

[6560-01]

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL
PROTECTION AGENCY

[FRL 899-81]

PART 128—PRETREATMENT
STANDARDSPART 403—GENERAL PRETREATMENT
REGULATIONS FOR EXISTING AND
NEW SOURCES OF POLLUTION

Final Rules

AGENCY: Environmental Protection
Agency.

ACTION: Final rules.

SUMMARY: On February 2, 1977, the Environmental Protection Agency (EPA) proposed a rule (42 FR 6476-6502) which would establish mechanisms and procedures for enforcing national pretreatment standards controlling the introduction of nondomestic wastes into publicly owned treatment works (POTW's). In addition, the preamble to these proposed general pretreatment regulations set forth for public comment four options under consideration by EPA as the overall national policy for the establishment and enforcement of pretreatment standards for existing and new sources under sections 307 (b) and (c) of the Clean Water Act (the Federal Water Pollution Control Act as amended by the Clean Water Act of 1977). This rule is now being promulgated in final form and will become effective 60 days after promulgation. These regulations replace the existing general pretreatment regulation, 40 CFR Part 128. The preamble and Appendix A of this regulation describe the EPA's overall policy for establishing and enforcing pretreatment standards for new and existing industrial users of POTW's and they delineate the responsibilities and deadlines applicable to each party in this effort.

The intent of this regulation and the national pretreatment policy is to:

(i) Prevent the introduction of pollutants into POTW's which will interfere with the operation of the POTW or contaminate the sewage sludge;

(ii) Prevent the introduction of pollutants into POTW's which will pass through the treatment works into receiving waters or the atmosphere or otherwise be incompatible with the work; and

(iii) Improve opportunities to recycle and reclaim wastewaters and the sludges resulting from wastewater treatment.

To reduce the health and environmental risk of pollution caused by dis-

charges to POTW's the national pretreatment policy, and this regulation implementing the policy, provide for national pretreatment standards. These pretreatment standards will include general discharge prohibitions that apply to all users of a POTW who discharge nondomestic wastes as well as standards applicable to specific industrial categories. The discharge limits set out in categorical pretreatment standards will be based on the best available technology economically achievable for industrial users of POTW's (or, in some cases, more stringent effluent limits under section 307(a)). The categorical pretreatment standards will be promulgated in separate regulations. Within 3 years of issuance or reissuance of a National Pollutant Discharge Elimination System (NPDES) permit for each POTW but in no case later than July 1, 1983, a pretreatment program will be required as a condition of the permit. A POTW pretreatment program will be required if the POTW has a design flow of more than 5 million gallons per day (a total capacity of more than 5 million gallons per day where a single authority operates more than one POTW) and receives wastes from sources subject to section 307 (b) or (c) pretreatment standards. Where a POTW pretreatment program is developed, the POTW will be responsible for enforcement of the national pretreatment standards as well as any local or State standards. Funding to assist POTW's in developing pretreatment programs will be available through section 201 (construction grants) and section 208 (areawide and State Planning grants). Modification of the pollutant discharge limits in categorical pretreatment standards by POTW's will be authorized for documented removal of pollutants attained by the POTW if a pretreatment program has been developed and the locally selected method of POTW sludge use or disposal complies with sludge management requirements established under section 405 of the Clean Water Act. The EPA and States approved to administer the NPDES will enforce national pretreatment standards where local governments do not develop a pretreatment program and assume enforcement responsibility.

EFFECTIVE DATE: This regulation is effective 60 days after promulgation in the FEDERAL REGISTER, August 25, 1978.

**FOR FURTHER INFORMATION
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SUPPLEMENTARY INFORMATION:**I. BACKGROUND****A. SCOPE OF THE PROGRAM**

The scope and complexity of a national pretreatment program and the significance of its potential impact on protection of health and the environment make it desirable to provide the public with a detailed statement of EPA pretreatment policy (see Appendix A. National Pretreatment Strategy) along with the general pretreatment regulation promulgated today. While all nondomestic discharges of waste to POTW's are covered by the general prohibitions contained in this regulation, there are at least 87,000 existing industrial dischargers to POTW's in the 21 industrial categories (see Appendix A, section B. Pretreatment Standards and Guidance) which will be considered in the initial focus of categorical pretreatment standards. In the future, additional industrial categories may be added to the list of 21 industries. Industrial dischargers who dispose of their water-borne wastes through POTW's may also be subject to State or local pretreatment requirements developed to supplement the national program.

Most of the industrial facilities potentially subject to categorical pretreatment standards discharge to approximately 2,500 of the Nation's 13,000-plus POTW's. While the majority of these 2,500 POTW's have either primary or secondary treatment as many as one-half of the 2,500 may provide treatment at levels greater than secondary treatment.

The nationwide pretreatment program is expected to require, compliance with categorical pretreatment standards by up to 20,000 dischargers in 1980 and potentially as many as 38,000-55,000 by 1983. Such a major pollution control effort will require substantial dedication of resources as well as public and political support at the municipal, State, and national levels of government.

**B. EFFECTS OF INDUSTRIAL DISCHARGES TO
POTW'S ON THE PUBLIC HEALTH AND EN-
VIRONMENT**

Industrial discharges to POTW's are known to be the source of significant problems. A number of the pollutants discharged by industrial users of POTW's are substances for which there is evidence of carcinogenicity, mutagenicity, and/or teratogenicity. Others are known to have acute toxic effects on human or aquatic organisms at sufficiently high concentrations. Many of the toxic pollutants are persistent in the environment and some bioaccumulate and enter food chains. When industrial pollutants enter POTW's they can create three types of problems:

(i) *Interference.* The most immediate impact of these pollutants can be on

the operation of the POTW. Discharges of high volumes or concentrations of certain pollutants can inhibit or interfere with the proper operation of a POTW, thus causing it to do an inadequate job of treating normal domestic wastes as well as industrial wastes. As a result, the POTW can be prevented from meeting its permit requirements.

(ii) *Sludge Management.* Toxic pollutants, partially treated by a POTW, enter the POTW's sludge and can contribute significantly to sludge management problems. Industrial pollutants, particularly metals and other toxic pollutants, can limit the sludge management alternatives available to the POTW and increase the cost to the public of providing adequate sludge management. Sludge contaminated with toxic materials can be rendered unusable as a soil conditioner. Many communities are already faced with serious problems in managing ever-increasing quantities of sludge. In some cases, improper handling of sludges contaminated with metals and other toxic pollutants can result in uptake of these pollutants by crops in the human food chain or leaching of these pollutants into ground water (currently the source of approximately 50 percent of the Nation's drinking water) as well as surface waters.

(iii) *Pass-through.* Even when the inhibition/interference and sludge management problems mentioned above have been dealt with, there still are many toxic industrial pollutants that do not receive adequate treatment in most POTW's. These toxic pollutants pass through POTW's in quantities and concentrations that can be harmful to the environment and that would be unacceptable under Federal, State, and local regulations dealing with industrial discharges directly to receiving waters. Toxic industrial pollutants which pass through the POTW can prevent reuse of municipal wastewaters and the productive recycling of organic matter and nutrients in land treatment systems. The pass-through of toxic industrial pollutants can also prevent the attainment of water quality standards and increase the cost to consumers of treating drinking water.

Pollutants which cause or have the potential to cause any of the above problems when discharged to a POTW are said to be "incompatible" (see Appendix A, National Pretreatment Strategy, subsection B(2)(d)).

II. STATUTORY CONSIDERATIONS

The EPA pretreatment policy and the general pretreatment regulation are based upon the Federal Water Pollution Control Act Amendments of 1972 as amended by the Clean Water Act of 1977, (Pub. L. 95-217) 33 U.S.C. 1251 et seq.

A. GENERAL STATUTORY CONSIDERATIONS

The Clean Water Act was meant to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" by establishing as a national goal the elimination of the discharge of pollutants into the navigable waters by 1985. A major emphasis for attainment of this goal was placed upon technology-based regulations. Industries which discharge into waters of the U.S. are required to achieve limitations based on Best Practicable Control Technology Currently Available (BPT) by July 1, 1977, and Best Available Technology Economically Achievable (BAT) by July 1, 1983, in accordance with sections 301 and 304. New sources are required to comply with New Source Performance Standards (NSPS) based on Best Available Demonstrated Control Technology (BDT) under section 306. POTW's are obliged to meet "secondary treatment" by 1977, and Best Practicable Waste Treatment Technology (BPWTT) by 1983, in accordance with sections 301(b), 304(d), and 201(g)(2)(A). Users of a POTW are required to comply with pretreatment standards promulgated pursuant to section 307.

Sections 307 (b) and (c) are the key sections of the Act in terms of pretreatment. Section 307(b) requires the EPA Administrator to promulgate regulations establishing pretreatment standards for the introduction of pollutants by existing sources into POTW's. Pretreatment standards promulgated under section 307(b) must be established to prevent the discharge of any pollutant which interferes with the POTW (or contaminates its sludge), passes through, or otherwise is "incompatible" with POTW's.

Section 307(c) requires that the Administrator promulgate pretreatment standards for sources which would be a new source subject to section 306 if it were to discharge pollutants to waters of the U.S. These regulations must be promulgated simultaneously with the promulgation of standards of performance under section 306. New source pretreatment standards must be designed to prevent the discharge of any pollutant into the POTW which may interfere with, pass through, or otherwise be incompatible with the operation of the works, including sludge use or disposal.

Under section 307(d), it is unlawful to operate a new or existing source in violation of a pretreatment standard promulgated under sections 307 (b) and (c). Violations of section 307(d) are subject to enforcement actions brought by the EPA (under section 309) against both the POTW and the industrial user who is in violation.

The Clean Water Act amendments of 1977 reflect a Congressional consensus that the approach discussed above

is sound and, with modifications to ensure a special emphasis on control of toxic pollutants, should be continued. The Clean Water Act has added several new provisions relevant to pretreatment. Section 307(b)(1) was amended to allow for local modification of national categorical pretreatment standards to take into account the actual pollutant removal capabilities of particular POTW's. Section 402(b)(8) was amended to provide that any NPDES permit issued to a POTW should include, as permit conditions, requirements for identifying pollutants from significant industrial users and for instituting an adequate local program to ensure compliance by users with national pretreatment standards. Finally, section 405 was amended to expand the guideline provisions relating to the disposal and utilization of sludge and to provide that any permit for the discharge of sewage sludge shall be subject to the requirements of section 402 of the Clean Water Act.

