the City of Lawrence, and the Towns of Andover, Methuen, and North Andover. Sources in these areas remain subject to the previously approved requirements of Regulation 5.1, which stipulate that sources are permitted to burn fossil fuel having a sulfur content not in excess of 0.55 pounds per million Btu heat release potential (approximately equivalent to 1.0 percent sulfur content residual fuel oil by weight).

Haverhill Paperboard Corporation, Haverhill, Massachusetts was not approved to implement the provisions of the revision because violations of the NAAQS for SO2 are predicted if the plant were to burn 2.2 percent sulfur content fuel oil. However, on December 30, 1976 the Massachusetts Department submitted additional conditions and technical information, and an EPA review of these data shows that the plant could burn fossil fuel having a sulfur content not in excess of 0.75 pounds per million Btu heat release potential (approximately equivalent to 1.4 percent sulfur content residual fuel oil by weight) without violating the NAAQS for SO2. On April 15, 1977 (42 FR 19580) the Regional Administrator published a Notice of Proposed Rulemaking indicating that he was considering approval of Haverhill Paperboard Corporation to burn 1.4 percent sulfur content fuel oil. Haverhill Paperboard Corporation is required to apply for and receive written approval from the Massachusetts Department before burning the specified higher sulfur content fuel, and will be required to conform to all other provisions of the revised Regulation 5.1.

No comments were received during the 30-day comment period.

After evaluation of the State's submission, the Administrator has determined that the Massachusetts revision meets the requirements of the Clean Air Act and 40 CFR Part 5. Accordingly, this revision is approved as a revision to the Massachusetts Implementation Plan.

Part of Chapter I, Title 40, Code of Federal Regulations, is amended as follows:

SUBPART W—MASSACHUSETTS

1. Section 52.1120(c), paragraph (8) is revised to read as follows:

by the Secretary of Environmental Affairs.

2. In §52.1126, paragraph (e) is revised to read as follows:

§52.1126 Control strategy: Sulfur oxides.

(e) Massachusetts Regulation 5.1 for the Merrimack Valley Air Pollution Control District, excluding the City of Lawrence and the Towns of Andover, Methuen, and North Andover, submitted on January 28, 1976, is approved except as to the following source which is limited to burning fossil fuel having a sulfur content not in excess of 0.75 lb. per million Btu heat release potential (approximately equivalent to 1.4 percent sulfur content residual fuel oil by weight):

Haverhill Paperboard Corporation, Haverhill, Massachusetts.

[FR Doc. 77-19880 Filed 7-11-77; 8:45 am]

SUBCHAPTER V—EFFLUENT GUIDELINES AND STANDARDS

PART 413—ELECTROPLATING POINT SOURCE CATEGORY

Pretreatment Standards For Existing Sources: Interim Final Regulations

AGENCY: Environmental Protection Agency.

ACTION: Interim final regulation.

SUMMARY: These regulations limit the concentrations of certain pollutants which may be discharged into publicly owned treatment works. The purpose is to regulate those pollutants which interfere with, pass through, or are otherwise incompatible with the operation of treatment works. The Federal Water Pollution Control Act requires these regulations to be issued. The effect of these regulations will be to require pretreatment of waste water by operations which do electroplating and which discharge waste water into publicly owned treatment works.

EFFECTIVE DATE: July 12, 1977.

ADDRESS: Send comments to: Environmental Protection Agency, 401 M St., SW., Washington, D.C. 20460, Attention: Distribution Office, WE-552.

FOR FURTHER INFORMATION CONTACT:


SUPPLEMENTARY INFORMATION:

BACKGROUND

On March 28, 1974, EPA promulgated a regulation adding Part 413 to Title 40 of the Code of Federal Regulations (39 FR 11510). That regulation (the "Phase I regulation") was subsequently amended (the "Phase II regulation") (40 FR 18130, April 24, 1975) established effluent guidelines for existing sources in five subcategories and standards of performance and pretreatment standards for new sources in one subcategory. Proposed revisions and additions setting forth effluent limitations guidelines based on "best available technology economically achievable" (BAT), pretreatment standards for new and existing sources, and standards of performance for new sources were also published for five subcategories (39 FR 11840, April 24, 1974; and 40 FR 18140, April 24, 1975).

The history of rulemaking for the category by the Agency prior to December 1976 is described in greater detail in 41 FR 59318 (December 3, 1976).

On December 3, 1976, the Agency suspended the promulgated effluent limitations guidelines based on "best available technology economically achievable" (BAT), new source performance standards, and pretreatment standards for Subpart A of the Electroplating Point Source Category. The Agency took this action for the purpose of reevaluating the appropriateness of limitations and standards earlier established in light of new data and further analysis. The effort to conduct new data gathering and analyses as a basis for reevaluation of the BAT regulations was thus expected to encompass the proposed pretreatment regulations as well. The interim final regulations set forth below take into account the additional study which has been conducted over the past several months.

