex industry. The remaining factors served to support and substantiate the basic subcategorization. Waste treatability proved to be most significant in substantiating the subcategories. From this evaluation it was determined that at this time, seventeen subcategories would be required for the purposes of developing effluent limi-

tations for the forming, finishing and specialty steel segments of the Iron and Steel Industry. These subcategories are as follows:

G. Basic Oxygen Furnace-Wet Air Pollution Control Methods—An operation which involves the production of steel in a basic oxygen furnace and the use of a wet scrubber in conjunction with the operation of the furnace. This subcategory has already been promulgated for carbon steel.

K. Vacuum Degassing—An operation which involves the removal of gaseous material (deoxidation) from molten steel by the action of a vacuum on the molten steel. This subcategory has previously been promulgated for carbon steel.

L. Continuous Casting and Pressure Slab Molding—The continuous formation of a primary steel shape (such as a slab, billet or bloom) from molten steel by casting through a water cooled mold. Pressure slab molding is the casting of a slab in a slab shaped mold by a bottom pouring method. Specialty steel is now included in this subcategory, which has previously been promulgated for carbon steel.

M. Hot Forming Primary—An operation which involves reduction of hot steel ingots into slabs and blooms by rolling and associated processes.

N. Hot Forming Section—An operation which involves reduction of hot blooms into various shapes and sizes of products such as billets, bars, rods and sections.

O. Hot Forming Flat—An operation which involves the reduction of hot slabs into plates, strips, and sheet steel or skelp.

P. Pipe and Tubes—An operation which produces welded or seamless pipe or tube, either by welding hot or cold skelp or by piercing hot blooms.

Q. Pickling-Sulfuric Acid-Batch and Continuous—An operation involving the immersion of rods, wire, strip or similar steel product in a sulfuric acid bath and subsequent rinsing.

R. Pickling-Hydrochloric Acid-Batch and Continuous—An operation involving immersion of rods, wires, strip or similar steel product, in a hydrochloric acid bath with rinsing, and associated absorber vent and fume hood scrubbers.

S. Cold Rolling—An operation involving the size reduction and improvement in surface or mechanical properties of unheated steel with associated rolling and cooling oils and solutions.

T. Hot Coat-Galvanizing—An operation involving the immersion of steel strip or pipe in a bath of molten zinc and associated processes.

U. Hot Coat-Terne—An operation involving the immersion of steel in a bath of molten lead and tin and associated processes.

V. Miscellaneous Runoffs — Runoff from coal, limestone and ore storage piles and discharges from casting and slagging operations.

W. Combination Acid Pickling—Batch and Continuous—The pickling of specialty steel in a nitric acid and hydrofluoric acid bath, with or without a sulfuric acid or hydrochloric acid bath used in-line with the nitric-hydrofluoric acid bath. After immersion in the acid bath or baths the steel is rinsed.

X. Scale Removal—Kolene and Hydride—The removal of scale from alloy or stainless steel by immersion in a bath of a molten salt such as kolene or hydride.

Y. Wire Pickling and Coating—The pickling of alloy or stainless steel wire and the coating of the wire (with copper, or another metal) to assist in further drawing of the wire.

Z. Continuous Alkaline Cleaning—The removal of rolling oil or other material from alloy or stainless steel in a continuous process involving the electrolysis of the steel in an alkaline solution.

Manufacturing Processes

The inherent manufacturing or production processes associated with the production of a diversity of steel products served as a principal basis for defining subcategories. This factor was particularly important in establishing initial broad segmentation into steelmaking, hot forming, cold finishing and "non-production" groupings and subsequently into more specific subcategories. For example, the processes and methods associated with hot steel working differ inherently from those for cold production.

Hot working of steel involves the deformation of steel at elevated temperatures (2150° F to 2450° F) whereas the cold finishing processes are carried out at far lower temperature ranges (less than 1000° F).

Hot forming operations require relatively large pieces of machinery and auxiliary equipment (large rollers, run-out tables, steel handling equipment) in the shaping of the large steel ingots into blooms, slabs and billets (some ingots are over 300 tons). Generally 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 only suitable to 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, 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 (galvanizing) do not incorporate any of the principal forming or shaping operations. Moreover, the surface preparation operations themselves differ substantially in that, for example, pickling by sulfuric, hydrochloric or nitric and hydrofluoric acid immersion involve different practices from those related to coating the steel with zinc or tin/lead alloys.

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 (See 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 a chromium coating over the tin or zinc. Alloy steel wire may be coated with copper to assist in subsequent drawing operations.

Those ancillary operations which are involved in the overall production process differ in function from those described above. Areas used for (open) bulk storage of coal, limestone or iron ore involve none of the specific steel making functions. Similarly, equipment and machinery maintenance facilities carry out an additional separate set of activities. As would be expected, there is a close interrelationship between the production processes (and the subcategories derived therefrom) and the factors of final products, raw materials used, and raw wastewater characteristics and treatability as described below.

Final Products

Consideration of the type of nature of final products helped refine the definition of those subcategories where manufacturing takes place; however, this consideration was not relevant to the miscellaneous runoff subcategory. In addition to the more clearly defined final product differences, e.g., hot formed (unfinished) steel versus galvanized finished product, this factor was useful in substantiating subcategories where discrete differences were less apparent. Another consideration was that of product surface area. The surface area of the product being hot rolled affects the rate at which contact cooling and flushing water must be applied, and thus the quantity and quality of the wastewater generated (see waste water characteristics and treatability). The surface condition of the product to be rolled during the hot forming processes also affects the load of mill scale that will be generated when contact process water is applied.

Available data revealed that certain hot forming mills (designated primary mills) produced only the larger sized bloom or slab pieces of steel; other mills produced billets, rods or like products (section mills) or plates, strips or sheet steel (flat mills). An additional group of mills were further defined by their output of steel pipe and tube products.

Furthermore the difference in final products in relation to coating and finishing operations suggested additional basis for subcategorization. Generally all coated products are pickled prior to the coating application, however, not all pickled products are coated. As would be expected consideration of final products complements the basis for subcategorization according to manufacturing processes.

Final product analysis augments the basis for subcategorization by raw materials in relation to the pickling and coating operations. Specific selection of pickling acid is made when definite 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 differentiated.

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 intermediate raw materials employed in each subcategory, e.g., acids, coatings and the like.

Hot forming operations use 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-section area such as billets, rails, beams, bars are formed from hot blooms which are of certain cross-sectional area (at least 6 x 6") themselves.

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 material steel inputs 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 applicability of subcategorization. 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 in hot coat galvanizing whereas molten lead and tin are the raw materials for the hot coat-terne operations. Analysis of raw materials used in the forming and finishing of steel substantiate the basis of subcategorization when differentiating similar production processes i.e. acid pickling and coatings.

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 terne coating operation wastes serves as another basis for differentiating terne 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. Analysis of the available information does not support subcategorization on the basis of the various types of oil and grease found in either the manufacturing process itself or in 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 significantly 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, comparisons of suspended solids characteristics and levels of concentration revealed that the suspended solids from the hot forming operations are comparatively larger in size, heavier, and more easily removed from the wastewater than those solids produced in the nonhot-forming operations. Even within the various hot-forming operations, the particle size of the suspended solid varies. The relatively good surface of the product to be rolled 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 out than scale from previous steps. Therefore, treatability factors complement the manufacturing process basis for subcategorization.

Gas Cleaning Equipment

Certain manufacturing operations (steelmaking, pickling and hot coatings) 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 those operations producing vapors are 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 iron and 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.

Although specialty steel plants do tend to be smaller than carbon steel plants, the type of steel produced has a greater impact on the waste loads and water use than does the size per se.

Size was considered as a possible factor for subcategorization but from analysis of the complied data size, per se, does not justify categorization. Throughout the steel industry mills vary greatly in physical size, layout and product size. However, these considerations revealed no relationship to process water usage, discharge rate, effluent quality or any other pertinent factors.

Age as a factor might be expected to be at least amenable to quantitative identification and interpretation, but the extensive investigation of the industry does not indicate that age alone is a factor. The steel industry is old. Some of the old mills still incorporate early operating ideas and practices. However, other old mills are very new in that they have incorporated the latest operating ideas and practices.

Nevertheless, most older mills have been updated by internal changes in process, design, and equipment. Therefore, to say that a mill was built 50 years ago and is 50 years old is not particularly meaningful in terms of interpreting mill practices. In particular, no consistent pattern between mill age and raw waste characteristics was found.

Land Availability (Location)

Examination of the raw waste characteristics, process water application rates, discharge rates, effluent quality and pertinent factors relative to plant location reveals no general relationship or pattern. Land availability (location), per se, is not a viable factor for subcategorization of the iron and steel 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 technologies suggested for BAT and BPCTCA minimize 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 verifies the basis of the subcategorization scheme by manufacturing processes. Differences in

scale (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 to cool the hot forming machinery 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. Pr differences in process water usage. Process water usage parallels the subcategorization by final product considerations (see final products factor) where data revealed that for particular product requirements well defined manufacturing processes must be employed.