III. SUMMARY OF ORIGINALLY PROPOSED STRATEGY OPTIONS

The following is a brief discussion of the four Alternative Pretreatment Strategy Options that were included in the preamble to the general pretreatment regulation proposed in the FEDERAL REGISTER on February 2, 1977.

All four proposed strategy options attempted to achieve the statutory objectives of preventing interference and passthrough; however, the options differed in terms of how they reached those objectives. The options differed generally in terms of the extent to which industrial users of POTW's would be controlled by national technology-based pretreatment standards versus locally-developed and applied pretreatment limits. Specifically, the options differed with respect to the number and type of pollutants and sources that would be covered by categorical standards and the amount of flexibility that would be allowed at the local level in applying the standards. Another major difference among the four options was the extent to which the POTW versus the EPA and those States approved to administer the NPDES (NPDES States) would have the primary responsibility for enforcement of applicable pretreatment requirements.

A. COMMON ELEMENTS IN FEBRUARY 2, 1977 PROPOSALS

A number of elements were common to all four proposed strategies, including:

(i) Prohibitions on the addition to the POTW by any user of certain pollutants which would substantially interfere with the operation of the POTW;

(ii) Promulgation of categorical technology-based pretreatment standards

under section 307 (b) and (c) to regulate, at a minimum, the more significant toxic pollutants;

(iii) Levels of treatment in categorical pretreatment standards based on available and economically achievable pretreatment technologies;

(iv) Consideration of POTW removal capabilities in determining the compatibility of a pollutant and thus the need for national standards to regulate it;

(v) A variance for fundamentally different factors for existing sources similar to the provision in all promulgated direct discharge standards;

(vi) Provision for case-by-case modifications of the categorical pretreatment standards for pollutant removals achieved by, at a minimum, fundamentally different types of POTW's (i.e., physical-chemical systems, etc.);

(vii) Guidance to local authorities and States on, at a minimum, pretreatment requirements for other significant industrial sources and pollutants not covered by natural pretreatment standards.

(viii) Federal incentives under sections 201 and 208 of the Clean Water Act (201/208 funds for the development costs of POTW pretreatment programs, development of a program as a condition of final payment of Step 3 construction grants, and requiring grantees to develop user charge systems adequate to fund the operating costs of a pretreatment program);

(ix) Federal enforcement of national pretreatment standards directly against industrial users where no approved POTW pretreatment program exists and as a back-up where there is an approved program; and

(x) A requirement in municipal NPDES permits that local pretreatment programs be established by 1983.

B. THE OPTIONS

Since all four options proposed incorporated the above concepts, the following descriptions focus primarily on the major points of difference.

1. Option I—Local Enforcement of Technology Standards. Establish technology-based pretreatment standards for 21 industrial categories covering most incompatible pollutants (including 65 toxic pollutants, see Appendix A, section B. Pretreatment Standards and Guidance). Allow modification of categorical pretreatment standards for removal which the POTW is designed to achieve as well as for those removals which occur incidental to the treatment process, but only where the POTW implements a pretreatment program. Local enforcement of pretreatment standards wherever a pretreatment program is approved; Federal or NPDES State enforcement everywhere else.

2. Option II—Local Enforcement of Technology Standards or Water Qual-

ity Variances. Establish pretreatment standards and provide for modifying standards as in Option I, but where approved, allow POTW's to establish and enforce substitute pretreatment requirements based on local water quality instead of the national pretreatment standards. Local enforcement of pretreatment standards wherever a pretreatment program is approved; Federal or NPDES State enforcement everywhere else.

3. Option III—Local Enforcement of Toxic Technology Standards. Establish technology-based pretreatment standards (and provide for modifying standards as in Option I) only for the most toxic pollutants and covering only the most significant contributors of those pollutants (i.e., less than 21 industrial categories and 65 toxic pollutants). Allow POTW's to regulate all other pollutants based on guidance issued by the EPA and incorporate those limits in POTW's permit. Local enforcement of pretreatment standards wherever a pretreatment program is approved; EPA or NPDES State enforcement everywhere else.

4. Option IV—Federal/State Enforcement of Technology Standards. Establish technology-based standards for most if not all dischargers of incompatible pollutants (more than 21 industrial categories). Standards to cover most, if not all, incompatible pollutants and modifications of standards allowed only for removal the POTW is designed to achieve. All enforcement of national pretreatment standards by EPA or NPDES States.

IV. ACTIVITIES SINCE PROPOSAL

Proposal on February 2, 1977 of the four options for an EPA pretreatment policy or National Pretreatment Strategy and a general pretreatment regulation precipitated extensive public and congressional consideration of the issues. Following proposal the EPA held public hearings in Chicago, Boston, San Francisco and Washington. Each public hearing was preceded by public meetings with State governments, local governments, industry, and environmental, consumer and other public interest groups. These four public hearings and sixteen public meetings provided significant opportunity for public review and comment on the alternatives. During this period approximately 400 individuals and groups testified and/or submitted written comments. The public debate focused on:

(i) The basis for establishing national pretreatment standards, that is, whether the standards should be based on technological capabilities of dischargers or instream water quality considerations;

(ii) How the standards should be enforced, in particular, whether the primary responsibility for enforcement

should be placed on Federal, State, or local authorities;

(iii) The number and types of pollutants and sources which should be regulated by national pretreatment standards;

(iv) The flexibility which should be provided to tailor the national standards and enforcement program to case-specific circumstances; and

(v) The role of pretreatment in facilitating reuse of municipal wastewater and the recycling of municipal and industrial sludges.

In the last half of 1977, the EPA pretreatment policy was considered by the Congress as it developed the Clean Water Act amendments of 1977. The Congressional debate also focused on the above five issues and contributed significantly to their resolution. In addition, the Clean Water Act focused pretreatment in the larger context of national pollution control policy by emphasizing the Congressional intent to control toxics, requiring technology as the basis for establishing levels of pollution control in pretreatment, and re-emphasizing the objective of reclamation and reuse of wastes wherever possible.

V. MAJOR ISSUES IN PUBLIC COMMENTS

The major issues covered by public testimony and comment are discussed in this section. The National Pretreatment Strategy selected by the EPA is stated in Appendix A of the regulation. Additional public comments are addressed in a separate document entitled "Response to Public Comments on 40 CFR 403". The complete hearing records, public comments, and the EPA response to significant public comments are available for inspection at the Freedom of Information Office, Environmental Protection Agency, 401 M Street SW., Washington, D.C. Copies of the "Response to Public Comments on 40 CFR Part 403" are available from the Office of Water Planning and Standards, WH-586, U.S. Environmental Protection Agency, Washington, D.C. 20460.

A. BASIS FOR PRETREATMENT STANDARDS

Significant public comment has been received as to what the basis should be for establishing national pretreatment standards. All four policy options presented for public comment provided for technology-based national pretreatment standards. However, one option enabled local authorities to develop and enforce locally-derived pretreatment limits in lieu of the national standards, provided that State Water Quality Standards or section 304(a) water quality criteria were not violated.

Proponents of pretreatment standards based on water quality in the receiving waters argued that such standards ensure that the dollar and energy

costs of treatment do not exceed what local water quality conditions may require. Proponents assert that such standards would focus Federal and State resources on municipal discharges which directly affect the environment rather than on the many industrial sources whose environmental impact may be modified by treatment at the POTW. These commenters emphasized that by focusing on the POTW's discharge, enforcement could be tied to the municipal discharger's NPDES permit and POTW's could devise the most cost-effective pretreatment controls for their specific industries. It was also suggested that as technology improved technology-based controls provided an uncertain moving target for pretreaters.

Proponents of pretreatment standards based on the technological capabilities of industries emphasized that such standards: provide for maximum progress towards the Act's basic goal of eliminating the discharge of pollutants into waters of the U.S., insure greater equity between industrial users of POTW's and direct dischargers who are already required to comply with technology-based standards, and will result in greater environmental protection since compliance with technology-based standards is far easier to determine. These commenters stressed that water quality-based standards would delay environmental improvement because water quality standards do not exist for many industrial toxic pollutants and lengthy, costly and methodologically uncertain studies would be required to establish such standards. Testimony was received which emphasized that the Consent Decree in *Natural Resources Defense Council, Inc. vs. Train*, 8 ERC 2120 (D.D.C. 1976) (hereafter referred to as the Consent Decree) stipulates technology-based pretreatment standards. Several industries and municipalities expressed concern that only nationwide technology-based standards could ensure equity of environmental burden among competing industrial users of POTW's and prevent new industries from "shopping" for the least restrictive locations.

In establishing its pretreatment policy the EPA has rejected the concept of national pretreatment limits based upon water quality considerations and will instead establish technology-based standards. Congress intended the pretreatment standards to be technology-based since section 307(b)(2) states: "The Administrator shall, from time to time, as control technologies, processes, operating methods, or other alternatives change, revise such standards following the procedure established by this subsection for promulgation of such standards." And section 307(b)(3) requires

the pretreatment standards to be applied to categories of point sources. Moreover, the Consent Decree (Paragraph 13(a)) explicitly provides that the pretreatment standards shall be technology based. This conclusion is confirmed by the legislative history. The Conference Report accompanying amendments to section 307 (b) and (c) of the Clean Water Act provides clear Congressional direction to "establish national pretreatment standards for toxic pollutants based on the best available technology economically achievable, or any more stringent effluent standards under section 307(a)" (House Conference Report (95th Congress, first session, No. 95-830, p. 87)). The EPA agrees with the commenters who stressed the need for technology-based standards, most significantly because many toxic industrial pollutants are conservative in nature, do not degrade in receiving waters, concentrate in bottom sediments and are thus not acknowledged in water quality measurement, and by virtue of their persistence and bioaccumulation can concentrate downstream in food chains and water supplies.

During the public hearings the EPA requested that persons supporting national standards applicable only to the POTW's discharge, in lieu of national pretreatment standards applicable to the industrial users, provide suggestions on how such standards should be developed and evidence demonstrating the practicality of their proposal. The public record does not provide convincing evidence that feasible, readily available methodologies exist at this time to establish comprehensive limits on toxic pollutants in the POTW's effluent.

B. COVERAGE OF SOURCES OF POLLUTANTS

Substantial public comment was received on the number and types of pollutants and sources which should be regulated by national standards. The four options presented for comment on February 2, 1977 differed in terms of the number and type of pollutants covered by national pretreatment standards as well as how many sources of each pollutant would be regulated by these technology-based pretreatment standards.