Pretreatment standards are established for pollutants discharged into publicly owned treatment works (POTW) from existing sources which fall within the following subcategories of the Electroplating Point Source Category: Electroplating of Common Metals Subcategory (Subpart A); Electroplating of Precious Metals Subcategory (Subpart B); Electrical Plating Subcategory (Subpart D); Coatings Subcategory (Subpart E); Chemical Etching and Milling Subcategory (Subpart F); Electroless Plating (Subpart G) and Printed Circuit Board Subcategory (Subpart H). Subparts G and H are new subcategories which are established by this regulation. The content of the standards is discussed in detail below under Summary of Standards.

LEGAL AUTHORITY

These regulations are promulgated pursuant to section 307(b) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1317(b); Pub. L. 92-500) (the Act), which requires the establishment of pretreatment standards for pollutants introduced into publicly owned treatment works (POTW).

SUMMARY OF STANDARDS

These regulations establish two sets of pretreatment requirements for the
The Agency is also in the process of formulating new BPT regulations as well as standards of performance and pretreatment guidelines for new sources. The Agency expects to issue these regulations in the near future.

For the purpose of clarity, the subcategories and categories included in the regulations are exempted from 40 CFR Part 128. The provisions of the present regulation overlap considerably with the language of 40 CFR Part 128. 40 CFR Part 128 was proposed on July 19, 1973 (38 FR 19236), and published in final form in November 1973 (38 FR 30982). It limits the discharge of pollutants which pass through or interfere with the operation of publicly owned treatment works, but it does not set numerical limitations or explicitly list particular pollutants to be regulated. The provisions of 40 CFR Part 128 have sometimes been a source of confusion in the past. General pretreatment regulations have been proposed (42 FR 6476, February 2, 1977) which will revoke and replace 40 CFR Part 128 for the purpose of promulgation. Therefore, the general pretreatment requirements set forth in 40 CFR Part 128 are superseded with respect to the subcategories covered by the present regulations. All pretreatment requirements currently applicable to the subcategories listed are included in the general regulations. When the new general pretreatment regulations are promulgated, these standards will be reviewed for consistency with the new general policies.

TECHNICAL BASIS FOR STANDARDS

The technical analysis upon which these regulations are based included an identification of the principal waste water pollutants generated by this industry, a consideration of the extent to which these pollutants interfere with or pass through POTW, and a study of the various pretreatment technologies which are available for controlling the discharge of such pollutants. Information gathered in an ongoing technical study of direct and indirect dischargers for this industry was used as the primary basis for assessing available pretreatment technologies. Additionally, data gathered earlier in support of the direct discharge limitations under Title I and 304 as well as data submitted by the industry were used. Appendix A summarizes these data and the analysis used in developing these limitations. The details of these studies are set forth in the "Pretreatment Report Supplementing the Interim Final Development Documents for the Electroplating Point Source Category"; the "Development Document for Interim Final Eluent Limitations Guidelines for the Copper, Nickel, Chromium and Zinc Segment of the Electroplating Point Source Category"; and the "Development Document for Eluent Limitations Guidelines and New Source Performance Standards for the Copper, Nickel, Chromium and Zinc Segment of the Electroplating Point Source Category". The Agency also relied upon a report entitled "A Survey of Three Encampy Electroplating Waste Treatment Systems".

ECONOMIC IMPACT ANALYSIS

In establishing the present regulations, the Agency has studied and taken into account the potential economic impact on the industry of implementing the standards. The analyses which have been undertaken are described in Appendix A. The details of the economic studies are set forth in a report entitled "Preliminary Economic Analysis of Interim Final Pretreatment Standards for the Electroplating Point Source Category, May, 1977."

Total investment costs for the metal finishing job shops to comply with the standards are estimated to be 36 million dollars. Annualized compliance costs are estimated to be 15 million dollars per year including both capital charges and operating and maintenance costs. It is estimated that 235 metal finishing job shops representing 5,800 jobs may close as a result of the standards. This represents eight percent of the firms and nine percent of the employment in the job shop sector of the industry. Executive Order 11,285, February 19, 1949, and OMB Circular A-107 require that major proposals for legislation and promulgation of regulations and rules by agencies of the executive branch of Government be accompanied by a statement certifying that the inflationary impact of the proposal has been evaluated. It is hereby certified that the inflationary impact of the standards has been evaluated in the economic impact analysis.

FUTURE REGULATIONS

The present standards represent a minimal level of control which leaves unregulated many harmful pollutants which pass through or interfere with the operation of a POTW or have deleterious effects on the sludge resulting from the operation of such treatment works. The Agency is considering establishing regulations in addition to those which are now being promulgated. In particular, the Agency has considered the need for limitations on metals, as well as limitations on pH, total cyanide, and hexavalent chromium, for those plants which are presently subject only to limitations on amendable cyanide. The harmfulness of such pollutants is known, as is the technology for controlling discharges. However, the preliminary results of an economic analysis indicate that the closure rates for implementation of the full range of parameters for all plants may be high. Consequently, limitations on the full set of parameters are not being promulgated at this time. The Agency, however, will issue further limitations for some or all portions of the industry in the near future, after additional economic analysis has been completed.