TYPE OF STEEL PRODUCED

Originally, the alloy and stainless steel and carbon steel segments of the steel industry were studied by separate contractors. After examination of the data bases for these two segments, it was determined that in many cases, the same categorization would be appropriate where the operations were similar, although in some cases the limitations were adjusted because of differing water use rates. Other categories, characteristic of the specialty steel industry, were developed on the bases heretofore discussed.

MULTI-COMMUNITY ECONOMIC IMPACT

Comments submitted in response to effluent limitations proposed on February 19, 1974 (39 F.R. 6484), contended that the proposed regulations might result in large employment reduction in the multi-community Mahoning River Valley region of eastern Ohio. Upon the promulgation of those regulations on June 28, 1974 (39 F.R. 24114), EPA concluded that it lacked sufficient information to support different requirements for point sources located in that region. Following the promulgation of those regulations, and in accordance with the preamble thereto, companies contending that the effluent limitations guidelines contained therein would cause curtailment of operations and heavy unemployment in the Mahoning Valley region were afforded the opportunity of presenting detailed technical, cost and financial information to support that contention. Additional communications from officials of state, county and municipal governments and regional planning and economic development agencies were also evaluated. The data supplied by the companies and other commenters, and the evaluation thereof by EPA, through its consultants, have been utilized in the establishment of the effluent limitations guidelines, as set forth in interim final form, promulgated herein.

EPA retained a consulting firm to study the data in order to determine whether 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 closings 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 the sizable investments required for pollution controls, 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 companies operating facilities in the region submit, by September 15, 1974, data concerning estimates of investment and annual costs for pollution control equipment required for non-region specific effluent limitations, analyses of the effects of such costs upon profitability, and rationale for concluding whether the necessary capital could be invested. In order to facilitate the submission of the data, which was not accomplished by the September 15, 1974 deadline, EPA delivered a questionnaire to the companies in October, 1974. The information solicited therein concerned plant physical and operating characteristics, financial management systems and policies, historical operating and financial data, pollution abatement cost analyses, and methodologies and assumptions for ROI (Return on Investment) projections. The gathering and evaluation of the data required conferences attended by EPA and its consultants and the companies, visits by EPA and its consultants to the corporate offices of the companies, and inspections by EPA and its consultants of the companies' steelmaking facilities in the Mahoning River Valley.

Tentative analysis of the available data leads to the conclusion that conditions in the Mahoning River Valley region are unique with respect to the physical and geographical characteristics of the region, physical and operating characteristics of the facilities located therein, and the importance of the facilities to the economy of the region. Tentative analysis of the available data and the consultant's evaluation thereof appears to support the contention that mandatory compliance with effluent limitations guidelines which do not take into account these factors is likely to result in severe economic dislocation within the Mahoning River Valley region.

The discussion of categorization within the industry contained in (1) supra, indicates that EPA has concluded that subcategorization of the industry is inappropriate on the basis of size, per se, age, per se, or land availability (location), per se. The type of manufacturing process employed was deemed to be the appropriate determinant of subcategorization.

Data submitted by the companies operating in the Mahoning Valley region, however, reveal a unique combination of economically disadvantageous size, age and land availability (location) factors which appear to warrant consideration pursuant to section 304(b) (1) (B) of the Federal Water Pollution Control Act, as amended, in determining the best practicable control technologies available to facilities in the region. The plants in the Mahoning River Valley region include some of the oldest steelmaking facilities still in use in the United States. The first steel plants in the region were installed near the turn of the century. Four blast furnaces and fourteen open hearth furnaces at one facility are in the range of 60–75 years in age. In another facility, the newest finishing mill is 40 years old with the balance of finishing equipment more than 50 years old. Several antiquated units have been closed over the past several years.

In addition to similar economic disadvantages resulting from age and size characteristics, facilities in the region appear to share economic disadvantages caused by locational characteristics. These include the movement of markets away from the region, constrained access to raw materials due to the unavailability of waterborne transportation and required transshipment by rail, and space limitations which prohibit major expansion of existing facilities. All of the steel plants operated by the companies submitting data are built on land surrounded by either the river, main highways or residential or industrial buildings.

As a result of this unique combination of age, size and land availability (location) factors common to plants in the region, these facilities appear to be economically marginal before the addition of pollution control costs. 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 submissions, calculated 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 on a stand alone basis under average conditions. On this basis, the Mahoning Valley operations of one of the companies submitting data is expected to realize a positive cash flow only under infrequently occurring conditions of maximum demand, while the operations of the two remaining companies are 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 unwillingness 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 closings 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 plants does not, in itself, 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 currently available shall 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 rural area economic development sustained by the community, area, or 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 imposition of the national effluent limitations to facilities in the Mahoning Valley which share region-specific economic disadvantages appears likely to lead to plant closings, the effect of which would be heavy unemployment and severe economic dislocation in this multi-community region.

Steel production is the largest single factor in the economy of the Mahoning River Valley, a region with a population of approximately 550 thousand. In terms of jobs and payroll, the steel industry employs more people, approximately 15% and provides more wages, 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 $80 million in the first quarter of 1973. According to a study conducted for a local economic development agency in 1972; the industry, in addition to its own payroll of $271 million, purchased $90 million in goods and services from the local economy, supporting an additional 3300 jobs with a total payroll of about $31 million, and generated between 19% and 27% of the region's 201,500 non-farm jobs and a similar proportion of the $142 million in total tax revenues of local jurisdictions.

The relief granted from severe economic impact 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 in the future, EPA is today proposing limitations which establish the degree of effluent reduction accomplished by BAT, under section 301(b)(2) of the Act. The proposed BAT limitations for plants in the Mahoning Valley are identical to those required to be met by the balance of 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 BPT or applicable state water quality standards. Since the Agency is not establishing BPT limits for the Mahoning Valley plants, a special provision is being proposed which will confine any such 301(c) modifications for Mahoning Valley plants to levels comparable to a region-specific BPT installed at an economically feasible pace.

(ii) Waste characteristics.

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

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

(3) Subpart L—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, oil and grease and pH.

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

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

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

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

(8) Subpart Q—Pickling-Sulfuric Acid-Batch and Continuous-Subcategory. The known significant pollutants or constituents in the wastewaters resulting from sulfuric acid pickling operations include suspended solids, dissolved iron and pH.

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

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

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

(13) Subpart V—Miscellaneous Runoffs-Storage Piles, Casting and Slagging Subcategory. The know significant pollutant or constituent in the wastewaters resulting from this subcategory include suspended solids.

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

(15) Subpart X—Scale Removal-Kolene and Hydride Subcategory. The known significant pollutants or constituents in the wastewaters resulting from this subcategory include suspended solids, chromium (hexavalent and dissolved), iron, cyanide and pH.

(16) Subpart Y—Wire Pickling and Coating Subcategory. The known significant pollutants or constituents in the wastewaters resulting from this subcategory include suspended solids, chromium, iron, cyanide, fluoride, nickel, copper and pH.

(17) Subpart Z—Continuous Alkaline Cleaning Subcategory. The know significant pollutants or constituents in the wastewaters resulting from this subcategory include suspended solids, chromium, iron, nickel and pH.

(iii) Origin of waste water pollutants.

(1) Subpart G—Wastewaters from the Basic Oxygen Furnace-Wet Air Pollution Control Methods Subcategory result from the use of water to scrub particulates and vapors from the emissions from a basic oxygen furnace.

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

(3) Subpart L—Wastewaters from the Continuous Casting and Pressure Slab Molding Subcategory result from the contact cooling of the cast material, and from washing out of the molds.

(4) Subpart M—Wastewaters from Hot Forming-Primary 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 particles from mill scale and oils and greases which originate in the hydraulic and lubricating systems.

Additional wastewaters can result from hot scarfing operations associated with the hot forming-primary operations. The sources of these wastewaters include the flush water used to flush the hot scale generated by the scarfer off the product, water used to spray and protect equipment in the vicinity of the scarfer from heat and flying scale particles, and water used in wet scrubbing systems to remove the fume and smoke generated in the scarfing operation. Additional wastewaters can result if noncontact hot mill and reheat 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.

(5) Subpart N—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 reheat furnace cooling water are mixed with the contact wastewaters.

(6) Subpart O—Hot Forming-Flat Subcategory. Wastewaters from Hot Forming-Flat Subcategory operations result from washing scale from the surface of the steel with water, from the water used to transport the scale through the flume beneath the mill and from water used to cool the strip on the runout table. The effluents contain suspended solids from mill scale and oils and greases which originate in the hydraulic and lubricating systems.

(7) Subpart P—Pipe and Tubes Subcategory. Wastewaters from Pipe and Tubes Subcategory operations result from contact water use in these processes as roll spray cooling waters and cooling bed or spray quench waters. These wastewaters are usually combined and discharged to flumes or trenches beneath the pipe mill and flushed into scale pits. These wastewaters contain suspended solids in the form of scale which is flushed off the pipe surface by the roll cooling spray waters and oils and greases which originate in the hydraulic and lubricating systems. Additional wastewaters can result if noncontact reheat furnace or equipment cooling waters are mixed with the contact wastewaters.