In support of broad coverage by national standards of industrial categories, the number of industries per category, and the number and type of pollutants, a number of commenters stressed that such coverage:

- (i) Would best protect the public health and environment;
- (ii) Is required by section 307 (b) and (c) of the Clean Water Act and the Consent Decree in *NRDC v. Train*, 8 ERC 2120 (D.D.C. 1976);
- (iii) Is necessary to prevent varying and inconsistent local standards and to ensure that controls are established

where local expertise or will is deficient;

- (iv) Is the most cost-effective method for developing standards; and
- (v) Would encourage resource recovery and recycling of concentrated pollutants and minimize sludge contamination.

On the other hand, in support of focusing national standards on only the most toxic incompatible pollutants and significant sources of these toxic pollutants and providing Federal guidance to States and local governments for controlling all other incompatible pollutants, many local authorities, industries and some States emphasized that:

- (i) Uniform national pretreatment standards were needed only for the most toxic and hazardous pollutants to insure maximum protection for public health and the environment;

(ii) More cost-effective regulation of other pollutants would result from State and local standards based on Federal guidance which allowed consideration of specific treatment works, municipal sludge disposal or use, removal efficiencies of the POTW, NPDES permit limits, conditions in the receiving waters, energy efficiency and water conservation;

(iii) Focusing initially on priority pollutants and sources most quickly provides the greatest public health and environmental protection by minimizing the surveillance, sampling, testing, and processing of variance requests, and other paperwork that would otherwise drain limited local, NPDES State and Federal resources while programs are being developed; and

(iv) Control of non-toxic incompatible pollutants should be by effluent limits in NPDES permits issued to POTW's and a requirement for local standards to be developed to prevent interference, pass-through or sludge contamination consistent with the permit requirements.

In developing its national pretreatment policy, the EPA has not specifically selected the coverage of sources and pollutants outlined in any one of the four alternative strategies proposed on February 2, 1977. The EPA recognizes that the coverage of sources and pollutants are prescribed by the Consent Decree in *NRDC v. Train*, 8 ERC 2120 (D.D.C. 1976). The pretreatment requirements of the Consent Decree are discussed in detail in Appendix A (National Pretreatment Strategy) of the regulation.

However, in consideration of the limited resources of the EPA and after analysis of the Hearing Record, the 1977 amendments to the Act, and information available on the environmental problems caused by industrial pollutants discharged through POTW's and the present and project-

ed capabilities of government at all levels to address these problems, the EPA will be guided in its coverage of sources and pollutants by the following considerations.

(i) *Priority on Toxics.* For the following reasons, EPA priority for standard setting should be given to control of incompatible pollutants identified as toxic. Section 101(a)(3) of the Act establishes as national policy "that the discharge of toxic pollutants in toxic amounts be prohibited." In amending section 307(a) of the Act, Congress strengthened this national policy by identifying specific priority toxic pollutants to be controlled at a minimum. In amending section 307(b) of the Act, Congress specifically directed the Agency's attention to the 307(a) toxic pollutants (House Conference Report (95th Congress, first session, No. 95-830, page 87)). Control of toxic incompatible pollutants discharged through POTW's is necessary to achieve other statutory purposes including the recycling of potential sewage pollutants, the reclamation of wastewater and the ultimate disposal of sludge in a manner that will not result in environmental hazard (section 201(d) of the Act) and encourages "integrating facilities for sewage treatment and recycling with facilities to * * * utilize industrial and municipal wastes" (section 201(e) of the Act). Source control of industrial toxic pollutants through pretreatment is also a necessary element of ensuring safe drinking water supplies, minimizing public exposure to toxic air pollutants released in incineration of municipal sludges, and encouraging the recovery of concentrated toxics from industrial sludges.

(ii) *Local government cooperation is necessary for success.* Sections 309(f) and 402(b)(8) of the Clean Water Act provide for Federal and NPDES State enforcement of national pretreatment standards through the POTW. The number of industrial sources and pollutants potentially subject to pretreatment requirements under the statutory criteria for incompatible pollutants is far larger than the number of sources and pollutants controlled by the NPDES program for direct industrial dischargers. At the same time, present and projected Federal and State resources for controlling industrial discharges to POTW's are far smaller than those available for controlling direct industrial sources. While Federal and State enforcement may compel industry and recalcitrant POTW's to comply with pretreatment requirements, only cooperative local government efforts will result in substantial industrial compliance in light of these resource constraints. The public hearing record for pretreatment provides overwhelming testimony on the importance local govern-

ments place on having Federal standards cover toxic pollutants and significant sources and allowing local standards to cover other pollutants and sources. Further, Congress recognized in amending section 307(a) that even the toxic pollutants have varying levels of toxicity and that "because of limitations on EPA resources," the Administrator may exercise some discretion in determining pollutants which should be covered by standards (House Conference Report (95th Congress, first session, No. 95-830, page 85)).

These conclusions helped shape the EPA's preference for the coverage of pollutants and sources described more fully in Appendix A (National Pretreatment Strategy) of the regulation.

C. TYPE OF ENFORCEMENT PROGRAM

The extent and emphasis on Federal and State versus local enforcement varied in the four strategy options proposed for public comment on February 2, 1977. Significant public comment was received on whether the primary responsibility for enforcement of pretreatment standards should be placed on Federal, State, or local authorities.

Comments supporting the NPDES authority (the EPA or a State with NPDES responsibility) as the level of government responsible for notifying industrial users, performing compliance reviews and monitoring, enforcing violations, etc. stressed that:

(i) Federal and State resources, staff, technical capability, and legal authorities were superior to those of local governments and more appropriate to the seriousness and magnitude of the pretreatment problem;

(ii) The Federal Government was less vulnerable to special interest pressures that could compromise industrial compliance;

(iii) Federal enforcement was mandated by the Clean Water Act in section 309;

(iv) Federal or NPDES State enforcement actions would be more likely to bring the widespread compliance because of their greater visibility and larger penalties;

(v) Small communities may be unable to implement an effective pretreatment program.

In support of assigning primary enforcement responsibility to local government, other commenters emphasized that:

(i) Successful enforcement requires a degree of local knowledge, flexibility, communication, and visible presence in the field which can only be provided by local government enforcement programs;

(ii) State and Federal governments lack adequate resources;

(iii) Local enforcement is consistent with the policy of the Act to preserve for State and local governments the

primary responsibility to control water pollution;

(iv) POTW's bear the costs of inadequate pretreatment and, therefore, find it in their self-interest to require industrial compliance;

(v) Local enforcement is more efficient, simpler to administer and involves less paperwork.

The issue of enforcement responsibilities and methods has been largely resolved by the Clean Water Act amendments of 1977; the National Pretreatment Strategy reflects the direction provided by Congress. The 1977 amendments modified section 402(b)(8) of the Clean Water Act to require local pretreatment programs to enforce national pretreatment standards as a condition of municipal NPDES permits. Congress added a new subsection (f) to section 309 of the Act to provide that violations by industrial users of national pretreatment standards should be enforced by the POTW. If after 30 days' notification of a violation, the POTW does not commence appropriate enforcement action, the EPA or the NPDES State may begin a civil action against the POTW. In any such civil action, the violating industrial user shall be made a party to the action. In addition, the EPA retains authority under section 309 to bring criminal charges against industrial users who violate national pretreatment standards and against POTW's who violate terms of their NPDES permit.

Thus in the amendments to section 309 and 402 of the Clean Water Act, Congress assigned the primary responsibilities for enforcing national pretreatment standards to the POTW's, while providing the EPA or the NPDES State with the responsibility to assure that local government fulfills this obligation.

The EPA's National Pretreatment Strategy provides that upon the issuance or modification of an existing NPDES permit for a POTW a compliance schedule for development of a pretreatment program meeting the requirements of 40 CFR 403.8 will be incorporated into the permit. The schedule for development of a POTW pretreatment program will require compliance as soon as reasonable and not more than 3 years from the date the permit expired or was reopened, but in no event later than 1983.

A number of comments questioned whether small communities had the resources, technical capabilities, and where a large industry uses the system, the political will, to effectively enforce national pretreatment standards through a POTW pretreatment program. Several commenters questioned whether requiring such small communities to develop pretreatment programs could unnecessarily delay the NPDES permit and construction

grant programs and yet still require State or Federal enforcement of pretreatment standards. After consideration of the testimony, a review of the performance of small POTW's in complying with present permit requirements, the significance of industries in different-sized POTW's, and the expected costs of developing and administering a pretreatment program, the National Pretreatment Strategy was amended to exempt POTW's with a design flow of 5.0 million gallons per day (mgd) or less from the uniform requirement to have a POTW pretreatment program unless the Regional Administrator or the Director of an NPDES State determines that a program is necessary due to the significance of the character or volume of industrial wastes introduced into the POTW. This exemption and exceptions to it are described in Appendix A (National Pretreatment Strategy, subsection D.1) of the regulation.

There are approximately 568 POTW's that receive industrial wastes and are designed to accept flows of more than 5 mgd. These 568 POTW's account for approximately 87 percent of the industrial influent to POTW's. NPDES States or EPA will be the responsible enforcement authority for industrial users in the approximately 1900 POTW's not required to develop pretreatment programs. The schedule for permit expirations for the 568 POTW's is as follows:

Fiscal year	Total	In NPDES States
1978	133	64
1979	156	102
1980	57	44
1981	25	16
1982	196	141
1983	1	0
Total	568	367

A number of commenters also objected to the vagueness of the State's role in the February 2, 1977 proposal. In amending section 402 of the Clean Water Act, Congress required that NPDES States must have authority similar to the EPA's to require POTW's to develop pretreatment programs as a condition of the municipal NPDES permit. The Act provides NPDES States, at a minimum, one year from passage (December 27, 1977) to make any necessary modifications in their program, or where State enabling legislation will be required, the State is given 2 years at a minimum. The National Pretreatment Strategy and 40 CFR 403 have been expanded to describe the requirements of and procedures for modifying the State NPDES program consistent with the Act. In response to comments from

several States, the strategy has also been expanded to enable NPDES States with approved pretreatment programs to elect to vest in that program the primary responsibility for enforcing violations against industrial users in lieu of relying upon POTW pretreatment programs.

A number of States also expressed concern that the cost impact on State government had not been adequately considered and that financial assistance would be needed to absorb the impact. An economic analysis of the impact of 40 CFR 403 upon State and local governments and industrial users of POTW's has been prepared and is summarized in Part VI, Economic Analysis of this preamble. Provision for use of Federal financial assistance under sections 106, 205 and 208 of the Clean Water Act have been made to help defray additional State costs. These provisions for financial assistance are discussed more fully in Appendix A (National Pretreatment Strategy, subsection D.5) of the regulation.