Particular attention is being devoted to the representativeness of the data base, the accuracy of the financial information, the feasibility of alternative sources of capital, and the appropriateness of the compliance cost estimates. The Agency hopes to have a more accurate
economic picture of the industry soon, following further evaluation of the data base, review of the costs which were used, and "reality testing" of the economic model by comparing results with the actual experience of municipalities which have enforced regulations similar to those under consideration. In addition, the Agency is currently studying the industry in an effort to more precisely characterize the most vulnerable portions of the industry and to define those groups of plants which are responsible for the most significant environmental harm. Specific factors under consideration include process mix, flow, sales, number of metal finishing employees, total number of employees, and location. Identifiable differences between captive and job shops also will be considered. The Agency will be looking for factors which might provide the basis for formulating a spectrum of standards for different groups of plants, or for establishing variances or exemptions to a central set of standards.

Comments from the public are particularly solicited. The Agency will issue additional limitations in approximately two months from the date of this pronouncement.

AVAILABILITY OF DOCUMENTS

The EPA technical and economic reports mentioned above are available for inspection at the Public Information Reference Unit, Room 2922 (EPA Library), Waterside Mall, 401 M St. SW., Washington, D.C. 20460, at all EPA Regional Offices and at State Water Pollution Control Offices.

Copies of the supplemental EPA report, as well as being given to persons or institutions affected by the regulation or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21202, August 6, 1973), will be made available.

A limited number of additional copies are available. Persons wishing to obtain a copy of the document, "Water Quality Standards for the Electroplating Industry," should contact the Office of Analysis and Evaluation, Washington, D.C. 20460. A copy of the technical study and detailed recommendations will be made available.

In final rather than interim form, reevaluation of the regulations prior to promulgation would be required before July 1, 1977, or methods of operation so as to meet water pollution control requirements under the Small Business Administration, or methods of operation so as to meet water pollution control requirements under the Social Security Act, or other regulations in light of all comments which have been received. The Agency has also continued to consult with, and receive comments from, interested agencies and groups. Furthermore, at the request of the National Association of Metal Finishers, the Agency has released split samples for duplicate analysis as well as additional data on the electroplating plants that were selected for sampling and study as a basis for reevaluating the regulations. A summary of public participation in this rulemaking, public comments, and the Agency's response to major issues which have been raised is contained in Appendix B of this preamble.

EFFECTIVE DATE

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. EPA," 8 E.R.C. 2120 (D.D.C. 1976) which requires the promulgation of pretreatment standards for this industry category no later than May 18, 1977. The court order which was entered by the United States Court for the District of Columbia on June 6, 1976, following a consent agreement among the parties to four lawsuits, placed EPA on rigid time-tables for the preparation and publication of water pollution regulations for 21 broad industry categories and 65 families of water pollutants.

It has not been practical to develop and republish regulations for this category and to in final form rather than interim form, revised copies of the technical documentation will be available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Copies of the economic analysis document will be available through the National Technical Information Service, Springfield, Virginia 22161.

PUBLIC PARTICIPATION

Numerous agencies and groups have participated at various stages in the development of pretreatment regulations for existing sources in this industry. Comments were solicited when proposed pretreatment standards were issued on August 6, 1973, and April 24, 1975 (Phase II). Many agencies and groups were also provided in the related development of Phase I and Phase II regulations based upon best practicable control technology currently available. Furthermore, a public hearing on pretreatment standards for the electroplating industry was held on June 10, 1974. On December 3, 1976, the Agency announced that the regulations which had previously been promulgated would be reevaluated. Since that time the Agency has reconsidered the formulation of pretreatment standards and other regulations in light of all comments which have been received. The Agency has also continued to consult with, and receive comments from, interested agencies and groups. Furthermore, at the request of the National Association of Metal Finishers, the Agency has released split samples for duplicate analysis as well as additional data on the electroplating plants that were selected for sampling and study as a basis for reevaluating the regulations. A summary of public participation in this rulemaking, public comments, and the Agency's response to major issues which have been raised is contained in Appendix B of this preamble.

COMPLIANCE DATE

Section 301 of the Act anticipates that pretreatment standards for existing sources would be established and compliance would be required before July 1, 1977, which specifies "the time for compliance not to exceed three years from the date of promulgation" of the standard. In view of this conflict of goals and the fact that the pretreatment standards are only now being promulgated, the Agency believes that the compliance deadline as set forth in section 301(b) should apply. The time for compliance with the categorical pre-
treatment standards will be not later than three years from the effective date. However, a Regional Administrator or local or state authority should establish a schedule for expedited compliance in an individual basis where it is appropriate. Compliance with the prohibited discharge standards is required immediately upon the effective date of these regulations since these standards are essentially the same as 40 CFR 128.131 and since the deadline for compliance with 40 CFR 128.131 has passed.

OPPORTUNITY FOR PUBLIC COMMENT

Interested persons are encouraged to submit written comments. Comments should be submitted in triplicate to the Environmental Protection Agency, 401 M St. SW., Washington, D.C. 20460, Attention: Distribution Officer, WH-555. Comments on all aspects of the regulation are solicited. In the event comments are in the nature of criticisms as to the adequacy of data which are available, or which may be relied upon by the Agency, comments should identify and, if possible, provide specific data on which may be available and should indicate why this alternative better satisfies the detailed requirements of section 307(b) of the Act. The Agency particularly solicits comments on other technologies for treating metal finishing effluents. All comments received on or before September 12, 1977, will be considered.