(8) Subpart Q—Pickling-Sulfuric Acid Batch and Continuous-Subcategory. Wasterwaters from Pickling-Sulfuric Acid-Batch and Continuous Subcategory operations result from the necessary operating procedures during the pickling process. These wastewaters originate in either of two forms: as spent solutions of concentrated waste pickle liquor, containing iron and sulfuric acid at concentration up to 15 percent; or as dilute solutions resulting from dunk or spray rinsing of pickled product. Each operation contributes its own characteristic waste load to the total, and may be considered separately. Wastewaters are also generated by fume scrubbers.

(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 originate in either of two forms: as spent solutions of concentrated waste pickle liquor, containing ferrous and ferric chlorides and hydrochloric acid at concentrations up to 15 percent; or as dilute solutions resulting from dunk or spray rinsing of pickled product. Each operation contributes its own characteristic waste load to the total, and may be considered separately. As the concentrated pickle liquor batch becomes too highly saturated with ferrous salts to use further for pickling the product, the spent concentrated pickle liquor is discharged for disposal and a fresh batch is made up. These wastewaters contain excess hydrochloric acid which produces a very low pH, as well as varying quantities of total, ferrous, and dissolved iron. Suspended matter is also present as supersaturated iron salts precipitate out, particularly if the pH is elevated prior to discharge. Wastewaters are also generated by fume hood scrubbing and by operation of hydrochloric acid regeneration plants.

(10) Subpart S—Cold Rolling Subcategory. Wastewaters from Cold Rolling Subcategory operations result when rolling solutions are dumped for treatment or disposal. These rolling solutions may consist of water, oil, oil-in-water emulsions, oil-water-detergent solutions or combinations of any of these, and are used to provide cooling and lubrication to the rolls and product. These wastewaters contain oil and grease in the form of water soluble oils used as an additive in the rolling solutions, as well as tramp oils and greases from the mill equipment lubricating systems. They also contain suspended solids in the form of general working area dirt and debris, which gets into the rolling solutions during normal operations.

(11) Subpart T—Hot Coatings—Galvanizing Subcategory. Wastewaters from Hot Coatings—Galvanizing Subcatgeory operations result from various cleaning, chemical treatment, and rinses applied to the product before or after coating, as well as batch discharges from the various solutions and baths associated with the coating operations. In addition, some plants utilize wet fume hood scrubbers to remove dust and fumes from the process areas. These wastewaters in general contain suspended solids in the form of scale particles, dirt, and debris from the working area. Galvanizing operations in particular contain oil and grease, zinc, and chromium from the coating and finishing operations. The pH from this process may fluctuate, depending upon the concentrations of acid or alkaline cleaning rinses present.

(12) Subpart U—Hot Coatings—Terne Subcategory. Wastewaters from Hot Coatings-Terne Subcategory operations result from various cleaning or coating rinses applied to the product before or after coating. These wastewaters in general contain suspended solids in the form of scale particles, dirt, and debris from the working area, and lead and tin from the terne coating operation itself. The pH from this process may fluctuate, depending upon the concentrations of acid or alkaline cleaning rinses present. In addition, some plants utilize wet fume hood scrubbers to remove dust and fumes from the process areas.

(13) Subpart V—Miscellaneous Runoffs-Storage Piles. Casting and Slagging Subcategory. Wastewater pollutants from miscellaneous runoffs, storage piles, casting and slagging facilities result from the intimate contact of rainfall runoff waters with the various piles of material, i.e., storage piles, casting and slagging piles. Wastewaters from casting and slagging result from the contact cooling of ingots (or ingot molds) and slag.

(14) Subpart W—Combination Acid Pickling Batch and Continuous Subcategory. Wastewaters from the Combination Acid Pickling Batch and Continuous Subcategory result from the necessary operating procedures during the pickling process. These wastewaters originate in either of two forms: as spent solutions of concentrated pickle liquor, or as dilute solutions resulting from the dunk or spray rinsing of the pickled product. Fume scrubbers also generate wastewaters.

(15) Subpart X—Scale Removal-Kolene and Hydride Subcategory. Wastewaters from the Scale Removal-Kolene and Hydride Subcategory result from the removal of scale by these molten salt bath methods and the dunk or spray rinsing which follows.

(16) Subpart Y—Wire Pickling and Coating Subcategory. Wastewaters from the Wire Pickling and Coating Subcategory result from the pickling operation, and also from the subsequent coating operations which assist in the further drawing of the alloy or stainless steel wire. Wastewaters may originate as concentrated forms, or as dilute rinses.

(17) Subpart Z—Continuous Alkaline Cleaning Subcategory. Wastewaters from the Continuous Alkaline Cleaning Subcategory result from the cleaning of alloy or stainless steel strip for the removal of oil and grease and may be encountered either as a concentrated form (the actual cleaning bath) or as a dilute rinse.

(iv) Treatment and control technology.

Waste water treatment and control technologies have been studied for each subcategory of the industry to determine what is the best practicable control technology currently available.

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

Subcategory. Current control and treatment technology practiced in the specialty steel industry includes sedimentation with once through usage. This subcategory was compared with that for the carbon steel industry, and it was determined that there was no demonstrable difference between this operation in the carbon and specialty steel segments. Since the existing treatment at the specialty steel operation 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 the basic oxygen furnace (wet) subcategory consists of a thickener with polymer addition to the feed and vacuum filtration of the thickener underflow. The bulk of the thickener overflow is recycled, while less than ten percent of this recycle flow is blown down without further treatment.

(b) The best available technology economically achievable includes all components of the treatment system described as best practicable control technology currently achievable, plus further treatment of the blowdown by lime precipitation of fluorides, followed by sedimentation and neutralization.

(2) Subpart K—Vacuum Degassing Subcategory. Current control and treatment technology practiced in the specialty steel industry includes once through usage with sedimentation; recycle, usually over a cooling tower, within minimal blowdown; and treatment of blowdown flows by filtration.

This subcategory was compared with the identical one for the carbon steel industry, and it was determined that there was no demonstrable difference between this operation in the carbon and specialty steel segments and the technology was directly transferred.

(a) The best practicable control technology currently available for vacuum degassing operations consists of sedimentation with recycle of solids to sinter; recycle and cooling of process waters over cooling towers; lime treatment to precipitate metals; and filtration of treated blowdown prior to discharge.

(b) The best available technology economically achievable includes all components of the treatment system described above, plus additional lime treatment, clarification and filtration, along with denitrification by biological means if nitrate concentrations exceed 4 mg/l.

(3) Subpart L—Continuous Casting and Pressure Slab Molding Subcategory. Current control and treatment technology in the specialty steel segment encompasses three levels of treatment. A few plants use only a once through system incorporating a simple settling lagoon or scale pit. Alternative control includes the use of a recycle system and passing scale pit overflows over a cooling tower and back to the spray system, with a minor portion going to blowdown untreated. Some operations also provide high flow, rapid sand filtration, either for blowdowns from the system or to the entire recycling process water flow, yielding effluents and process waters of high quality.

This subcategory was compared with the identical one for the carbon steel industry; and it was determined that there was no demonstrable difference between this operation in 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 dragout of settled solids and an oil skimmer for floating oils, recycle loop utilizing cooling tower, 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 continuous casting include all parts of the above system, plus additional pressure filtration step to treat the blowdown stream.

(4) Subpart M—Hot Forming-Primary Subcategory. The control and treatment technologies which are available are primarily end-of-process treatment and reuse techniques. Available treatment methods which can be added to the operating unit scale pit (settling unit) include oil skimming with manual or automatic removal equipment, clarification, chemical flocculation, high rate filtration, and recycle.

Various degrees of waste treatment are practiced throughout the Hot Forming-Primary Subcategory. All plants will have scale pits, more to recover mill scale for reuse and to prevent gross blockages of sewer lines than to provide pollution control. Therefore the primary scale pit is considered to be part of the operating unit and the raw waste effluent is considered to be the primary scale pit (without oil skimming) effluent. Most of these primary scale pits will have oil skimming baffles and manual oil removal equipment to provide for oil removal. This is the first step in pollution control and the only one so broadly applied as to constitute the reference level of control. Some plants will also provide for clarification of scale pit effluents and some of these use chemical flocculation to improve clarification. Additional oil collection and automatic removal equipment may be associated with the clarifier to provide for additional oil removal. A portion of the clarifier effluent may be recycled for reuse, or the total effluent may be discharged to a receiving stream. Some plants will have high rate filters to treat either scale pit or clarifier effluents. Filter effluent may be discharged after once-through, although there is a trend towards recirculation and reuse of filter effluents with minor blowdowns to control dissolved solids in the system. Data indicated a slightly higher water use rate in the specialty steel segment than for carbon steel, and the limitations were adjusted accordingly.

(a) The best practicable control technology currently available for the hot forming-primary subcategory, includes a primary scale pit, oil skimmer, followed by recycle of 484 gpt (692 gpt for specialty steel) back to the flume for flushing. This is followed by a clarifier with a vacuum filter on the underflow, and a filter on the overflow. At this point 845 gpt (1220 gpt for specialty steel) is discharged.

(b) 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 to the sprays of 820 gpt (1180 gpt for alloy) of clarifier effluent, with a discharge of 25 gpt (40 gpt for alloy).

(5) Subpart N—Hot Forming-Section 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 baffles with manual removal of the oil and grease collected. Advanced levels of treatment can be obtained using oil skimming and automatic removal equipment on the scale pit, followed by clarification, chemical flocculation or high rate filtration, followed by recycle with blowdown or total recycle. A cooling tower is normally included in the recycle loop. Data indicated that there was no demonstrable difference between the carbon and stainless steel segments as far as raw waste or water usage.