The National Pretreatment Strategy has been amended to phase-in implementation in recognition that the magnitude of the national pretreatment program would exceed current and projected State and Federal manpower if implemented for all affected POTW's simultaneously. As described in the above table, compliance with the requirement for a POTW pretreatment program will be phased by requiring a local program within 3 years of the expiration of existing NPDES permits, but not later than July 1, 1983. Compliance with national pretreatment standards will also be phased since the standards will be issued over a period of several years and the Act requires compliance within 3 years of the standards' promulgation.

D. ROLE OF PRETREATMENT IN SLUDGE MANAGEMENT AND WASTEWATER REUSE

A major issue in public comments concerned the role of pretreatment in facilitating reuse of municipal wastewater and the management of municipal and industrial sludges. These public comments focused on three concerns:

(i) Whether the EPA has authority to consider impact on municipal sludge management in establishing and enforcing national pretreatment standards.

(ii) The extent of industry and pollutant coverage by national pretreatment standards necessary to avoid contaminating municipal sludge.

(iii) Whether modification of the pollutant discharge limits in national pretreatment standards by a POTW should be allowed if it could preclude wastewater reclamation or recycling of the POTW's sludge on croplands.

Each of these concerns are discussed separately below.

1. Authority to Consider Management of Municipal Sludge. A number of commenters questioned whether the EPA had the legal authority to set pretreatment standards on pollutant discharges that cause interference with sludge management and to condition local modification of national standards on sludge management concerns. In amending the Clean Water Act in 1977, Congress addressed both of these issues. The House Conference Report (95th Congress, first session, No. 95-830, page 88) directs the EPA to consider sludge disposal or use in establishing section 307(b) pretreatment standards.

Section 307(b)(1) of the Clean Water Act deals with consideration of sludge use or disposal in modifying national pretreatment standards. Section 307(b)(1) establishes as a precondition of any modification by a POTW of national pretreatment standards that such modification " * * * does not prevent sludge use or disposal by (the POTW) in accordance with section 405 of the Act."

2. Extent of Industry and Pollutant Coverage In National Pretreatment Standards. A number of commenters stressed that national pretreatment standards should be broadly inclusive of industrial categories and pollutants in order to minimize contaminating municipal sludge and foreclosing options for sludge management, especially land-spreading on crop lands. The EPA concurs with the thrust of these comments. The EPA's consideration of sludge disposal or use in setting national pretreatment standards and the justification is described in the discussion on determining incompatible pollutants. (See Appendix A, National Pretreatment Strategy, subsection B(2)(d).)

Several commenters also urged that the pollutant discharge limits required by national pretreatment standards be stringent to protect options for beneficial use of sludge, wastewater reuse, and public health. These commenters emphasized that the Clean Water Act requires that pretreatment standards "prevent the discharge of any pollutant * * * which * * * is incompatible with treatment works (as defined by section 212)". Section 212 of the Act defines "treatment works" to include: "any works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment." Furthermore, the 1977 amendments to the Act re-emphasize the intent of Congress to give preferential consideration to land treatment processes to reclaim and recycle municipal and industrial wastewater.

Pretreatment standards for the removal of metals and toxic substances

would expand the potential for land treatment of industrial wastewater and further enhance the potential for utilization of municipal wastewater and sludges for agricultural purposes. As described in Appendix A of the regulation, the National Pretreatment Strategy will result in national pretreatment standards based on the best available technology economically achievable (BAT) by industrial users of POTWs. In establishing the best available technology economically achievable the EPA will not consider the level of pollutant removal which may be achieved by a POTW since such removal may preclude reclamation/reuse. All four Alternative Pretreatment Strategies proposed on February 2, 1977, had included consideration of POTW removals in establishing the required level of technology in setting national standards.

3. Modification of National Standards vs. Reclamation and Recycling. A major issue in public comments concerns allowing modifications of national pretreatment standards for toxic pollutants removed and treated by a POTW where wastewater reclamation or sludge recycling would be precluded by the additional pollutant loads resulting from the modification.

As discussed above, Congress, in amending Title II of the Clean Water Act, strengthened the national commitment and preference for alternative and innovative municipal wastewater treatment technologies (and treatment processes) which renovate and reuse wastewater as well as recycle the organic matter and nutrients in a beneficial manner. These amendments provide for a 15 percent credit in evaluating the cost-effectiveness of construction grants for alternative and innovative technologies. The amendments also provide for increasing the Federal share from 75 to 85 percent for construction grants utilizing innovative and alternative technologies and they require one-half of one percent of State allotments for construction grants to be spent on such grant increases.

The EPA recognizes that the reduction of potentially toxic metals and organics in industrial discharges to municipal systems often is critical to the feasibility and success of land treatment. Under section 201(g)(5) of the Clean Water Act, the EPA is precluded from making construction grants after September 30, 1978 unless innovative and alternative technologies have been fully evaluated against the objectives of section 201(d), which include reclamation of wastewater and recycling of sewage pollutants. In order to ensure that local modification of national pretreatment standards under section 307(b)(1) will not preclude compliance with the Congressional intent to en-

courage innovative and alternative technologies, the National Pretreatment Strategy provides that authorization by the EPA or an NPDES State of any local modification of national standards will only be given after completion of the analysis required by section 201(g)(5) of the Act. This policy applies to POTWs who have received a grant from funds authorized for any fiscal year beginning after September 30, 1978. The analysis of alternative and innovative technologies required by section 201(g)(5) should assume the application of national pretreatment standards without local modification. If the analysis determines that national pretreatment standards without local modification are necessary to the use of an innovative or alternative technology, then local modification of the standard(s) would be prohibited.

Congress, in amending section 307(b)(1) of the Clean Water Act to allow modification of national pretreatment standards for pollutants removed and treated by POTWs, established compliance with section 405 of the Act as the criterion for sludge considerations. Subsection 405(e) states that: "The determination of the manner of (POTW) disposal or use of sludge is a local determination except that it shall be unlawful * * * to dispose of sludge * * * for any use for which guidelines have been established pursuant to subsection (d) of this section, except in accordance with such guidelines." The initial guidelines in the regulations under section 405 are required by January 1979. The guidelines required by section 405 of the Act will be issued jointly with regulations governing sludge use and disposal under the Solid Waste Disposal Act.

In addition, by October 1, 1978 the EPA is required by section 516(d) of the Clean Water Act to submit to Congress a report on the current and potential utilization of municipal sludge for such productive purposes as energy production and soil conditioning. The report is to recommend whether Federal legislation is adequate to encourage or require the expanded use of municipal sludge or whether new legislation will be necessary. In considering the legal, institutional, public health and other impediments to the greater utilization of sludge under sections 405 and 516(d), the EPA will give serious consideration to amending the policy on the modification of national pretreatment standards (see subsection C(2)(d) of Appendix A, National Pretreatment Strategy). The amendment would include consideration of a revised policy which (i) requires evaluation of the beneficial uses of the POTW's sludge, and (ii) would deny authorization to modify a national pretreatment standard for a pollutant which could interfere with beneficial

uses, unless the POTW demonstrates that beneficial uses of sludge are clearly not economically feasible or that such could jeopardize public health.

E. PROGRAM FLEXIBILITY

This major issue concerns the flexibility which should be provided to local and State government to tailor the national pretreatment standards and enforcement program to specific circumstances in a State or locality. The major aspects of the National Pretreatment Strategy affecting flexibility and receiving the most public comment included:

(i) The extent of pollutant and industry coverage by national pretreatment standards vs locally-developed pretreatment limits;

(ii) Replacement of national pretreatment standards by State or local developed limits based on receiving water quality conditions;

(iii) Modification of national pretreatment standards to reflect POTW pollutant removal capabilities;

(iv) Expression of discharge limits in pretreatment standards as concentration limits vs expression as production-based mass limits;

(v) The degree to which existing local and State pretreatment programs will be modified by Federal requirements.

The first two issues above have been discussed in detail in Part V of this preamble (See A. Basis for Pretreatment Standards and B. Coverage of Sources and Pollutants). The last three issues are discussed below.

1. Local Modification of Pollutant Discharge Limits. This issue concerns whether POTW's should be empowered to modify pollutant discharge limits in categorical pretreatment standards to ensure that industrial users are not required to provide pretreatment which would be redundant of treatment provided by the POTW. Public comments also raised a number of questions concerning the conditions under which such modifications should be permitted and the burden imposed on POTW's to show compliance with such conditions.

In amending section 307(b)(1) of the Clean Water Act, Congress included provision for modifying a national categorical pretreatment standard for existing sources of a toxic pollutant to reflect the degree of reduction of that pollutant achieved by the treatment works. As preconditions of modifying pollutant discharge limits in national standards the amendment requires that: (i) All or part of the pollutant be removed by the POTW; (ii) the combination of pretreatment and treatment by the municipal treatment works achieves at least the level of treatment which would be required if the industrial user were making a direct discharge, and (iii) the modification of

the national standard does not prevent sludge use or disposal by the POTW in compliance with section 405 of the Act. The House Conference Report (95th Congress, first session, No. 95-830, pages 87-88) states as the intent of Congress that "Any effluent reduction attained by the treatment works and used to justify a modification of pretreatment requirements must be a permit condition enforceable against the owner or operator of the treatment work(s)." Congress also amended section 402(b)(8) of the Act to require POTW's to develop programs to assure compliance by industrial users with national pretreatment standards. Senator Muskie, in his Floor Manager's Report for the Clean Water Act, states that local modification of national standards is contingent on the POTW having an approved program to assure compliance with national standards and any locally-modified pretreatment standards (123 Cong. Rec. S-19650, December 15, 1977). These provisions for modifying national pretreatment standards applicable to sources of toxic pollutants are described more fully in Appendix A of the regulation, [National Pretreatment Strategy, subsection C(2)].

A number of the issues on local flexibility to modify national standards are also germane to implementation of section 307(b)(1) of the amended Act. The following discussion covers how the most significant of these comments have been considered in the National Pretreatment Strategy.