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 St. SW., Washington, D.C. 20460. A copy of the technical study and economic studies referred to in this notice and other materials will be maintained at this location for public review and copying. The EPA information, Regulation, 40 CFR Part 3, provides that a reasonable fee may be charged for copying.

An opportunity for public hearing will be provided shortly after the close of the comment period. The place and time will be announced in a later notice.

SMALL BUSINESS ADMINISTRATION LOANS

Section 8 of the FWPCA authorizes the Small Business Administration, through its economic disaster loan program, to make loans to assist any small business concern in effecting additions to or alterations in equipment, facilities, or methods of operation so as to meet water pollution control requirements under the FWPCA, if the concern is likely to go out of business or suffer a substantial economic injury without such assistance.

For further details on this Federal loan program write to the Small Business Administration, Office of Analysis and Evaluation, WH-558, 401 M St. SW., Washington, D.C. 20460.
In consideration of the foregoing, 40 CFR Part 413 is hereby amended as set forth below.


BARBARA BLYZS, Acting Administrator.

APPENDIX A—TECHNICAL SUMMARY AND BASIS FOR REGULATIONS

This Appendix summarizes the basis for interim final pretreatment standards for existing sources in the electroplating point source category.

(1) General methodology. The pretreatment standards were developed in the following manner: The point source category was first studied for the purpose of establishing pretreatment regulations, it was decided that printed circuit board manufacturing and electroless plating also warrant separate subcategorization because of the unique mixture of electrolyte and electrolysis plating operations found in these processes. It is specific in this process that the process employed, the engineering aggressiveness or the technology reflected the application of each of the technologies, which exist or are capable of being developed in the segment. Waste water constituents posing potential problems, including air, solid waste, and radiation were identified. The control and treatment technologies existing within each segment were identified. This included an analysis of the source, flow and volume of water used in the process, the source of waste waters in the operation and the constituents of all waste water. The compatibility of each raw waste characteristic and the municipal treatment works then was considered. Waste water constituents posing potential problems, or interference problems for POTW were identified. The control and treatment technologies existing within each segment were identified. This included an analysis of each control and treatment technology were then identified. In addition, the raw water quality environmental impact, such as the 100 percent of the application of such technologies upon other pollution problems, including air, solid waste, and industrial exposure. The average fatal dose of HCN by ingestion by man is 50 to 69 mg. The U.S. Public Health Service recommended limit for drinking water was 0.1 mg/L, with a mandatory maximum of 0.2 mg/L. The National Inhalation Research Drinking Water Regulations do not limit cyanide.

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rainbow trout are more sensitive to chromi-
num than fish, although concentrations of 0.022 mg/I are not likely to cause adverse
life outright. At a pH greater than 10, dissolution of chromium is likely. At a low pH, corrosion of sewer pipes may be caused. Furthermore, at a pH below 7, chromium is in the trivalent form, which is reduced to the hexavalent form by an oxidizing agent.

Chromium is moderately removed by sedimentation and filtration. Cyanide destruction is an important indirect effect on the significance of metal pass-through problems. Freshwater zooplankton studies have suggested of causing susceptibility to infections. Freshwater zooplankton studies have shown that the odorous compounds produced by the trivalent chromium can cause reduced growth or death. The National Interim Primary Drinking Water Regulations limit chromium in drinking water to not more than 0.05 mg/I.

Cost information was obtained from industries, engineering firms, equipment suppliers, government agencies, and available literature. Total investment costs for the metal finishing category are estimated at $28 million dollars. A total investment of $28 million dollars is anticipated for the entire metal finishing industry, with a cost range of $25-35 million dollars. This estimate allows for the fact that some jobs are not yet available for public inspection. Annualized compliance costs are estimated to be 16 million dollars per year. This includes labor, equipment, and maintenance costs.

An estimated 235 job shops representing 25,500 employees may be involved in metal finishing treatment standards. This represents 8 percent of the job shops and nine percent of the employees. As discussed elsewhere in the preamble, the rulemaking does not require specific pretreatment standards for this industry. The regulation is based on three general pretreatment measures: (i) the pretreatment measures are being established as a result of the 1978 OMB Circular A-101. The 1978 OMB Circular A-101 establishes a framework for developing and verifying a costing program which would require removal of these wastes by the industrial user.

The Federal Register, Vol. 42, No. 133—Tuesday, July 12, 1977
Prices are expected to rise to account for increased labor costs. The cost of regulated metal finishing services is expected to rise by an average of 1.2 and 4.9 percent. The remaining comments' opposition are expected to drop slightly in the short run for those firms that remain open, but an increase in their operations within a few years of compliance as the industry adjusts to the new abatement requirements.