The range of treatment technology currently practiced in existing plants includes all the items discussed above. One plant surveyed in this subcategory, using a facility consisting of a scale pit, filter, recycle, and cooling tower, has been able to achieve no discharge of process wastewater pollutants to navigable waters for this subcategory.

(a) The best practicable control technology currently available for the hot forming-section subcategory, includes a primary scale pit, followed by an oil skimmer, followed by recycle to the flume of 3405 gpt, with the remainder (2626 gpt) going to a clarifier and the overflow from the clarifier filtered prior to discharge.

(b) The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives includes recycle of 2626 gpt to the sprays, after passing through a cooling tower, resulting in no discharge of process wastewater pollutants to navigable waters.

(6) Subpart O—Hot Forming-Flat 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 baffles with manual removal of the oil and grease. Advanced

levels of treatment can be obtained using oil skimming and automatic removal equipment on the scale pit, followed by clarification, with chemical flocculation or high rate filtration, followed by recycle with blowdown or total recycle. A cooling tower is normally included in the recycle loop.

Data indicated that there was no demonstrable difference between the carbon and alloy segments of the hot forming-flat-hot sheet and strip 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) The best practicable control technology currently available for the hot forming-flat-plate subcategory includes a primary scale pit, an oil skimmer, with 1500 gpt (3513 gpt for alloy steel) of the flow then recycled to the flume. The remainder (4000 gpt (9366 gpt for alloy)) goes through a clarifier, with chemical treatment, where the underflow is vacuum filtered. The flow goes on to filtration and discharge.

(b) 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 (9016 gpt for alloy) is recycled to the sprays. A blowdown stream of 150 gpt (350 gpt for alloy) is discharged after filtration.

(c) The best practicable control technology currently available for the hot forming-flat-hot strip and sheet subcategory, includes a primary scale pit, an oil skimmer, with recycle of 3835 gpt to the flume for flushing. The remainder of the effluent is clarified, with the underflow vacuum filtered. The overflow is filtered and discharged (4180 gpt).

(d) The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives for the hot forming-flat-hot strip and sheet subcategory includes a cooling tower and total recycle to the sprays, resulting in zero discharge to navigable waters.

(7) Subpart P—Pipe and Tubes Subcategory. The control and treatment technologies used 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 skimmers to automatically remove oil and grease continuously. Advanced levels of treatment can be obtained by segregating non-contact cooling water flows from process waste waters, adding a settling pond or clarifier for improved suspended solids removal, chemical flocculation, followed by recycle with minimum blowdown, or total recycle, adding evaporative cooling capacity as needed to control temperature.

(a) The best practicable control technology currently available for the pipe and tube-integrated mills subcategory, includes a primary scale pit, oil skimmer and clarifier, with 3207 gpt of the clarifier effluent recycled to the flume. The remaining 1002 gpt is filtered and discharged. For the pipe and tube-isolated mills subcategory, BPCTCA is identical to that for integrated mills except that ponds replace the clarifiers, and filters in the integrated mills model.

(b) The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives includes recycle through a cooling tower of the 1002 gpt, resulting in zero discharge to navigable waters. For the isolated mills subcategory, BAT is identical to BAT for integrated mills except that ponds replace the clarifiers and filters in the integrated mills.

(8) Subpart Q — Pickling-Sulfuric Acid-Batch and Continuous-Subcategory. The control and treatment technologies available are primarily end-of-process treatment techniques. A reference level of treatment for spent pickle liquor would consist of private contract hauling of all spent pickle liquor off the plant site for proper disposal and/or processing and recovery of useful materials. Rinse water flows are restricted to the minimum once-through rate possible, then are discharged without treatment. An alternate means of handling these wastes involves separate collection of spent pickle liquor and spent alkaline cleaning solutions. The equalized solutions are then blended to obtain partial neutralization of the spent pickle liquor. This technology can be improved further by providing neutralization with lime, followed by aeration to oxidize ferrous iron in the pickle liquor and thus provide better settling characteristics. Further improvement may include the use of polymers and extended settling periods to provide better effluent quality. The corresponding technology levels for treatment of the rinse waters involve lime neutralization, aeration, chemical flocculation and settling. A number of integrated plants have found it advantageous to blend pickling rinse wastewaters with cold rolling mill wastes, utilizing the acidity of the former to help break the oily emulsions of the latter. The iron flocs formed during lime neutralization also serve to absorb oily matter, producing lower oil and grease concentrations in the plant effluents. The highest level of technology available includes installation of an on-site sulfuric acid recovery system. Iron is recovered as ferrous sulfate heptahydrate and the unreacted sulfuric acid is recovered and recycled to the process.

Although the wastes from specialty steel operations are similar to those from carbon steel, treatment has been confined to simple neutralization or hauling. Since the wastes are virtually identical, the technologies used in the carbon steel segment (i.e., acid recovery or more advanced neutralization systems) are directly transferrable to specialty steel plants.

(a) The best practicable control technology currently available for the sulfuric acid batch and continuous subcategory, includes for batch operations, acid recovery, countercurrent rinsing, with the rinsewater used to dilute the concentrated acid (after acid recovery) to make up the pickle bath, thus resulting in no discharge of pollutants to navigable waters. For continuous operations practicing neutralization, BPCTCA includes neutralization followed by a one day settling lagoon. This technology permits 25 gpt to be discharged of the concentrate, 200 gpt of rinsewater and 25 gpt from the fume hood scrubber. For those mills presently without neutralization BPCTCA includes acid recovery and countercurrent rinsing as for batch operations, resulting in no discharge of process wastewater pollutants to navigable waters.

(b) The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives for batch and continuous operations presently without neutralization is identical to BPT. For those continuous operations with neutralization facilities, BAT consists of neutralization followed by 5 days of settling. This may be achieved using the same lagoon as for BPT, by use of countercurrent rinsing and cascade use in fume hoods to achieve flows of 25 gpt of concentrate and 25 gpt of fume hood scrubber and rinsewater.

(9) Subpart R — Pickling-Hydrochloric Acid-Batch and Continuous Subcategory. The control and treatment technologies which are available are primarily end-of-process treatment techniques, although in-plant controls (e.g. countercurrent rinsing) are very useful in reducing wastewater volumes. A reference level of treatment for spent pickle liquor would consist of collection and deep well disposal, or hauling offsite by a private contractor to a disposal area for combined treatment with other wastes. A reference level of treatment for rinsewaters will generally consist of equalization and lime addition to a pH of 5 to 6 to eliminate free acidity, followed by discharge to a receiving stream of municipal sewage treatment plant. A higher level of technology for spent pickle liquor involves flash evaporation of acid in a roaster forming HCl vapor and iron oxide. The HCl vapor is sent to an absorber to regenerate hydrochloric acid. The iron oxide is removed from the bottom of the roaster for reuse. Gases leaving the absorber pass through a water scrubber prior to discharge to the atmosphere. The scrubber water is neutralized with lime before discharge, along with the dilute acidic rinsewaters. Aeration is provided for the combined effluents, along with a settling pond or thickener with vacuum filtration of underflows to drop out suspended solids. This technology can be improved even further with the addition of countercurrent rinses to reduce the volume of waste water generated. The highest form

of technology available involves the use of rinse waters in a cascade countercurrent rinse pattern to concentrate them to the point where regeneration in an HCl recovery unit is practical.

The range of treatment technology currently practiced includes all the items discussed above except concentration and recovery of rinse waters in an HCl regeneration plant. However, one of the plants visited during this study is successfully concentrating rinse water for deep well disposal, while another plant utilizing acid regeneration of spent pickle liquor concentrates is currently making preparations to include rinse waters in the recovery system following their concentration by cascade countercurrent rinsing. A number of integrated plants have found it advantageous to blend wastes from pickling operations with cold rolling mill wastes, utilizing the acidity of the former to help break the emulsified oils in the latter.

(a) The best practicable control technology currently available for the hydrochloric acid pickling-batch-subcategory, is for batch concentrates segregated collection of acid wastes, with caustic wastes from other subcategories (neutralization), lime treatment, mixing, aeration, polymer addition and one day settling. For batch rinses, BPCTCA is equalization with acid and caustic wastes, neutralization by chemical addition, mixing, aeration and one day settling. For fume hood scrubbing wastes, BPCTCA is equalization, neutralization by chemical addition, mixing, aeration and one day settling.

(b) The best practicable control technology currently available for the hydrochloric acid pickling-continuous-subcategory, is for continuous operation; concentrates may be treated by neutralization by chemicals, mixing, aeration and one day of settling. The absorber vent scrubber wastes may be treated by acid regeneration, neutralization with chemicals, aeration and one day of settling. The continuous rinses may be treated by lime neutralization, mixing, aeration, polymer addition and one day of settling. The continuous fume hood scrubber can be treated by neutralization with lime, mixing, aeration, polymer addition and one day of settling.