One commenter suggested that allowing local modification of a national pretreatment standard to reflect POTW removals would not be sufficient to prevent redundant treatment. This commenter argued that redundant treatment would be prevented if pretreatment were required only where toxic concentrations were found in the POTW's effluent in excess of that required by water quality standards. This comment assumes that avoiding redundant treatment is the same as not requiring pretreatment unless an ambient environmental standard requires additional treatment. The EPA does not concur with this interpretation. The EPA interprets redundant treatment as meaning duplicating treatment provided by the POTW. This interpretation is consistent with the Congressional decision to base treatment levels upon technology and it is consistent with the Act's ultimate goal to eliminate the discharge of pollutants. Further, in amending section 307(b)(1) to deal with the problem of redundant treatment, Congress established the principal of equity of requirements with direct dischargers and rejected the concept of only requiring pretreatment where ambient conditions require. Direct dischargers are subject to technology-based efflu-

ent limitations, except where water quality conditions require more stringent treatment.

A number of State and local governments were concerned that the proposed criteria and procedures for modifying national pretreatment standards to account for POTW removals was too complex and burdensome. Particular concern was expressed with the requirements for documenting POTW removal efficiencies. The EPA concurs with this assessment and has redrafted the regulatory language and procedures to make them simpler wherever possible. In particular, the requirements for documenting POTW removal of a pollutant have been made less costly and burdensome and more representative of actual operating conditions (See 40 CFR 403.7(c)). In addition, the procedures for obtaining approval of POTW removal efficiencies have been simplified by enabling POTW's to receive one authorization to modify categorical standards for all pollutants removed by the POTW; then, as national pretreatment standards are promulgated, POTW's can modify the standards where they have previously obtained pollutant-specific authorization, based on removal efficiencies.

A number of commenters stressed the need to define the level of POTW removal which is deemed "consistent" and used in the EPA's formula for modifying national pretreatment standards. In amending section 307(b)(1) of the Clean Water Act, the Congress established achievement of at least the level of treatment which would be required if the industrial source were a direct discharger as a criterion. Since direct dischargers are required to comply with their effluent limitations at all times, the EPA believes that the pollutant removal claimed by a POTW should be that removal which occurs virtually all of the time. As used in the regulation (§ 403.7), "consistent" removal is the removal capability that a POTW achieves in 95 percent of the representative samples taken.

2. Conflicts with Existing Local and State Pretreatment Programs. A number of commenters were concerned that a National Pretreatment Strategy should build upon and reinforce prior local and State efforts at source control and minimize disruption of on-going pretreatment programs. EPA shares this objective and believes that to the degree permitted by the Clean Water Act, support and expansion of existing State and local programs is critical to the success of the national pretreatment program.

The National Pretreatment Strategy has been developed to minimize conflicts with existing programs wherever possible. Federal standard-setting will give priority to the control of toxic

pollutants. Since the vast majority of existing local programs are focused upon the discharge of non-toxics and/or a very limited number of toxic pollutants which may interfere with or upset the operation of the treatment works, in most cases Federal standards should supplement rather than replace the existing State or local standards.

A small number of POTW's have developed pretreatment programs to control the pass-through of some heavy metals and a few other toxic pollutants. These pass-through standards have been based on water quality standards in the receiving waters. In a review of five such local pretreatment programs, the EPA found in four of the five that the pass-through standards for toxic pollutants would require dischargers to install the same levels of treatment technology as national technology-based standards. Where existing State or local standards regulate a toxic pollutant which will also be covered by a national standard, § 403.4 of these regulations provides that the national standard will not affect any State or local requirement which is of equal or greater stringency.

There will, of course, be some cases where a national pretreatment standard requires a more stringent level of control technology than an existing State or local standard for the same pollutant. A similar situation confronts may direct industrial dischargers and, in both instances, the installation of more stringent technology will be necessary to comply with the national standards. The Act does not provide for less stringent standards or longer compliance times in such instances. As discussed in Part A. Basis for Pretreatment Standards, EPA believes that technology-based standards are appropriate for toxic industrial pollutants, many of which are conservative in nature, do not degrade in receiving waters, concentrate in bottom sediments and by virtue of their persistence and bioaccumulation, can concentrate downstream in food chains.

In developing the National Pretreatment Strategy, consideration was also given to minimizing potential procedural conflicts. For example, a few States have statewide enforcement programs for pretreatment. NPDES States may assume primary responsibility for enforcing pretreatment standards rather than developing local pretreatment programs. In addition, the requirements for an approved local pretreatment program in the 40 CFR Part 403 regulations are stated in terms of specific performance criteria; the manner in which the criteria are met may vary from locality to locality.

3. Standards Expressed in Terms of Mass Versus Concentration. This issue concerns whether the discharge limits

in national pretreatment standards should be expressed in terms of mass per unit of production or in terms of uniform concentration limits. Commenters supporting standards expressed in terms of mass emphasize that such standards:

- (i) Encourage water conservation,
- (ii) Require only one sampling point in multi-process industrial facilities; and
- (iii) Minimize the discharge of bioaccumulative and persistent toxics whereas concentration limits may in some cases only avoid acute toxicity problems, and
- (iv) Avoid problems of industrial compliance by dilution. Advocates of mass-based standards also expressed concern that concentration-based standards could penalize industries who conserve water.

Supporters of pretreatment standards expressed as concentration limits emphasized that such standards:

- (i) Are far more easily monitored and enforced by POTW's since only a grab sample of the industrial effluent is needed, and
- (ii) Are least disruptive of progress underway in existing pretreatment programs, almost all of which use concentration limits.

A number of commenters emphasized that mass-based standards require (a) accurate production data which is quickly obtainable, (b) accurate daily flow data, (c) that a direct correlation between production and pollutant loading has been established, and (d) a quick, relatively straightforward means of computing this information. These commenters stressed that these conditions could not be met in their community.

Several communities refuted concerns about dilution as a means of compliance by reporting declines in industrial water usage following enforcement of concentration-based pretreatment standards. They attributed declines in water usage to greater industrial reuse and recycle, high water and sewer rates which were increased by local surcharges based on pretreatment standards, on-site inspections to enforce local dilution prohibitions, and local review of plans and specifications for pretreatment facilities. In addition, several communities emphasized that the reductions in concentration of pollutants discharged required by national standards were greatly in excess of what could economically be achieved by dilution.

Some commenters argued that pretreatment standards should be expressed as mass per unit of production since the EPA had no reason to treat industries using a POTW different from those discharging directly. Direct dischargers are subject to effluent limitations which are included in each source's NPDES permit and are de-

rived from mass-based effluent guidelines developed under section 304 of the Clean Water Act. The NPDES permits are written in terms of pounds-per-day based on a negotiated value for industrial production. In contrast, section 307 pretreatment requirements must be expressed as standards rather than guidelines. Neither the EPA nor an NPDES State is authorized by the Act to issue a permit to an industrial user of a POTW. Thus, in order to enforce mass-based pretreatment standards without a permit, flow, concentration, and production would have to be determined simultaneously since production would not be a fixed negotiated figure. EPA and NPDES State resources are not sufficient to implement such a system within the statutory compliance period.

The EPA has decided to state pretreatment standards in terms of concentration (mg/l) and wherever possible to provide an equivalent mass per unit of production which, at the discretion of State and local authorities, could be used in lieu of the concentration limits, especially in water short areas or for an industry that has conserved water. In considering periodic revisions to pretreatment standards as required by the Act, the EPA will evaluate State and local experience with concentration-based standards. If it is determined that nationally there are significant problems with compliance by dilution or that water conservers are being penalized, the EPA will require mass-based standards for that industrial sub-category in subsequent revisions of a pretreatment standard. If upon reissuance of a POTW's permit, compliance by dilution is found to be a problem in that POTW's pretreatment program, local use of

mass-based standards may be required for that POTW. In addition to enabling local authorities to choose to enforce standards expressed as concentrations or mass or both, the strategy has been altered to deal with several public concerns expressed about concentration standards. To minimize dilution, industries will be required to monitor compliance at the individual process unit and to continuously monitor wastewater flow. This is equivalent to the monitoring required of direct dischargers. To enable a multi-process facility to comply with pretreatment standards in the most cost-effective manner and to encourage innovative technology while minimizing compliance by dilution, provision has been made for computing a concentration limit for combined waste streams of several processes which is equivalent to the concentration standards that would apply at the individual process unit of that source. These provisions are discussed in detail in Appendix A in subsection (B)(2)(e), National Pretreatment Strategy.

VI. SUMMARY OF ECONOMIC IMPACTS

The cost of implementing 40 CFR Part 403 will be distributed among POTWs, NPDES States, and industrial users of POTWs. Only POTWs with a design flow of greater than 5 mgd will be required to develop pretreatment programs. Approximately 568 POTWs will be required to develop pretreatment programs. The regulation will affect approximately 40,000 industrial users of POTWs. Thirty NPDES States and Territories will be required to administer State pretreatment programs. The total costs borne by each of these three sectors over the next 5 years is estimated to be as follows:

ANNUAL COSTS
[In thousands of dollars]

	1979	1980	1981	1982	1983
Municipal costs.....	231	842	5,566	9,371	17,043
NPDES State costs.....	13,434	13,662	11,829	9,092	3,213
Industry costs.....	2,196	3,686	5,790	4,208	0
Total.....	15,861	18,190	23,205	23,631	20,256

Costs for each POTW, NPDES State and industrial discharger are estimated to be as follows:

	1979	1980	1981	1982	1983
Municipal costs (dollars per POTW).....	1,737	2,913	9,835	16,498	48,020
NPDES State costs (dollars per State).....	447,800	455,400	394,300	332,067	107,100
Industry costs (dollars per discharger).....	460	460	460	460	0

The decreasing NPDES State costs and increasing POTW costs represent the effect of shifting the burden of the pretreatment program from the States to the municipalities as POTW pretreatment programs become operational.

A. MUNICIPAL COSTS

Only POTWs with design flows of more than 5 million gallons of water per day will be required to develop pretreatment programs. These POTWs will incur costs to develop the pretreatment programs, to operate the

programs, and, in some cases, to apply for and maintain authorization to modify categorical pretreatment standards for pollutants removed by the POTW.

Federal funds are available under the authority of sections 201 and 208 of the Clean Water Act to cover 75 percent of the costs of developing POTW pretreatment programs, and the costs here are net of this funding.

Application for authority to modify categorical pretreatment standards for pollutants removed by POTW's is discretionary with each POTW. About 360 POTW's are expected to apply for such authorization, at a cost of about \$29,000 per POTW request.