APPENDIX II—SUMMARY OF PUBLIC PARTICIPATION

The following are the principal agencies and groups consulted in the development of regulations:
(1) Effluent Standards and Water Quality Information Advisory Committee (established under section 615 of the Act); (2) all State and U.S. Territory Pollution Control Agencies; (3) Department of Interior; (4) Department of Commerce; (5) Department of Defense; (6) Department of the Treasury; (7) Water Resources Council; (8) Atomic Energy Commission; (9) Office of Management and Budget; (10) National Association of Metal Finishers; (11) Metal Finishers Suppliers Association; (12) American Electroplating Society; (13) Institute of Printed Circuits; (14) Alberts Plating Works, Inc.; (15) American Galvanizers; (16) American Society of Mechanical Engineers; (17) Hudson River Sloop Restoration, Inc.; (18) The Conservation Foundation; (19) Environmental Defense Fund, Inc.; (20) National Resources Defense Defense Council of the American Society of Civil Engineers; (21) Water Pollution Control Foundation; (22) National Wildlife Federation; (23) Engineered Services of the American Society of Civil Engineers; (24) New England Interstate Water Pollution Control Commission.

The following responded with comments following publication of the Phase I and Phase II regulations: California State Water Resources Control Board; Colorado River Basin Commission; State of New York Department of Environmental Conservation; Commonwealth of Pennsylvania Department of Natural Resources and Environmental Protection; State of Ohio Environmental Protection Agency; The Commonwealth of Massachusetts Water Resources Commission; State of Michigan Department of Natural Resources; City of Philadelphia; Colorado Department of Public Health; Municipality of Metropolitan Seattle; Dallas Water Utilities; State of Connecticut Department of Environmental Protection; Department of Conservation and Recreation; Department of Health, Education and Welfare; United States Department of the Interior; Conservation Department of the State of Wisconsin; State of Virginia; State of North Carolina; State of Illinois; State of Illinois State League of Municipalities; Environmental Resources Defense Council; General Dynamics - Ford Motor Company; Hewlett-Packard; R. O. Bull and Company; MacDermid, Inc.; Institute of Printed Circuits; Kalasius and Associates, Inc.; Erbinger Plating, Inc.; Chromium Inc.; Honeywell; Also Cad-Nickel Plating Corporation; Branson G. Hallard and Associates; Tri-Country Hard Chrome; Inc.; National Association of Metal Finishers; Bell and Howell; Williams, Diebold and Company; Electroplate, Inc.; Fleetwood Metal Finishing Corporation; The Plate-All Met Company; American Electroplaters' Society, Inc.; Metal Plating Association; Conlin and Maybeck; Hay Company; Harshaw Chemical Company; Alcoa Company; Fred's Alloys, Inc.; Wisconsin Steel Plating Corporation; Control Laboratories; Milwaukee Plating Company; Baythron Company; GTW Syll- vanias; Eastman Kodak Company; Chromo-
(2) Pollutants which will cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5 unless the works is designed to accommodate such pollutants.

(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

(4) Pollutants at either a hydraulic flow rate or pollutant flow rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency.

(b) In addition to the general prohibitions set forth in paragraph (a) of this section, the following pretreatment standards establish the quality or quantity of pollutants or pollutant properties controlled by this section which may be introduced into a publicly owned treatment works by a source subject to the provisions of this subpart.

(1) For plants discharging less than 40,000 gallons per day of electroplating process waste water the following limitations shall apply:

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
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<tr>
<td>CN, A</td>
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<td>7.5 to 10.0</td>
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</table>

Subpart B—Electroplating of Precious Metals Subcategory

Subpart B, § 413.21 is amended by revising paragraph (d) and adding paragraphs (e), (f), and (g) as follows:

§ 413.24 Pretreatment standards for existing sources.

For the purpose of establishing pretreatment standards under Section 307(b) of the Act for a source within the electroplating of precious metals subcategory, the provisions of Part 128 of this chapter shall not apply. The pretreatment standards for an existing source within the electroplating of precious metals subcategory are set forth below:

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:

(1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works.

(2) Pollutants which cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5, unless the works is designed to accommodate such pollutants.

(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

(d) The term "Cr, VI" shall mean hexavalent chromium.

(e) The term "CN, A" shall mean cyanide amenable to chlorination.

(f) The term "CN, T" shall mean cyanide, total.

(g) The term "electroplating process waste water" shall mean process waste water generated in operations which are subject to regulations for the electroplating point source category.

Subpart B is amended by adding § 413.24 as follows:

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN, A</td>
<td>0.20</td>
<td>0.08</td>
</tr>
<tr>
<td>CN, T</td>
<td>0.65</td>
<td>0.24</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range</td>
<td>7.5 to 10.0</td>
</tr>
</tbody>
</table>

Subpart D—Anodizing Subcategory

Subpart D, § 413.41 is amended by revising paragraph (d) and adding paragraphs (e), (f), and (g) as follows:

§ 413.41 Specialized definitions.

(d) The term "CN, A" shall mean cyanide amenable to chlorination.

(e) The term "CN, T" shall mean cyanide, total.

(f) The term "Cr, VI" shall mean hexavalent chromium.

(g) The term "electroplating process waste water" shall mean process waste water generated in operations which are subject to regulations for the electroplating process subcategory.
(2) For plants discharging 40,000 gallons per day or more of electroplating process waste water, the following limitations shall apply:

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Averages of daily values for 20 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN as CN₄</td>
<td>0.09</td>
<td>0.08</td>
</tr>
<tr>
<td>Cr VI</td>
<td>0.94</td>
<td>0.24</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 7.5 to 10.0.</td>
<td></td>
</tr>
</tbody>
</table>

Subpart E—Coatings Subcategory

Subpart E, § 413.51 is amended by revising paragraph (f), by adding paragraphs (g), (h), and (i) as follows:

§ 413.51 Specialized definitions.