(c) The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives for batch concentrates is aeration, followed by a settling lagoon with 2 to 5 days retention. For batch rinses; countercurrent rinsing, aeration, and mixing followed by two to five days settling. For batch fume hood scrubbers, aeration, and mixing followed by two to five days settling. For continuous concentrates; settling for two to five days. For continuous operations with absorber vent scrubbers; recycle to the acid absorber vent scrubber, reuse, and a settling lagoon with two to five days retention. For continuous rinses; countercurrent rinsing, aeration, and mixing followed by two to five day settling. For continuous operations with a fume hood scrubber; aeration and mixing followed by two to five days settling.

(10) Subpart S—Cold Rolling Subcategory. The available control and treatment technologies include in-plant control measures to reduce flows from the recirculating stands, if any, by limiting blowdowns to treatment, and end-of-process treatment techniques for those blowdowns and for the direct application stands. The reference level of technology includes the optimum degree of recirculation practical for the specific conditions enumerated above, plus treatment of blowdowns from the recirculation systems and from direct application stands using an oil separator, followed by discharge. This technology can be improved significantly by treating the total wastewaters via oil separation, equalization, chemical treatment, flocculation, air flotation, surface skimming, final pond settling, and then discharge.

The range of treatment technology currently practiced in existing plants includes the items discussed above. Also, a few existing plants have found it advantageous to combine waste discharges from cold rolling operations with acid pickling operation wastes, and treat these wastes in a single joint treatment system.

Interestingly, all the specialty steel plants studied had recirculation systems and two out of three achieved no discharge of pollutants. Because no differences were found, the technologies and limitations are identical.

(a) The best practicable control technology currently available for the cold rolling subcategory includes for recirculation operations oil skimming, equalization, chemical treatment and flocculation, air flotation, surface skimming, and a settling lagoon with 2 to 5 days retention. For combination operations, BPCTCA 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, BPCTCA includes oil skimming, equalization, chemical treatment and flocculation, air flotation, surface skimming, and a settling lagoon with 2 to 5 days retention.

(b) The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives identical to the best practicable control technology currently available.

(11) Subpart T—Hot Coatings-Galvanizing Subcategory. The control and treatment technologies which are available are primarily end-of-process treatment techniques, with the exception of steps designed to limit water flows. A reference level of treatment would consist of control of wastewater volumes by providing dragout recovery units, and special attention to maintenance of equipment designed to reduce loss of solutions. A higher level of treatment technology would include separate collection of alkaline and acidic wastewater solutions, with subsequent blending of predetermined flows to allow for precipitation of dissolved metals and a limited amount of settling. A further improvement to this technology would include providing hexavalent chrome reduction, neutralization, polymer addition facilities, a settling basin, and continuous oil skimming equipment. An even higher level of treatment technology would include treatment of the blended wastewaters with lime or other alkali to the optimum pH for precipitating metal hydroxides, followed by solids removal via clarification with polymer addition, vacuum filtration of sludges, and continuous oil skimming of the clarifier effluent. Significant savings in chemical and equipment costs can be gained by modifying process steps to provide cascade rinsing of products, and recycling of fume hood scrubber waters.

The range of treatment technology practiced in existing plants includes all the items discussed above, except for the cascade rinsing and fume hood recycling systems. Both techniques exist in other iron and steel industry subcategories, and are suitable for use here.

(a) The best practicable control technology currently available for the hot coat-galvanizing subcategory includes for rinse and fume hood scrubber operations, segregated collection, equalization, neutralization, by waste blending, mixing, hexavalent chromium reduction, neutralization by chemical addition and polymer addition.

(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 rinsing and a settling lagoon with 2 to 5 days retention. For fume hood scrubbers, it includes recycle, neutralization by chemical addition and a settling lagoon with 2–5 days retention.

(12) Subpart U—Hot Coatings-Terne Subcategory. The control and treatment technologies which are available are primarily end-of-process treatment techniques, with the exception of steps designed to limit water flows. A reference level of treatment would consist of control of wastewater volumes by providing dragout recovery units, and special attention to maintenance of equipment designed to reduce loss of solutions. A higher level of treatment technology would include separate collection of alkaline and acidic wastewater solutions, with subsequent blending of predetermined flows to allow for precipitation of dissolved metals and a limited amount of settling. A further improvement to this technology would include provisions for polymer addition facilities, a settling basin, and continuous oil skimming equipment. An even higher level of treatment technology would include treatment of the blended wastewaters with lime or other alkali to the optimum pH for precipitating metal hydroxides, followed by solids removal via clarification with polymer addition, vacuum filtration of sludges, and continuous oil skimming of the clarifier effluent. Significant savings in chemical and equipment costs can be gained by modifying process steps to provide for cascade rinsing of prod-

ucts 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 BPCTCA effluent 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 coat-terne subcategory includes for both rinsing and fume hood scrubbing operations, segregated collection, equalization, neutralization by waste blending, mixing, settling lagoon (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 2–5 days retention. For fume hood scrubbing operations, recycle, neutralization by chemical addition and a settling lagoon with 2 to 5 days retention.

(13) Subpart V—Miscellaneous Runoffs—Storage Piles, Casting and Slagging Subcategory. The environmental impact of these miscellaneous runoffs can generally be controlled via: 1. collection and 2. treatment. Collection can consist of two parts; i.e., installation of an impervious liner (vinyl, rubber, concrete, etc.) at the base of the pile to prevent subsurface runoff and/or installation of a perimeter collection system to route subsurface runoff stopped by the liner and surface runoff from the pile surface to a specific point for further handling. Liner technology has been used to a minor extent in steam electric power plants to minimize their coal pile subsurface runoffs. Generally, a 6 in. layer of sand or earth must be placed between the liner and the stockpiled material to prevent damage to the liner. The use of this technology may also, in many cases, be limited to installation where a stockpile has yet to be placed. At many locations, because of the logistics of unloading, storage, and end use facilities, it may not be possible to easily change the location of a stockpile or move it temporarily while a liner is being installed. Generally, however, the use of a liner would tend to eliminate subsurface discharges from these stockpiles. Perimeter collection systems may route the collected wastewaters to a holding facility, probably a pond, for treatment, storage before treatment, or pretreatment and storage before further treatment. Treatment of the wastewaters collected in the holding facility can then be carried out at that point or the waste can be transported for treatment at another point, or both. Whatever method is employed, the general treatment provided should consist of, at a minimum, sedimentation and pH adjustment where required.

(a) The best practicable control technology currently available for the miscellaneous runoffs-casting and slagging subcategory includes no limitations at this time for storage pile runoff. However, for those facilities with casting and slagging operations, it includes water conservation resulting in no discharge of process wastewater pollutants to navigable waters.

(b) The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives includes for those facilities with storage piles, perimeter collection, equalization, neutralization by chemical addition, chemical treatment and flocculation, polymer addition and a settling lagoon with 2 to 5 day retention. For casting and slagging, BAT is identical to BPT.

(14) Subpart W—Combination Acid Pickling-Batch and Continuous Subcategory. The control and treatment technologies which are available and in use are primarily end-of-process treatment techniques. Treatment technologies presently in place run the gamut from once through usage with untreated discharge of the pickle rinse water and hauling of the concentrate, to lime neutralization and clarification, to neutralization and clarification with oil removal, to equalization and aeration followed by neutralization and clarification. Occasionally, the clarifier underflow may be vaccum filtered and a flocculent may be used to assist clarification.

(a) The best practicable control technology currently available for the combination acid pickling-batch and continuous subcategory includes lime neutralization and clarification, with the underflow vacuum filtered and polymer addition to assist in solids removal.

(b) The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives for the combination acid pickling-batch and continuous subcategory is identical to the best practicable control technology currently available.

(15) Subpart X—Scale Removal-Kolene and Hydride Subcategory. The control and treatment technologies which are in use are end-of-process treatment techniques. Treatment technologies presently in place are once through usage with untreated discharge for most plants, although aeration and equalization, followed by lime neutralization and clarification with polymer addition is practiced at one plant.

(a) The best practicable control technology currently available for the scale removal-kolene and hydride subcategory was determined to be; for the kolene wastewaters, acidification and reduction with sulfur dioxide of the hexavalent chromium; for the hydride waste waters, chemical oxidation of the cyanides; the specific pretreatment step for each to be followed by lime neutralization and clarification with polymer addition and vacuum filtration of the underflow.

(b) The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives for the scale removal kolene and hydride subcategory is identical to the best practicable control technology currently available.

(16) Subpart Y—Wire Pickling and Coating Subcategory. The control and treatment technologies which are in use are end-of-process treatment techniques. Treatment technologies presently in place range from once through usage, with no treatment prior to discharge, to systems employing lime neutralization and clarification with polymer addition. Occasionally, the underflow is centrifuged or otherwise concentrated.

(a) The best practicable control technology currently available for the wire pickling and coating subcategory includes lime neutralization and clarification with polymer addition and vacuum filtration of the underflow.

(b) The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives for the wire pickling and coating subcategory is identical to the best practicable control technology currently available.

(17) Subpart Z—Continuous Alkaline Cleaning Subcategory. The control and treatment technologies which are in use are end-of-process treatment techniques. Treatment technologies presently in place consists of mixing with other process wastewaters and settling.

(a) The best practicable control technology currently available for the continuous alkaline cleaning subcategory has been determined to be lime neutralization and clarification assisted by polymer addition, and vacuum filtration of the underflow.