Because of industrial pretreatment, municipal sludge quality may be improved significantly. The improvement will enable POTW's to land spread sludge that had previously been incinerated or disposed of in land fills. This could result in savings of about \$35 per metric ton of sludge. The costs to municipalities shown here are net of the estimated benefits realized by some POTW's who are able to shift from sludge disposal to beneficial use of sludge. In addition, industrial pretreatment may enable some POTW's to continue less costly sludge management practices in compliance with more stringent environmental protection as municipal sludge disposal and use are regulated by more stringent environmental standards under section 405 of the Clean Water Act and the hazardous and non-hazardous provisions of the Solid Waste Disposal Act. These benefits are not included in the costs shown.

The regulation requires municipalities to develop adequate sources of revenue for the implementation of their pretreatment programs. In practice, this means that local costs will be distributed among users of the systems. If user charges are employed, both domestic and non-domestic users will support POTW costs. If industrial cost recovery or metered surcharges are employed, all municipal costs of pretreatment programs will be distributed among industrial users, at an average of about \$401 per discharger by 1983.

In 1983 municipal costs are highest. Average costs for POTW's sized 16-33 mgd (22.28 mgd, mean) in 1983 is \$42,475 (average size of 568 POTW's is 28.78 mgd). These costs may be compared with annual POTW operating costs, described in the "Areawide Assessment Procedures Manual, Appendix H, Point Source Control Alternatives." For activated sludge treatment systems, the manual gives total annual costs of \$2,172,000 for a system with a flow of 20 mgd. These are the only cost figures readily available for POTW's in the size ranges under consideration, but they show that for comparable POTW's the costs of this regulation is less than 2 percent of

current costs (for this discussion, savings from improved sludge quality were not considered; for many POTW's, 2 percent will be a great over-estimate of net incremental costs).

B. NPDES STATE COSTS

The largest burden on the NPDES States and Territories is the assumption of pretreatment program responsibilities in those POTW's that do not develop local pretreatment programs. This cost declines as the number of local programs increases, but EPA estimates that about 1,900 POTW's sized 5 mgd or less receive industrial effluent. If the smaller POTW's do not develop their own programs, then pretreatment program responsibilities in these municipalities will continue to be performed by the NPDES States (and EPA).

Federal funds are available, in the form of grants under sections 106, 205, and 208 of the Clean Water Act, to subsidize some of the expenses incurred by the NPDES States in developing and implementing State pretreatment programs.

The only costs shown by the analysis for 1978 is the cost of State enabling legislation and program development. This is not shown in the summary tables, but comes to about \$54,000, or about \$1,800 per State.

C. INDUSTRY COSTS

Costs to industry as a direct result of this regulation are expected to be small. The regulation does require that dischargers monitor their own effluent at the time of promulgation of pretreatment standards applicable to them. Dischargers must also sample and analyze their effluent twice a year after the deadlines for compliance

with standards have been passed. However, in advance of promulgating specific standards it is impossible to determine the exact number of industrial users affected, the date compliance will be required, or the number of pollutants covered for each industrial user. The reporting and monitoring costs required by this regulation are attributable to the pretreatment standards themselves and will be assessed for impact as those regulations are developed. Preliminary estimates prepared in developing the national pretreatment strategy indicate that when all 21 industrial categories have standards, the average annual costs per industrial user in 1983 may be approximately \$2,900 and the total industry costs in 1983 may be \$116,800,000; these costs include sampling, monitoring and reporting. The costs of actually meeting a pretreatment standard and the costs of any fundamentally different factor variances that may be sought in connection with that standard, will be assessed as each pretreatment standard is developed.

In addition to the costs shown, increases in industrial surcharges might raise the cost of this regulation to the average discharger by about \$400 in each year after 1981. Based on currently available information it is not possible to determine the distribution across dischargers of this average added cost. If flow is proportional to the charge, it may be safe to presume that smaller, more vulnerable concerns will experience rate increases well below \$400.

The costs shown are exclusive of the economic benefits to industrial users of modifications to categorical pretreatment standards for pollutants removed by the POTW.

ANNUALIZED COSTS OF PRETREATMENT PROGRAM ACTIVITIES

(In thousands of dollars)

	1979	1980	1981	1982	1983
A. Municipal costs					
Local program development.....	231	427	633	833	839
Local program operation.....	0	0	4,955	7,659	16,600
Removal credit applications.....	0	415	634	1,659	1,650
Removal credit maintenance.....	0	0	1,275	2,543	5,029
Total	231	842	7,543	12,751	24,168
Municipal benefits.....	0	0	1,957	3,300	7,125
Net municipal costs	231	842	5,586	9,371	17,043
B. NPDES State costs					
State program development.....	63	63	63	63	63
Local program development.....	44	114	252	252	252
Local program operation.....	13,327	13,327	11,246	9,631	2,636
Removal credit applications.....	0	153	225	451	0
Removal credit maintenance.....	0	0	43	95	212
Total NPDES State costs	13,434	13,557	11,829	9,962	3,213
C. Industry costs					
Reporting costs.....	2,106	3,606	5,790	4,293	0
Total industry costs	2,106	3,606	5,790	4,293	0
Total	15,661	18,100	23,205	23,631	20,256

NOTE.—The EPA has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Analysis Statement under Executive Order 11821 and OMB Circular A-107.

Dated: June 12, 1978.

DOUGLAS M. COSTLE.
Administrator.

Title 40 of the Code of Federal Regulations is revised by deleting Part 128 and by adding a new Part 403 to read as follows:

**PART 128—PRETREATMENT
STANDARDS [DELETED]**

**PART 403—GENERAL PRETREATMENT
REGULATIONS FOR EXISTING AND
NEW SOURCES OF POLLUTION**

Sec.

- 403.1 Purpose and applicability.
403.2 Objectives of General Pretreatment Regulation.
403.3 Definitions.
403.4 State or local law.
403.5 National Pretreatment Standards: Prohibited discharges.
403.6 National Pretreatment Standards: Categorical Standards.
403.7 Revision of categorical Pretreatment Standards to reflect POTW Removal of pollutants.
403.8 POTW Pretreatment Programs: Development by POTW.
403.9 POTW Pretreatment Programs and/or authorization to revise Pretreatment Standards: Submission for approval.
403.10 Development and Submission of NPDES State Pretreatment Programs.
403.11 Approval procedures for State and POTW Pretreatment Programs. POTW revisions of categorical Pretreatment Standards.
403.12 Reporting requirements for POTW's and Industrial Users.
403.13 Variances from categorical Pretreatment Standards for fundamentally different factors.
403.14 Public access to information.
Appendix A—National Pretreatment Strategy.
Appendix B—65 Toxic Pollutants.
Appendix C—Subcategories of 21 Industries.

§ 403.1 Purpose and applicability.

(a) This part implements sections 204(b)(1)(C), 208(b)(2)(C)(iii), 301(b)(1)(A)(ii), 301(b)(2)(A)(ii), 301(h)(5) and 301(i)(2), 304 (e) and (g), 307(b), 307(c), and 307(d), 308, 309, 402(b), 405, and 501(a) of the Federal Water Pollution Control Act as amended by the Clean Water Act of 1977 (Pub. L. 95-217) or "The Act." It establishes re-

sponsibilities of Federal, State, and local government, industry and the public to implement National Pretreatment Standards to control pollutants which pass through or interfere with treatment processes in Publicly Owned Treatment Works (POTWs) or which may contaminate sewage sludge.

(b) This regulation applies: (1) to nondomestic pollutants covered by section 307 (b) and (c) Pretreatment Standards discharged into or transported by truck or rail or otherwise introduced into POTWs as defined below in § 403.3; (2) to POTWs which receive wastewater from sources subject to National Pretreatment Standards established pursuant to sections 307 (b) and (c) of the Act; (3) States which have National Pollutant Discharge Elimination System (NPDES) programs approved in accordance with section 402 of the Act; and (4) to any new or existing source subject to section 307 (b) and (c) Pretreatment Standards. National Pretreatment Standards apply to new and existing sources of nondomestic pollutants who discharge to POTWs whose NPDES permit requires compliance with secondary treatment (section 301(b)(2)(B) and (C) of the Act) or best practicable waste treatment technology (section 301(b)(2)(B) of the Act). National Pretreatment Standards do not apply to sources who discharge to a sewer which is not connected to a public facility which provides treatment before discharge to receiving waters or to "discharge of pollutants" as defined in regulations issued pursuant to section 402 of the Act. (Comment: These sources are subject to effluent guidelines promulgated under section 301(b) of the Act.)

In those States which have approved NPDES programs, the appropriate State water pollution control agency will have primary responsibility: (a) for enforcing against discharges prohibited by § 403.5; (b) for applying and enforcing any National Pretreatment Standards established by the Environmental Protection Agency (EPA) in accordance with section 307 (b) and (c) of the Act; (c) for reviewing, approving, and overseeing POTW Pretreatment Programs to enforce National Pretreatment Standards in accordance with the procedures discussed in § 403.11; (d) for requiring a POTW Pretreatment Program in NPDES Permits issued to POTWs as required in

§ 403.8 and as provided in section 402(b)(8) of the Act; (e) for reviewing and approving modification of categorical Pretreatment Standards to reflect removal of pollutants by a POTW and for enforcing related conditions in the municipal NPDES Permit.

§ 403.2 Objectives of General Pretreatment Regulation.

By establishing the responsibilities of government and industry to implement National Pretreatment Standards this regulation fulfills three objectives: (a) to prevent the introduction of pollutants into POTWs which will interfere with the operation of a POTW, including interference with its use or disposal of municipal sludge; (b) to prevent the introduction of pollutants into POTWs which will pass through the treatment works or otherwise be incompatible with such works; and (c) to improve opportunities to recycle and reclaim municipal and industrial wastewaters and sludges.

§ 403.3 Definitions.

For the purpose of this regulation:

(a) Except as discussed below, the general definitions, abbreviations, and methods of analysis set forth in 40 CFR Part 401 shall apply to this regulation.

(b) The term "Act" means Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. 1251, et seq.

(c) The term "Approval Authority" means the Director in an NPDES State with an approved State pretreatment program and the Administrator of the EPA in a non-NPDES State or NPDES State without an approved State pretreatment program.

(d) The term "Approved POTW Pretreatment Program" or "Program" or "POTW Pretreatment Program" means a program administered by a POTW that meets the criteria established in this regulation (§§ 403.8 and 403.9) and which has been approved by a Regional Administrator or State Director in accordance with § 403.11 of this regulation.