(f) The term "CrVI" shall mean hexavalent chromium.

(g) The term "CNA" shall mean cyanides amenable to chlorination.

(h) The term "CNT" shall mean cyanide, total.

(i) The term "CN₄" shall mean cyanide, amenable to chlorination.

(j) The term "PT" shall mean process waste water the following limitations shall apply:

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Averages of daily values for 20 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN as CN₄</td>
<td>0.20</td>
<td>0.05</td>
</tr>
<tr>
<td>Cr VI</td>
<td>0.94</td>
<td>0.24</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 7.5 to 10.0.</td>
<td></td>
</tr>
</tbody>
</table>

Subpart G—Electroless Plating

Subpart G, § 413.61 is amended by revising paragraph (f) and adding paragraphs (h) and (i) as follows:

§ 413.61 Specialized definitions.

(f) The term "CNI,T" shall mean cyanides amenable to chlorination.

(h) The term "CNA" shall mean cyanides amenable to chlorination.

(i) The term "CNT" shall mean cyanide, total.

(j) The term "CrVI" shall mean hexavalent chromium.

Subpart H—Chemical Etching and Milling Subcategory

Subpart H, § 413.64 is amended by revising paragraph (f) and adding paragraphs (g) and (h) as follows:

§ 413.64 Pretreatment standards for existing sources.

For the purpose of establishing pretreatment standards under section 307 (b) of the Act for a source within the chemical etching and milling subcategory, the provisions of Part 128 of this chapter shall not apply. The pretreatment standards for an existing source are set forth below:

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:

(1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works.

(2) Pollutants which will cause corrosive structural damage to treatment works.

(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

(b) In addition to the general prohibitions set forth in paragraph (a) of this section, the following pretreatment standards establish the quality or quantity of pollutants or pollutant properties controlled by this section which may be introduced into a publicly owned treatment works by a source subject to the provisions of this subpart.

(1) For plants discharging less than 40,000 gallons per day of electroplating process waste water the following limitations shall apply:

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Averages of daily values for 20 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN as CN₄</td>
<td>0.20</td>
<td>0.05</td>
</tr>
<tr>
<td>Cr VI</td>
<td>0.94</td>
<td>0.24</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 7.5 to 10.0.</td>
<td></td>
</tr>
</tbody>
</table>

Subpart H—Chemical Etching and Milling Subcategory

Subpart H, § 413.61 is amended by revising paragraph (f) and adding paragraphs (g) and (h) as follows:

§ 413.61 Specialized definitions.

(f) The term "CNI,T" shall mean cyanides amenable to chlorination.

(g) The term "CNA" shall mean cyanides amenable to chlorination.

(h) The term "CNT" shall mean cyanide, total.

(i) The term "CrVI" shall mean hexavalent chromium.

(j) The term "PT" shall mean process waste water the following limitations shall apply:

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Averages of daily values for 20 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN as CN₄</td>
<td>0.20</td>
<td>0.05</td>
</tr>
<tr>
<td>Cr VI</td>
<td>0.94</td>
<td>0.24</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 7.5 to 10.0.</td>
<td></td>
</tr>
</tbody>
</table>

For plants discharging less than 40,000 gallons per day of electroplating process waste water the following limitations shall apply:

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Averages of daily values for 20 consecutive days shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN as CN₄</td>
<td>0.20</td>
<td>0.05</td>
</tr>
<tr>
<td>Cr VI</td>
<td>0.94</td>
<td>0.24</td>
</tr>
<tr>
<td>pH</td>
<td>Within the range 7.5 to 10.0.</td>
<td></td>
</tr>
</tbody>
</table>

Subpart H—Chemical Etching and Milling Subcategory

Subpart H, § 413.64 is amended by revising paragraph (f) and adding paragraphs (g) and (h) as follows:

§ 413.64 Pretreatment standards for existing sources.

For the purpose of establishing pretreatment standards under section 307 (b) of the Act for a source within the chemical etching and milling subcategory, the provisions of Part 128 of this chapter shall not apply. The pretreatment standards for an existing source within the chemical etching and milling subcategory are set forth below.
§ 413.71 Specialized definitions.

§ 413.72 [Reserved]

§ 413.73 [Reserved]

§ 413.74 Pretreatment standards for existing sources.

Authority: Sec. 307(b), Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1317(b)); 88 Stat. 816 et seq.; Pub. L. 92-500 (the Act).

Subpart G—Electroless Plating

§ 413.70 Applicability; description of the electroless plating subcategory.

The provisions of this subpart are applicable to discharges resulting from the electroless plating of a metallic layer on a metallic or nonmetallic substrate.

§ 413.71 Specialized definitions.