(b) The best available technology economically achievable and the best available demonstrated control technology, processes, operating methods or other alternatives 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 precipitates, 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 pollutants removed from waste waters in this industry in the form of solid wastes and liquid concentrates. In most cases these are nonhazardous substances requiring only minimal custodial care. However, some constituents may be hazardous and may require special consideration. In order to ensure long term protection of the environment from these potentially hazardous or harmful con-

stituents, special consideration of disposal sites must be made. All landfill sites where such hazardous wastes are disposed should be selected so as to prevent horizontal and vertical migration of these contaminants to ground or surface waters. In cases where geologic conditions may not reasonably ensure this, adequate legal and mechanical precautions (e.g. impervious liners) should be taken to ensure long term protection to the environment from hazardous materials. Where appropriate, the location of solid hazardous materials disposal sites should be permanently recorded in the appropriate office of legal jurisdiction.

(v) Cost estimates for control of waste water pollutants.

The regulations herein apply to the process waste water effluents of the forming and finishing operations and specialty steelmaking operations, to miscellaneous runoffs from storage piles and from casting and slagging operations. The need for thermal discharge limitations is almost entirely a matter of water quality and hence so site specific that the Agency has determined that thermal limitations should not be a part of these technology oriented industry-wide effluent limitations at this time and hence have not been included in them.

The capital investment which will be required to meet the BPCTCA regulations contained herein is $1.14 billion above the base level. To meet the BATEA regulations will require an additional investment of $584 million. The total cost to the steel industry of this regulation, the regulation published on June 28, 1974 for the carbon steelmaking segment, and the electroplating regulation (for the cold coating operations) will be $1.31 billion to meet BPCTCA, and an additional $716 million to meet BATEA.

The incremental annual operating and capital costs of this regulation will be $155 million to meet the BPCTCA limitations, with an additional $119 million required to meet the BATEA limitations. For the industry as a whole, the total cost of BPCTCA compliance will be $201 million annually, while BATEA will cost an additional $164 million annually.

Of these amounts, the costs to the specialty steel industry are approximately 10 percent of the total. Although the costs per ton are slightly higher for specialty steel than for carbon steel, the average sales price per ton for the specialty steel products is three to twenty times higher than for carbon steel products.

(vi) Energy requirements and nonwater quality environmental impacts.

Consideration has been given to the nonwater quality aspects of water pollution control. The increased use of recycle systems has the potential for increasing the loss of volatiles to the atmosphere. Recycle systems are so effective in reducing waste water volumes and hence waste loads to and from treatment systems and in reducing the size and cost of treatment systems that a tradeoff must be accepted. Recycle systems requiring the use of cooling towers 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 (1983) 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 treatment model energy requirements listed in Section VIII of the Development Document and on data from the AISI statistical report for 1972.

(viii) 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 11821.

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 Point Source Category" details the analysis undertaken in support of the interim final regulation set forth herein and is available for inspection at the EPA Public Information Reference Unit, Room 2922 (EPA Library, Waterside Mall, 401 M St., S.W., Washington D.C., at all EPA regional offices, and at State water pollution control offices. Supplementary analyses prepared for EPA of the possible economic effects of regulation are also available for inspection at these locations. Copies of these documents are being sent to persons or institutions affected by the regulation or 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 additional limited number of copies of these reports are available. Persons wishing to obtain a copy may write the Environmental Protection Agency, Effluent Guidelines Division, Washington, D.C. 20460, Attention: Distribution Officer, WH-552.

When this regulation is promulgated in final rather than interim form, revised copies of the Development Document will be available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Copies of the economic analysis documents will be available through the National Technical Information Service, Springfield, VA 22151.

(c) Summary of public participation.

Prior to this publication, the agencies and groups listed below were consulted and given an opportunity to participate in the development of effluent limitations, guidelines and standards 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 those reports. The following are the principal agencies and groups consulted: (1) Effluent Standards and Water Quality Information Advisory Committee (established under section 515 of the Act); (2) all State and U.S. Territory Pollution Control Agencies; (3) Ohio River Valley Sanitation Commission; (4) New England Interstate Water Pollution Control Commission; (5) Delaware River Basin Commission; (6) Conservation Foundation; (7) Environmental Defense Fund, Inc.; (8) Natural Resources Defense Council; (9) Water Pollution Control Federation; (10) National Wildlife Federation; (11) The American Society of Civil Engineers; (12) The American Society of Mechanical Engineers; (13) U.S. Department of Commerce; (14) U.S. Department of the Interior; (15) Water Resources Council; (16) U.S. Department of Housing and Urban Development; (17) Federal Energy Office; (18) Federal Power Commission; (19) National Commission on Water Quality; (20) Business Men for the Public Interest; and (21) The American Iron and Steel Institute.

The following responded with comments: American Iron and Steel Institute; Department of the Interior, Tennessee Valley Authority; Department of Transportation; Federal Energy Administration; Cast Metals Federation; Florida Department of Environmental Regulation; Ohio Environmental Protection Agency; Colt Industries; Ford Motor Company; the CF & I Steel Corporation; Carpenter Technology Corporation; Cabot Corporation; Republic Steel Corporation; United States Water Resources Council; Connecticut Department of Environmental Protection; Delaware Department of Natural Resources and Environmental Control; Illinois Environmental Protection Agency; Kentucky Department for Natural Resources and Environmental Protection; New York State Department of Environmental Conservation; Texas Water Quality Board; and Boyd C. Wagner, Inc.

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:

(1) 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

be present in navigable waters which supply a plant's intake water in significant concentrations which may not be removed to the levels specified in the guidelines by the application of treatment technology contemplated by BPCTCA.

A revision of the NPDES regulations relative to the "net" versus "gross" issue has been promulgated (40 FR 29818; July 16, 1975) to provide the flexibility which some commenters have indicated they believe is required.

(2) One commenter stated that it is not explained how the data presented demonstrates that the factors of age and size have been considered and further states that the commenter believes that the Agency is erroneous in concluding that these factors do not require subcategorization on this basis.

The Agency has subdivided the forming and finishing segment primarily along operational lines because the wastewater volumes and pollutant parameters vary with the type of operation being conducted. In addition, the processes reflect the age of the technology employed.

The treatment technology to be applied is primarily a function of the pollutants present and hence is a function of the type of operation conducted. The type of pollutants present is not a function of the age or size of the operating facility. Land availability for application of the treatment technology is not a function of size or age since many new as well as old mills are limited on the area available for installation of treatment facilities and vice versa. Many of the older mills have better treatment than some of the newer ones and vice versa. The treatment technologies do not require large land areas and in addition alternatives are available to those facilities which do have a land availability problem. Similar comments can be made with respect to size.

The limitations are primarily a function of the kinds of pollutants present, the unit volume of wastes that must be discharged, and the capabilities of the applicable treatment technology. All of these factors relate to the type of operation conducted and not to the size or age of the facility. For further details, see "Size and Age" under (1) categorization found in the preamble to the regulation.

(3) The comment has been made that these limitations require individual waste treatment facilities at each operating unit and prohibit the use of central waste treatment facilities which are more economical to construct and to operate.

Central treatment facilities typically provide for equalization, neutralization, solids removal, and sludge dewatering. Other pollutants requiring removal are usually more efficiently and economically controlled or recovered by a pretreatment step applied to the segregated stream. These regulations have been constructed so as to permit a discharger to apply either approach.

In the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property attributable to each controlled waste source (subcategories M through V) shall not exceed the specified limitation for that particular waste source. For example, if a plant's production allows it to discharge 5 lbs/day of tin from its terne plating operation, it would not be allowed to discharge 10 lbs/day of tin because the terne 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 emulsified oils from cold rolling wastes, some added waste load 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 a preferred route, and therefore, the Agency's policy should be revised.

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 available for 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 U (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 has been expanded 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 BPCTCA technology (neutralization).

The Agency is cognizant of this concern and it is not the intent of EPA to necessitate the installation and subsequent abandonment of BPCTCA technology for the implementation of BATEA technology; nor is it the intent of EPA to mandate treatment technologies. Based upon the current technological practices within the iron and steel industry, treatment models were developed as demonstrable technologies which have been shown to achieve the limitations and employed for costing purposes.

Furthermore, consideration for those iron and steel facilities who 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 pickle liquor wastes, it was reasoned that an economic evaluation would suggest the implementation of sulfuric acid recovery technology as a suitable alternative in order to comply both with BPCTCA and BATEA limitations.

This commenter has further indicated that a by-product from the recommended technology for sulfuric acid pickling wastes, i.e., sulfuric acid recovery, is commercially unmarketable and cannot be used as landfill.

The Agency continues to investigate the commercial market for this material as produced by the iron and steel industry as well as other industries, i.e. titanium dioxide producers.

The Agency contends that this by-product can be landfilled if the proper precautions are implemented. EPA's Office of Solid Waste Management Programs has initiated various grants and contracts investigating the environmentally safe use of landfills. These investigations have developed the safe methods and procedures required for the environmentally sound disposal techniques. The industry is therefore referred to numerous EPA publications pertaining to the landfill disposal of industrial wastes, such as EPA/530/SW-156 February 1975, "Industrial Waste Management, Seven Conference Papers", EPA/530/SW-146, March 1975, "Hazardous Waste Management Facilities in the United States", and EPA/530/SW-165 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 BPCTCA 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 those subparts where load limits are specified for BPCTCA or BATEA) and as concentration limits in those subparts where flows are not limited. This has now been changed for oil and grease which has been set at 100 mg/l to be consistent with the general pretreatment guidelines.