(e) The term "Director" means the chief administrative officer of a State or Interstate water pollution control agency with an NPDES permit program approved pursuant to section 402(b) of the Act and an approved State pretreatment program.

(f) The term "Indirect Discharge" means the discharge or the introduction of nondomestic pollutants from

any source regulated under section 307 (b) or (c) of the Act, into a POTW.

(g) The term "Industrial User" means a source of Indirect Discharge which does not constitute a "discharge of pollutants" under regulations issued pursuant to section 402 of the Act.

(h) The term "Interference" means inhibition or disruption of a POTW's sewer system, treatment processes or operations which contributes to a violation of any requirement of its NPDES Permit. The term includes prevention of sewage sludge use or disposal by the POTW in accordance with section 405 of the Act, or any criteria guidelines or regulations developed pursuant to the Solid Waste Disposal Act (SWDA), the Clean Air Act, the Toxic Substances Control Act, or more stringent State criteria (including those contained in any State sludge management plan prepared pursuant to Title IV of SWDA) applicable to the method of disposal or use employed by the POTW.

(i) The term "National Pretreatment Standard" or "Pretreatment Standard" means any regulation containing pollutant discharge limits promulgated by the EPA in accordance with section 307 (b) and (c) of the Act, which applies to Industrial Users.

(j) The term "New Source" means any source, the construction of which is commenced after the publication of proposed regulations prescribing a section 307(c) categorical Pretreatment Standard which will be applicable to such source, if such Standard is thereafter promulgated within 120 days of proposal in the FEDERAL REGISTER. Where the Standard is promulgated later than 120 days after proposal, a New Source means any source, the construction of which is commenced after the date of promulgation of the Standard.

(k) The terms "NPDES Permit" or "Permit" means a permit issued to a POTW pursuant to section 402 of the Act.

(l) The term "NPDES State" means a State or Interstate water pollution control agency with an NPDES permit program approved pursuant to section 402(b) of the Act.

(m) The term "Publicly Owned Treatment Works" or "POTW" means a treatment works as defined by section 212 of the Act, which is owned by a State or municipality (as defined by section 502(4) of the Act). This definition includes any sewers that convey wastewater to such a treatment works, but does not include pipes, sewers or other conveyances not connected to a facility providing treatment. The term also means the municipality as defined in section 502(4) of the Act, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

(n) The term "Pretreatment" means the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. The reduction or alteration can be obtained by physical, chemical or biological processes, process changes or by other means, except as prohibited by §403.6(d).

(o) The term "Pretreatment Requirements" means any substantive or procedural requirement related to Pretreatment, other than a National Pretreatment Standard, imposed on an Industrial User.

(p) The term "Regional Administrator" means the appropriate EPA Regional Administrator.

(q) The term "Submission" means (1) a request for approval of a Pretreatment Program by a POTW to the EPA or a State Director; (2) a request to the EPA or a State Director by a POTW for authority to revise the discharge limits in categorical Pretreatment Standards to reflect POTW pollutant removals; or (3) a request to the EPA by an NPDES State for approval of its State pretreatment program.

§ 403.4 State or local law.

Nothing in this regulation is intended to affect any Pretreatment Requirements, including any standards or prohibitions, established by State or local law as long as the State or local requirements are not less stringent than any set forth in National Pretreatment Standards, or any other requirements or prohibitions established under the Act or this regulation. States with an NPDES permit program approved in accordance with section 402 (b) and (c) of the Act, or States requesting NPDES programs, are responsible for developing a State pretreatment program in accordance with §§ 403.10 and 403.11 of this regulation.

§ 403.5 National Pretreatment Standards: Prohibited Discharges.

(a) Pollutants introduced into POTW's by any source of a nondomestic discharge shall not inhibit or interfere with the operation or performance of the works. These general prohibitions apply to all such users of a POTW whether or not the user is subject to other National Pretreatment Standards or any National, State, or local Pretreatment Requirements.

(b) The following pollutants may not be introduced into a POTW:

(1) Pollutants which create a fire or explosion hazard in the POTW;

(2) Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works is

specifically designed to accommodate such discharges;

(3) Solid or viscous pollutants in amounts which will cause obstruction to the flow in sewers, or other Interference with the operation of the POTW;

(4) Any pollutant, including oxygen demanding pollutants (BOD, etc.), released in a discharge of such volume or strength as to cause Interference in the POTW.

(5) Heat in amounts which will inhibit biological activity in the POTW resulting in Interference but in no case heat in such quantities that the temperature at the treatment works influent exceeds 40° C (104° F) unless the works is designed to accommodate such heat.

(c) POTW's developing POTW Pretreatment Programs pursuant to §403.8 shall be required to develop and enforce specific limits for discharges of the pollutants listed in §403.5(b)(1)-(5). In addition, any POTW in violation of an NPDES Permit requirement as a result of Interference by a pollutant listed in §403.5(b)(1)-(5) shall be required by the EPA or NPDES state to develop and enforce such specific limits.

(d) Where specific prohibitions or limits on the pollutants or pollutant parameters listed in §403.5(b)(1)-(5) are developed by a POTW, either as a requirement of an Approved POTW Pretreatment Program pursuant to §403.8 or an NPDES Permit, such limits shall be incorporated in the NPDES Permit issued to the POTW and shall replace and be enforceable in lieu of the general prohibitions set forth in this section.

(e) Compliance with the provisions of this section is required beginning on the effective date of this regulation, except for paragraph (b)(5) of this section which must be complied with within 3 years of the effective date of this regulation.

§ 403.6 National Pretreatment Standards: Categorical Standards.

(a) National Pretreatment Standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged or introduced to a POTW by existing or new Industrial Users in specific industrial subcategories will be established as separate regulations under the appropriate subpart of 40 CFR Chapter I, Subchapter N. These Standards, unless specifically noted otherwise, shall be in addition to the general prohibitions established in §403.5 of this regulation.

(1) Within 30 days after the effective date of a Pretreatment Standard for a subcategory under which an Industrial User believes itself to be included, the Industrial User may request that the EPA Regional Enforcement Division

Director or Director, as appropriate, provide written certification to the effect that the Industrial User does or does not fall within that particular subcategory.

(2) Each request shall contain a statement:

(i) Describing which subcategories might be applicable;

(ii) Citing evidence and reasons why a particular subcategory is applicable and why others are not applicable. Each such statement shall contain an oath stating that the facts contained therein are true on the basis of the applicant's personal knowledge or to the best of his information and belief. The oath shall be attested to by a notary public.

(3) *Deficient Requests.* The Enforcement Division Director or Director will only act on written requests for determinations that contain all of the information required. Persons who have made incomplete Submissions will be notified by the Enforcement Division Director or Director that their requests are deficient and unless the time period is extended, will be given 30 days to correct the deficiency. If the deficiency is not corrected within 30 days or within an extended period allowed by the Enforcement Division Director or the Director, the request for a determination shall be denied.

(4) *Final Decision.* (i) When the Enforcement Division Director or Director receives a submittal from a Requester he will, after determining that it contains all of the information required by subparagraph (2) of this paragraph, consider the submission, any additional evidence that may have been requested, and any other available information relevant to the request. The Enforcement Division Director or Director will then make a written determination of the applicable subcategory and state the reasons for his determination.

(ii) Where the request is submitted to the Director, the Director shall forward the finding described in this paragraph to the Enforcement Division Director who may make a final determination. If the Enforcement Division Director does not modify the Director's decision within 60 days after receipt thereof, the Director's decision is final.

(iii) Where the request is submitted to the Enforcement Division Director or where the Enforcement Division Director elects to modify the Director's decision, the Enforcement Division Director's decision will be final.

(iv) The Enforcement Division Director or Director, as appropriate, shall send a copy of his determination to the requestor. Where the final determination is made by the Enforcement Division Director, he shall send a copy of his determination to the Director.

(5) *Requests for hearing and/or legal decision.* Within 30 days following the date of receipt of notice of the Enforcement Division Director's decision disapproving the Requester's choice of subcategory, the Requester may submit a petition to the Regional Administrator for a hearing and/or legal opinion to reconsider or contest the decision. If the Regional Administrator declines to issue a legal opinion or to hold a hearing or affirms the Enforcement Division Director's decision, the Requester may submit a petition for a hearing and/or legal decision to the Administrator within 30 days following the date of receipt of notice of the Regional Administrator's decision.

(6) If an Industrial User fails either to seek the certification referred to in subparagraph (1) of this paragraph within the prescribed 30-day period, or to contest a negative determination through the administrative channels provided, an Industrial User will be bound by any subsequent determination made by EPA or the Director as to the subcategory under which an Industrial User should be included.

(b) Compliance by existing sources with categorical Pretreatment Standards shall be within 3 years of the date the Standard is promulgated unless a shorter compliance time is specified in the appropriate subpart of 40 CFR Chapter I, Subchapter N. Direct dischargers with NPDES permits modified or reissued to provide a variance pursuant to section 301(i)(2) and 40 CFR Parts 124, 125 shall be required to meet compliance dates set forth in any applicable categorical Pretreatment Standard. Existing sources which become Industrial Users subsequent to promulgation of an applicable categorical Pretreatment Standard shall be considered existing Industrial Users except where such source meets the definition of a New Source as defined under §403.3(j). Compliance with categorical Pretreatment Standards for New Sources will be required upon promulgation.

(c) Pollutant discharge limits in categorical Pretreatment Standards will normally be expressed as concentration limits. Wherever possible, equivalent mass limits will be provided so that local, State or Federal authorities responsible for enforcement may use either concentration or mass limits. Concentration limits in categorical Pretreatment Standards shall apply to the effluent of the process regulated by the Standard, or as otherwise specified by the Standard.

(d) Except where expressly authorized to do so by an applicable categorical Pretreatment Standard, no Industrial User shall ever increase the use of process-water or, in any other way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance

with a categorical Pretreatment Standard.

§403.7 Revision of categorical pretreatment standards to reflect POTW removal of pollutants.

This subpart provides the criteria and procedures to be used by a POTW in revising the pollutant discharge limits specified in categorical Pretreatment Standards to reflect Removal of pollutants by the POTW.