For the purpose of this subpart:
(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in part 401 of this chapter shall apply to this subpart.
(b) The term "electroless plating" shall mean the deposition of conductive material from an autocatalytic plating solution without application of electrical current.
(c) The term "sq m" ("sq ft") shall mean the area plated expressed in square meters (square feet).
(d) The term "operation" shall mean any step in the electroless plating process which is followed by a rinse and in which a metal is deposited on a basis of the metal to be plated.
(e) The term "CN,A" shall mean cyanide amenable to chlorination.
(f) The term "CN,T" shall mean cyanide, total.
(g) The term "Cr, VI" shall mean hexavalent chromium.
(h) The term "electroplating process waste water" shall mean process waste water generated in operations which are subject to regulations for the electroplating point source category.
(i) The term "suspended solids" shall mean the amount of solids which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.
(j) Pollutants at either a hydraulic flow rate or pollutant rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency.
(k) Pollutants at either a hydraulic flow rate or pollutant rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency.

§ 413.72 Pretreatment standards for existing sources.

For the purpose of establishing pre-treatment standards under section 307 (b) of the Act for a source within the electroless plating subcategory, the provisions of part 128 of this chapter shall not apply. The pretreatment standards for an existing source within the electroless plating subcategory are set forth below.

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:
(1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works.
(2) Pollutants which will cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5.0, unless the works is designed to accommodate such pollutants.
(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

§ 413.81 Specialized definitions.

For the purpose of this subpart:
(a) Except as provided below, the general definitions, abbreviations and methods of analysis set forth in part 401 of this chapter shall apply to this subpart.
(b) The term "printed circuit board" shall mean any insulating carrier which has circuitry adhered thereto or encapsulated therein primarily for the purpose of interconnecting electric and electronic components.
(c) The term "sq m" ("sq ft") shall mean the area of the printed circuit board immersed in an aqueous process bath.
(d) The term "operation" shall mean any step in the printed circuit board manufacturing process which is subject to regulations for the electroplating point source category.
(e) The term "CN,A" shall mean cyanide amenable to chlorination.
(f) The term "CN,T" shall mean cyanide, total.
(g) The term "Cr, VI" shall mean hexavalent chromium.

§ 413.82 Pretreatment standards for existing sources.

For the purpose of establishing pre-treatment standards under section 307 (b) of the Act for a source within the printed circuit board subcategory, the provisions of part 128 of this chapter shall not apply. The pretreatment standards for an existing source within the printed circuit board subcategory are set forth below.

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:
(1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works.
(2) Pollutants which will cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5.0, unless the works is designed to accommodate such pollutants.
(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

§ 413.83 [Reserved]

§ 413.84 Pretreatment standards for existing sources.

For the purpose of establishing pre-treatment standards under section 307 (b) of the Act for a source within the printed circuit board subcategory, the provisions of part 128 of this chapter shall not apply. The pretreatment standards for an existing source within the printed circuit board subcategory are set forth below.

(a) No pollutant (or pollutant property) introduced into a publicly owned treatment works shall interfere with the operation or performance of the works. Specifically, the following wastes shall not be introduced into the publicly owned treatment works:
(1) Pollutants which create a fire or explosion hazard in the publicly owned treatment works.
(2) Pollutants which will cause corrosive structural damage to treatment works, but in no case pollutants with a pH lower than 5.0, unless the works is designed to accommodate such pollutants.
(3) Solid or viscous pollutants in amounts which would cause obstruction to the flow in sewers, or other interference with the proper operation of the publicly owned treatment works.

§ 413.85 [Reserved]

§ 413.86 [Reserved]
controlled by this section which may be introduced into a publicly owned treatment works by a source subject to the provisions of this subpart.

(1) For plants discharging less than 40,000 gallons per day of electroplating process waste water the following limitations shall apply:

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days</th>
<th>Shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN, A</td>
<td>0.20</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>Cr, VI</td>
<td>1.00</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>7.5 to 10.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(2) For plants discharging 40,000 gallons per day or more of electroplating process waste water the following limitations shall apply:

<table>
<thead>
<tr>
<th>Pollutant or pollutant property</th>
<th>Maximum for any 1 day</th>
<th>Average of daily values for 30 consecutive days</th>
<th>Shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN, A</td>
<td>0.20</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>Cr, VI</td>
<td>1.00</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>7.5 to 10.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUPPLEMENTARY INFORMATION:

BACKGROUND:

On October 16, 1976 (40 FR 48592), and June 10, 1976 (40 FR 23561), EPA promulgated interim final effluent limitations based on the application of "best practicable control technology currently available" (BPT) for 40 CFR Part 436—Mine Mining and Processing Point Source Category. On June 10, 1976, the Agency also proposed effluent limitations based on the application of "best available technology economically achievable" (BAT) and standards of performance and pretreatment standards for new sources (41 FR 23561). The final regulations set forth below amend the June 10, 1976 interim final regulations, and will be applicable to existing point sources for the crushed stone subcategory (Subpart B), the construction sand and gravel subcategory (Subpart C), the industrial sand subcategory (Subpart D), and the phosphate rock subcategory (Subpart F).

The Agency is not promulgating pretreatment standards. As in the June 10, 1976 interim final regulations, the Agency has determined that additional treatment of the primary discharge is not economically feasible, and will be applicable to existing point sources for total suspended solids (TSS). The Agency has also determined that the following pollutants are not subject to BPT effluent limitations and new source performance standards.