Publicly 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 in 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 purpose 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 BPCTCA, 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 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 established as 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 operations, such as temper rolling, recoilers, 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 AISI recognized in their comments, these are not generally wet operations and the Agency feels that these sources are of minor importance, as far as effluent loading, compared to the operations which were covered.

(14) One commentor stated that no consideration was given to the destructive use of water and that excessive recycle, 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 or dry type cooling towers can be used to achieve cooling without evaporation of water. Such systems are used in the petroleum processing and electric utilities industries (see page 543, EPA440/1-74 029-a Group I; Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Steam Electric Power Generating Point Source Category.)

The Agency also feels that recognition of the evaporation of water in recycle systems (and hence loss of availability to potential downstream users) should be balanced with recognition that evaporation also occur in once through systems, when the heated discharge causes evaporation in the stream. This is not an obvious phenomenon, since it occurs downstream of the discharge point, but to the downstream user it is as real as with consumptive in-plant usage, because assuming that the stream eventually gets back to temperature equilibrium with its environment, it will get there primarily by evaporation, i.e., with just as certain a loss of water. Additionally, the use of a recycle system permits lessening the intake flow requirements.

(15) Some commenters observed that it was not practically possible for any sort of wastewater 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 must be complied 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 data base, 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. There is an adequate data base both within and without the industry for the requirement for such controls.

(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 benefits.

The Agency is establishing limitations which can be achieved either by neutralization or by acid regeneration. While these regulations specify only the allowable unit load discharge and not the treatment technology, the limitations are based on what the Agency believes to be a feasible method of achievement. In this subcategory the Agency has selected 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 regarding 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 those for carbon steel, and the limitations are the same. In other categories, such as hot forming-primary, 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 far-ranging, it is not worthwhile 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. During the revision, it was found that the subcategories which were then developed had fairly uniform waste loads and water use rates, making the limitations as mass loadings related to production a valid approach. Establishing the limitations as concentrations would do nothing to ensure that the total discharge of pollutants would be lessened, since it would permit treatment by dilution.

(20) One commenter noted that recovery of the nitric-hydrofluoric 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 this method.

The Agency is subject to an order of the United States District Court for the District of Columbia entered in *Natural Resources Defense Council* v *Train* et. al. (Cv. No. 1609-73) which requires 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, it is necessary to promulgate regulations establishing limitations on the discharge of pollutants from point sources in this category so that the process of issuing permits to individual dischargers under section 402 of the Act is not delayed.

It has not been practicable to develop and publish regulations for this category in proposed form, to provide a 30 day comment period, and to make any necessary revisions in light of the comments received within the time constraints imposed by the court order referred to above. Accordingly, the Agency has determined pursuant to 5 USC § 553(b) that notice and comment on the interim final regulations would be impracticable and contrary to the public interest. Good cause is also found for these regulations to become effective immediately upon publication.

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

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

All comments received on or before April 28, 1976 will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning public review procedures published on August 6, 1973 (38 F.R. 21202). In the event that the final regulation differs substantially from the interim final regulation set forth herein the Agency will consider petitions for reconsideration of any permits issued in accordance with these interim final regulation.

In consideration of the foregoing, 40 CFR Part 420 is hereby amended as set forth below.

Dated: March 15, 1976.

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 Degassing Subcategory

420.110 Applicability; description of the vacuum degassing subcategory.

Subpart L—Continuous Casting and Pressure Slab Molding Subcategory

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

Subpart M—Hot Forming-Primary Subcategory

420.130 Applicability; description of the hot forming-primary subcategory.
420.131 Specialized definitions.
420.132 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart N—Hot Forming-Section Subcategory

420.140 Applicability; description of the hot forming-section subcategory.
420.141 Specialized definitions.
420.142 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart O—Hot Forming-Flat Subcategory

420.150 Applicability; description of the hot forming-flat subcategory.
420.151 Specialized definitions.
420.152 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart P—Pipe and Tube Subcategory

420.160 Applicability; description of the pipe and tube subcategory.
420.161 Specialized definitions.
420.162 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart Q—Pickling-Sulfuric Acid-Batch and Continuous Subcategory

Sec.
420.170 Applicability; description of the pickling-sulfuric acid-batch and continuous subcategory.
420.171 Specialized definitions.
420.172 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart R—Pickling-Hydrochloric Acid-Batch and Continuous Subcategory

420.180 Applicability; description of the pickling-hydrochloric acid-batch and continuous subcategory.
420.181 Specialized definitions.
420.182 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart S—Cold Rolling Subcategory

420.190 Applicability; description of the cold rolling subcategory.
420.191 Specialized definitions.
420.192 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart T—Hot Coating-Galvanizing Subcategory

420.200 Applicability; description of the hot coating-galvanizing subcategory.
420.201 Specialized definitions.
420.202 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Subpart U—Hot Coating-Terne Subcategory

420.210 Applicability; description of the hot coating-terne subcategory.
420.211 Specialized definitions.
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 Runoffs-Storage Piles, Casting and Slagging Subcategory

420.220 Applicability; description of the miscellaneous runoffs-storage piles, casting and slagging subcategory.
420.221 Specialized definitions.
420.222 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

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

420.230 Applicability; description of the combination acid pickling subcategory.
420.231 Specialized definitions.
420.232 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

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.

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 waste water discharges resulting from the steelmaking operations conducted for the manufacture 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 waste water discharges resulting from the degassing operations conducted by applying a vacuum to molten steel to further refine the steel (either carbon or specialty) produced.

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 waste water 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.

Subpart M—Hot Forming—Primary 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 scarfing, etc., in the progression of the product to produce slabs and blooms.

§ 420.131 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 bloom or slab.

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

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

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Oil and grease	0.0634	0.0253
TSS	0.1113	0.0371
pH	Within the range 6.0 to 9.0.	

(b) For those carbon steel hot forming-primary operations that utilize hot scarfing as part of the process, the following effluent limitations are to be added to the base limitations set forth in paragraph (a):

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Oil and grease	0.0122	0.0064
TSS	0.0240	0.0082
pH	Within the range 6.0 to 9.0.	

(c) For allow and stainless steel hot forming-primary operations:

[Metric units, kg/kkg of product; English units; lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Suspended solids	0.1922	0.0634
Oil and grease	0.1524	0.0508
pH	Within the range 6.0 to 9.0.	

(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 N—Hot Forming-Section Subcategory

§ 420.140 Applicability; description of the hot forming-section subcategory.

The provisions of this subpart are applicable to process wastewater discharges

resulting from the progressive squeezing and shaping of the bloom between a 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 definitons, 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 plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) 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:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Oil and grease	0.3285	0.1095
TSS	0.7260	0.2420
pH	Within the range 6.0 to 9.0.	

(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 are applicable 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 0.23 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 means 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 Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations. The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

(a) For operations producing carbon steel plate:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Oil and grease	0.5004	0.1668
Suspended solids	0.5004	0.1668
pH	Within the range 6.0 to 9.0.	

(b) For all other operations producing flat products (hot strip and sheet):

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Oil and grease	0.5229	0.1743
TSS	0.9024	0.3309
pH	Within the range 6.0 to 9.0.	

(c) For operations producing alloy and stainless steel plate:

[Metric units, kg/kkg of product; English units, lb/1000, lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Suspended solids	1.1280	0.3760
Oil and grease	1.1280	0.3760
pH	Within the range 6.0 to 9.0.	

(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 P—Pipe and Tube Subcategory

§ 420.160 Applicability; description of the pipe and tube subcategory.

The provisions of this subpart are applicable 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 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 shoud be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) 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:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Oil and grease	0.1251	0.0418
TSS	0.4251	0.1418
pH	Within the range 6.0 to 9.0.	

(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 Q—Pickling-Sulfuric Acid-Batch and Continuous Subcategory

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

The provisions of this subpart are applicable 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 immersion 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.

(f) 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 86, of the *Methods for Chemical Analysis of Water and Waste*, 1971, EPA, Analytical Quality Control Laboratory, Cincinnati, Ohio.

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

(h) 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%).

(i) The term "rinses" shall mean those process wastewaters in which steel is immersed for the purpose of rinsing off or removing the pickling solution.

(j) The term "fume scrubber" shall mean a wet air pollution control device used to remove and clean the fumes originating in the pickling operation.

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

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

tions 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) Batch pickling operations; spent pickle liquor and rinses: There shall be no discharge of process waste water pollutants to navigable waters.

(b) Continuous pickling operations with existing facilities as of the final promulgation of this regulation for neutralization of spent pickle liquor:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Dissolved iron	0.00033	0.00011
Oil and grease [1]	0.00312	0.00104
TSS	0.0156	0.0052
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling mill wastes (subpt. S).