Legal Authority:

These regulations are promulgated pursuant to sections 301(b) and 304(b) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251(b), 1314(b); 86 Stat. 166 et seq.; Pub. L. 89-272, 79 Stat. 1435; 40 CFR 122.31). Section 301(b) requires the attainment of effluent limitations based on the application of "best practicable control technology currently available" (BPT). Section 304(b) (1) provides for the promulgation of such effluent limitations and specifies the factors to be taken into account in assessing BPT in compliance with section 301(b) (1).

SUMMARY AND BASIS OF REGULATIONS

Effluent limitations are established in these regulations for total suspended solids (TSS) and pH. The regulations are based on the application of "best practicable control technology currently available" (BPT) for all four subcategories listed above. The best practicable control technology currently available for controlling the discharge of process generated waste water pollutants includes processes of waste water for use in processing. In addition, excess process water and mine water which can be treated prior to discharge by settling and, if necessary, occasional use of flocculation. Available technologies are discussed in detail in Appendix A. As in all other mining categories, the limitations for these four subcategories are based on the application of "best available technology economically achievable" (BAT) and standards of performance and pretreatment standards for new sources (41 FR 23561). The final regulations set forth below amend the June 10, 1976 interim final regulations, and will be applicable to existing point sources for the crushed stone subcategory (Subpart B), the construction sand and gravel subcategory (Subpart C), the industrial sand subcategory (Subpart D), and the phosphate rock subcategory (Subpart F).

The Agency is not promulgating pretreatment standards. As in the June 10, 1976 interim final regulations, the Agency has determined that additional treatment of the primary discharge is not economically feasible, and will be applicable to existing point sources for total suspended solids (TSS). The Agency has also determined that the following pollutants are not subject to BAT effluent limitations and new source performance standards.

In all other mining categories, the regulations are designed to specifically remove these pollutants, and additional treatment of these pollutants will not be practicable for most operations. Consequently, specific limitations for these pollutants are not established at this time. The permit issuing authority could, therefore, establish specific limitations on such pollutants on a case-by-case basis, if practicable technology were nevertheless shown to be available in the particular instance. Furthermore, the permit must, of course, include any additional limitations on such pollutants which are necessary to meet applicable water quality standards.

A report entitled "Development Document for Interim Final Effluent Limitations Guidelines and New Source Performance Standards for the Mineral Mining and Processing Point Source Category" was issued at the time that the interim final BPT regulations for the construction sand and gravel subcategory were published on June 10, 1976. A supplementary report on the possible economic effects of these pollutants to some extent. Existing treatment systems are not generally designed to specifically remove these pollutants, and additional treatment of these pollutants will not be practicable for most operations. Consequently, specific limitations for these pollutants are not established at this time. The permit issuing authority could, therefore, establish specific limitations on such pollutants on a case-by-case basis, if practicable technology were nevertheless shown to be available in the particular instance. Furthermore, the permit must, of course, include any additional limitations on such pollutants which are necessary to meet applicable water quality standards.

A report entitled "Development Document for Interim Final Effluent Limitations Guidelines and New Source Performance Standards for the Mineral Mining and Processing Point Source Category" was issued at the time that the interim final BPT regulations for the construction sand and gravel subcategory were published on June 10, 1976. A supplementary report on the possible economic effects of these pollutants to some extent. Existing treatment systems are not generally designed to specifically remove these pollutants, and additional treatment of these pollutants will not be practicable for most operations. Consequently, specific limitations for these pollutants are not established at this time. The permit issuing authority could, therefore, establish specific limitations on such pollutants on a case-by-case basis, if practicable technology were nevertheless shown to be available in the particular instance. Furthermore, the permit must, of course, include any additional limitations on such pollutants which are necessary to meet applicable water quality standards.

A report entitled "Development Document for Interim Final Effluent Limitations Guidelines and New Source Performance Standards for the Mineral Mining and Processing Point Source Category" was issued at the time that the interim final BPT regulations for the construction sand and gravel subcategory were published on June 10, 1976. A supplementary report on the possible economic effects of these pollutants to some extent. Existing treatment systems are not generally designed to specifically remove these pollutants, and additional treatment of these pollutants will not be practicable for most operations. Consequently, specific limitations for these pollutants are not established at this time. The permit issuing authority could, therefore, establish specific limitations on such pollutants on a case-by-case basis, if practicable technology were nevertheless shown to be available in the particular instance. Furthermore, the permit must, of course, include any additional limitations on such pollutants which are necessary to meet applicable water quality standards.

A report entitled "Development Document for Interim Final Effluent Limitations Guidelines and New Source Performance Standards for the Mineral Mining and Processing Point Source Category" was issued at the time that the interim final BPT regulations for the construction sand and gravel subcategory were published on June 10, 1976. A supplementary report on the possible economic effects of these pollutants to some extent. Existing treatment systems are not generally designed to specifically remove these pollutants, and additional treatment of these pollutants will not be practicable for most operations. Consequently, specific limitations for these pollutants are not established at this time. The permit issuing authority could, therefore, establish specific limitations on such pollutants on a case-by-case basis, if practicable technology were nevertheless shown to be available in the particular instance. Furthermore, the permit must, of course, include any additional limitations on such pollutants which are necessary to meet applicable water quality standards.