(c) Continuous pickling operations, with existing facilities as of the final promulgation of this regulation for neutralization of rinses and fume hood scrubber effluents:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for and 1 day	Average of daily values for 30 consecutive days shall not exceed—
Dissolved iron [1]	0.00282	0.00094
Oil ans grease [1]	0.0282	0.0094
TSS	0.1407	0.0469
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling mill wastes (subpt. S).

(d) Continuous pickling operations; spent pickle liquor and rinses: There shall be no discharge of process waste water pollutants to navigable waters.

(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 R—Pickling-Hydrochloric Acid-Batch and Continuous Subcategory

§ 420.180 Applicability; description of the pickling-hydrochloric acid-batch and continuous subcategory.

The provisions of this subpart are applicable to process wastewater discharges resulting from the immersion or continuous movement of steel pieces; e.g., coiled wire, rods, strip, etc.; in a hydrochloric acid bath for the chemical removal of scale, and from the rinsing operations which follow such immersion or continuous movement. These provisions are also intended to apply to wastewaters originating from the operation of absorber vent scrubbers and fume hood scrubbers associated with pickling and acid recovery systems.

§ 420.181 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 hydrochloric 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 86, 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, develop and solicit with respect to factors (such as age and size of plant, raw materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations. The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

(a) For concentrates from non-regenerative operations:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Dissolved iron	0.00039	0.00013
Oil and grease [1]	0.0039	0.0013
TSS	0.0189	0.0063
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpt. S).

(b) For wastes from those pickling operations that have a hydrochloric acid regeneration unit as part of their operation, the following limitations shall apply:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Dissolved iron	0.00249	0.00083
Oil and grease [1]	0.0249	0.0083
TSS	0.1251	0.0417
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpt. S).

(c) For rinses:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
Dissolved iron	0.00249	0.00083
Oil and grease [1]	0.0249	0.0083
TSS	0.1251	0.0417
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpt. S).

(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.

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
Dissolved iron	0.00063	0.00021
Oil and grease [1]	0.0063	0.0021
TSS	0.0312	0.0104
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with cold rolling wastes (subpt. S).

(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, of 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 reuse and recirculation at some stands of the cold rolling mill, and once-through use at the remaining stand or stands.

(e) The term "direct application" shall mean an operating mode utilizing once-through solution addition at all stands.

(f) 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 materials, manufacturing processes, products produced, treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations. The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

(a) For plants utilizing recirculation on all stands:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
Oil and grease	0.00312	0.00104
TSS	0.0078	0.0026
Dissolved iron [1]	0.0033	0.00011
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with pickling operation wastewaters (subpts. Q, R, W, or Y).

(b) For plants utilizing combinations of operating modes:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
Oil and grease	0.0501	0.0167
TSS	0.1251	0.0417
Dissolved iron [1]	0.00501	0.00167
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with pickling operation wastewaters (subpts. Q, R, W, or Y).

(c) For plants utilizing direct application on all stands:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
Oil and grease	0.1251	0.0417
TSS	0.3126	0.1042
Dissolved iron [1]	0.0126	0.0042
pH	Within the range 6.0 to 9.0.	

[1] This load is allowed only when these wastes are treated in combination with pickling operation wastewaters (subpts. Q, R, W, or Y).

(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 T—Hot Coatings-Galvanizing Subcategory

§ 420.200 Applicability; description of the hot coating-galvanizing 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 zinc metal, inclusive of the operations preceding and subsequent to the dip phase.

§ 420.201 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, galvanized product.

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

§ 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 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, in 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 hot coating-galvanizing operations:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Oil and grease	0.1125	0.0375
TSS	0.3750	0.1250
Zinc	0.0375	0.0125
Chromium	0.0225	0.0075
Hexavalent chromium.	0.00015	0.00005
pH	Within the range 6.0 to 9.0.	

For those installations that utilize a wet fume hood scrubber as part of the coating operation, the following effluent limitations are to be added to the base limitations set forth above:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Oil and grease	0.1125	0.0375
TSS	0.3750	0.1250
Zinc	0.0375	0.0125
Chromium	0.0225	0.0075
Hexavalent chromium.	0.00015	0.00005
pH	Within the range 6.0 to 9.0.	

(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 U—Hot Coatings-Terne Subcategory

§ 420.210 Applicability; description of the hot coatings-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 available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) 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:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for and 1 day	Average of daily values for 30 consecutive days shall not exceed—
Oil and grease	0.1125	0.0375
TSS	0.3750	0.1250
Lead	0.00375	0.00125
Tin	0.0375	0.0125
pH	Within the range 6.0 to 9.0.	

(b) For those installations that utilize a wet fume hood scrubber as part of the coating operation, the following effluent limitations are to be added to the base limitations set forth above:

[Metric units, kg/kkg of product; English units, lb/1000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Oil and grease	0.1125	0.0375
TSS	0.3750	0.1250
Lead	0.00375	0.00125
Tin	0.0375	0.0125
pH	Within the range 6.0 to 9.0.	

(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 V—Miscellaneous Runoffs-Storage Piles, Casting, and Slagging Subcategory

§ 420.220 Applicability; description of the miscellaneous runoffs-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 the 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 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 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) Discharges from coal, limestone and ore storage piles: No limitations are established for BPCTCA.

(b) Discharges from casting or slagging operations:

There shall be no discharge of process (i.e., contact) wastewater pollutants to navigable waters.

(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 W—Combination Acid Pickling (Batch and Continuous) Subcategory

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

The provisions of this subpart are applicable to process waste water discharges resulting from the immersion or continuous movement of steel pieces; e.g., coiled wire, rods, strip, etc.; in a nitric-hydrofluoric acid bath, in a sulfuric acid bath in line with a nitric-hydrofluoric acid bath, or in a hydrochloric acid bath in line with a nitric-hydrofluoric acid bath, for the chemical removal of scale, and from the rinsing 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 and follows the steps relative to the combination acid pickling operations.

(c) The terms "dissolved chromium", "dissolved nickel" or "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 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 should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations. The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best

practicable control technology currently available:

(a) For continuous combination acid pickling operations:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
Suspended solids	0.3129	0.1043
Oil and grease [1]	0.1251	0.0417
Dissolved chromium.	0.0063	0.0021
Dissolved iron	0.0126	0.0042
Fluoride	0.1878	0.0626
Dissolved nickel	0.0030	0.0010
pH	Within the range 6.0 to 9.0.	

[1] This load is applicable only when these wastes are combined with cold rolling wastes (subpt. S) for treatment.

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

Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
Suspended solids	0.2190	0.0730
Oil and grease [1]	0.0876	0.0292
Dissolved chromium.	0.0045	0.0015
Dissolved iron	0.0087	0.0029
Fluoride	0.1314	0.0438
Dissolved nickel	0.0021	0.0007
pH	Within the range 6.0 to 9.0.	

[1] This load is applicable only when these wastes are combined with cold rolling wastes (subpt. S) for treatment.

(c) For combination acid pickling-other batch operations:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
Suspended solids	0.0627	0.0209
Oil and grease [1]	0.0249	0.0083
Dissolved chromium.	0.0012	0.0004
Dissolved iron	0.0024	0.0008
Fluoride	0.0375	0.0125
Dissolved nickel	0.0006	0.0002
pH	Within the range 6.0 to 9.0.	

[1] This load is applicable only when these wastes are combined with cold rolling wastes (subpt. S) 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 (kolene 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 subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations. The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this section, which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

(a) For Kolene descaling operations:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
Suspended solids	0.1563	0.0521
Hexavalent chromium.	0.0003	0.0001
Dissolved chromium.	0.0030	0.0010
Dissolved iron	0.0063	0.0021
Cyanide	0.0015	0.0005
pH	Within the range 6.0 to 9.0.	

(b) For hydride descaling operations:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations: Maximum for any 1 day	Effluent limitations: Average of daily values for 30 consecutive days shall not exceed—
Suspended solids	0.3753	0.1251
Hexavalent chromium.	0.0009	0.0003
Dissolved chromium.	0.0075	0.0025
Dissolved iron	0.0150	0.0050
Cyanide	0.0039	0.0013
pH	Within the range 6.0 to 9.0.	

(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 rinsing operations which follow such immersion or continuous movement. These provi-

sions are also intended to apply to wastewaters 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 copper or other material to assist 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 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.

§ 420.252 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 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:

[Metric units, kg/kkg of product; English units, lb/1000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Suspended solids	0.3129	0.1013
Oil and grease [1]	0.1251	0.0117
Dissolved chromium	0.0063	0.0021
Dissolved iron	0.0126	0.0042
Cyanide	0.0030	0.0010
Fluoride	0.1678	0.0626
Dissolved nickel	0.0030	0.0010
Dissolved copper	0.0030	0.0010
pH	Within the range 0.0 to 9.0.	.....

[1] This load is applicable only when these wastes are combined with cold rolling wastes (subpt. S) 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.

§ 420.262 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 spec-

ified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations.

(a) 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:

[Metric units, kg/kkg of product; English units, lb/1,000 lb of product]

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
Suspended solids	0.0156	0.0052
Dissolved chromium	0.0003	0.0001
Dissolved iron	0.0006	0.0002
Dissolved nickel	0.00015	0.00005
pH	Within the range 6.0 to 9.0.	

(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.

[FR Doc.76-8351 Filed 3-26-76;8:45 am]