(a) *Definition.* For the purposes of this section:

(1) "Consistent POTW Removal" or "Pollutant Removal" or "Removal" shall mean reduction in the amount of a pollutant or alteration of the nature of a pollutant in the influent to a POTW to a less toxic or harmless state in the effluent which is achieved by that POTW in 95 percent of the samples taken when measured according to the procedures set forth in §403.7(c)(2). The reduction or alteration can be obtained by physical, chemical or biological means and may be the result of specifically designed POTW capabilities or it may be incidental to the operation of the treatment system. Removal as used in this subpart shall not mean dilution of a pollutant in the POTW or its sewer system. The inability of monitoring equipment to detect pollutants in the influent to the POTW shall not by itself, constitute Removal, except where the pollutant is shown by the POTW to be degradable during the time it is in the POTW or its sewer system.

(b) *Revision of categorical Pretreatment Standards to reflect POTW Pollutant Removal.* Any POTW receiving wastes from an Industrial User to which a section 307 (b) or (c) categorical Pretreatment Standard applies may, subject to the conditions of this section, revise the discharge limits for a specific pollutant(s) covered in the categorical Pretreatment Standard, applicable to that user, based upon the POTW's demonstrated capability to remove that (those) pollutant(s). Revision of pollutant discharge limits in categorical Pretreatment Standards by a POTW may be made provided that:

(1) The POTW applies for, and receives, authorization from the Regional Administrator and/or Director to revise the discharge limits in Pretreatment Standards, for specific pollutants, in accordance with the requirements and procedures set out in this section and §§ 403.9 and 403.11;

(2) The POTW has a Pretreatment Program approved in accordance with §403.8, §403.9 and §403.11;

(3) The POTW provides Consistent removal of each pollutant for which the discharge limit in a categorical Standard is to be revised, at a level which justifies the amount of revision to the discharge limit. POTWs with

combined sewers or systems which at least once annually, bypass untreated wastewater to receiving waters may claim Consistent Removal of a pollutant only where efforts to correct the conditions resulting in untreated discharges by the POTW are underway in accordance with the policy and procedures set forth in "PRM 75-34" or "Program Guidance Memorandum-61" published on December 16, 1975 by EPA's Office of Water Program Operations (WH-546). Revisions to discharge limits in categorical Pretreatment Standards may not be made where efforts have not been committed to by the POTW to minimize pollution from bypasses. At a minimum, the POTW must have an approved facility plan which includes treatment and control of bypasses and be implementing the plan or have an application submitted for a Step 2 construction grant to implement the facility plan. Authorization will not be granted where efforts are not being made to minimize pollution from bypasses.

(4) The POTW's sludge use or disposal practices are currently, and after any revisions are made to the discharge limits in National Pretreatment Standards will remain, in compliance with sludge use or disposal criteria, guidelines, or regulations developed under section 405 of the Act; any criteria, guidelines, or regulations affecting sludge use or disposal developed pursuant to the Solid Waste Disposal Act (SWDA), the Clean Air Act, the Toxic Substances Control Act; or more stringent State criteria (including those contained in any State sludge management plan prepared pursuant to Subtitle D of SWDA) applicable to the sludge management method being used.

(c) *POTW application for authorization to revise discharge limits.* Application for authorization to revise discharge limits for Users who are or may in the future be subject to categorical Pretreatment Standards will be included with a POTW's Pretreatment Program Submission pursuant to § 403.8, § 403.9 and § 403.11 of this regulation. Subsequent applications for authorizations covering additional pollutants will be processed only at the time of any NPDES Permit reissuance; therefore, POTW's should apply initially for authorization for any pollutant they remove and for which they may wish to modify an existing or prospective National Pretreatment Standard prior to the next scheduled Permit reissuance. Requests for authorization to revise discharge limits in categorical Pretreatment Standards must be supported by the following information:

(1) A list of pollutants for which discharge limit revisions are proposed.

(2) Influent and effluent operational data and any other information which demonstrates Consistent Removal of

the pollutants for which discharge limit revisions are proposed. This data shall meet the following requirements:

(i) The data shall be representative of yearly and seasonal conditions to which the POTW is subjected for each pollutant for which a discharge limit revision is proposed.

(ii) The data shall be representative of the quality and quantity of normal effluent and influent flow of the system.

(iii) The data shall be obtained through a composite sample taken on each of three consecutive days during each season. Each composite sample will contain a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period and proportional to the flow. More than the minimum number of discrete samples may be required by the Director and/or Regional Administrator where necessary to determine Consistent Removal.

(iv) Where a composite sample is not an appropriate sampling technique, a grab sample shall be taken. Grab samples will be required, for example, where the parameters being evaluated are those, such as cyanide and phenol, which may not be held for any extended period because of biological, chemical or physical interactions which take place after sample collection and affect the results. A grab sample is an individual sample collected over a period of time not exceeding 15 minutes.

The sampling referred to in paragraphs (c)(2) (i)-(iv) of this section and an analysis of these samples shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto, [Comment: Where 40 CFR Part 136 does not contain sampling or analytical techniques for the pollutant in question, sampling and analysis shall be performed in accordance with the procedures set forth in the EPA publication, Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants, April 1977 (available from Office of Water Planning and Standards, (WH-551), U.S. EPA, Washington, D.C. 20460) and any amendments to this publication or any other applicable sampling and analytical procedures approved by the Administrator.] All sampling and analysis of the specified pollutants must be submitted to the Approval Authority (EPA or NPDES State). Removal for a specific pollutant shall be determined for each sample by measuring the difference between the concentrations of the pollutant in the influent and effluent of the POTW and expressing that difference as a percent of the influent concentration.

(3) A list of the industrial subcategories for which discharge limits in categorical Pretreatment Standards would be revised, including the

number of Industrial Users in each such subcategory and an identification of which of the pollutants on the list prepared under paragraph (c)(1) of this section are discharged by each subcategory.

(4) Proposed revised discharge limits for each of the subcategories of Industrial Users identified in paragraph (c)(3) of this section calculated in the following manner:

(i) The proposed revised discharge limit for a specified pollutant shall be derived by use of the following formula:

$$Y = \frac{x}{1-r}$$

where:

x = pollutant discharge limit specified in the applicable categorical Pretreatment Standard (expressed in mg/l)

r = POTW's Consistent Removal rate for that pollutant as established under 403.7 (c)(2) (percentage expressed as a decimal)

Y = revised discharge limit for the specified pollutant (expressed in mg/l)

(ii) In calculating revised discharge limits, such revision for POTW Removal of a specified pollutant shall be applied equally to all existing and new Industrial Users in an industrial subcategory subject to 307 (b) or (c) categorical Pretreatment Standards and who discharge that pollutant to the POTW.

(5) Data showing the concentrations and amounts in the POTW's sludge of the pollutants for which discharge limit revisions are proposed and for which sludge disposal or use criteria applicable to the POTW's current method of sludge use or disposal have been published by EPA or a State. This data shall meet the following requirements:

(i) The data shall be obtained through a composite sample taken during each of the same three consecutive day periods selected to measure Consistent POTW Removals in accordance with the requirements of paragraph (c)(2)(iii) of this section. Each composite sample will contain a minimum of 12 discrete samples taken at equal time intervals over a 24 hour period. Where a composite sample is not an appropriate sampling technique, grab samples shall be taken.

(ii) Sampling and analysis of the samples referred to in paragraph (i) of this section shall be performed in accordance with the sampling and analytical techniques described previously in paragraph (c)(2)(iv) of this section.

(6) A specific description of the POTW's current methods of use or disposal of its sludge and data demonstrating that the current sludge use or disposal methods comply and will con-

tinue to comply with the requirements of § 403.7(b)(4).

(7) Certification that the Pollutant Removals and associated revised discharge limits have been or will be calculated in accordance with this regulation and any guidelines issued by EPA under section 304(g) of the Act.

(d) *Procedure for authorizing modification of Standards.* (1) Application for authorization to revise National Pretreatment Standards shall comply with § 403.9. Notice, public comment, and review by the Approval Authority shall comply with § 403.11.

(2) POTW's who have received a construction grant from funds authorized for any fiscal year beginning after September 30, 1978, will only be considered for authorization to modify National Standards after they have completed the analysis required by section 201(g)(5) of the Act and demonstrated that modification of the discharge limits in National Standards will not preclude the use of innovative or alternative technology.

(3) With respect to requests for authority to revise discharge limits submitted at the time of Permit reissuance after the POTW Pretreatment Program has been approved, the Regional Administrator shall review, issue notice of, and receive public comment on such applications in accordance with the procedures specified in § 403.9 and § 403.11.

(4) The Approval Authority shall, either at the time of POTW Pretreatment Program approval or at the time of any permit reissuance thereafter, authorize the POTW to revise Industrial User discharge limits as submitted pursuant to paragraph (c)(4) of this section which comply with the requirements of 403.7 (b) and (c).

(e) *Continuation and withdrawal of authorization.* (1) Following authorization to revise the discharge limits in National Pretreatment Standards, the POTW shall continue to monitor and report on (at such frequencies and over such intervals as may be specified by the Regional Administrator, but in no case less than two times per year) the POTW's Removal capabilities for all pollutants for which authority to revise the Standards was granted. Such monitoring and reporting shall be in accordance with § 403.12 paragraphs (g) and (i) of this regulation. Approval of authority to revise Pretreatment Standards will be re-examined whenever the municipal NPDES Permit is reissued, unless the Regional Administrator determines the need to re-evaluate the authority pursuant to § 403.7(e)(4). In addition where by-passes of untreated waste by the POTW continue to occur the Regional Administrator may condition continued authorization to revise discharge limits upon the POTW performing additional analysis and/or implementing

additional control measures as is consistent with EPA policy toward POTW bypass.

(2) Once authority to revise discharge limits for a specified pollutant is granted, the revised discharge limits for Industrial Users of the system as well as the Consistent Removal documented by the POTW for that pollutant and the other requirements of paragraph (b) of this section, shall be included in the POTW's NPDES Permit upon the earliest reissuance or modification (at or following Program approval) and shall become enforceable requirements of the POTW's NPDES Permit.

(3) Pursuant to written agreement similar to that provided in 40 CFR 124.23, the Regional Administrator may waive, in whole or in part, the right to review and object to Submissions for authority to revise discharge limits under this section.

(4) If, on the basis of pollutant Removal capability reports received pursuant to paragraph (f) of this section or other information available to it, the Approval Authority determines (i) that one or more of the discharge limit revisions made by the POTW or the works itself no longer meets the requirements of paragraph (b) of this section, or (ii) that such discharge limit revisions are causing or contributing to a violation of any conditions or limits contained in the POTW's NPDES Permit, the Approval Authority shall notify the POTW and, if appropriate corrective action is not taken within a reasonable time, not to exceed sixty days, withdraw authority to revise discharge limits. The Approval Authority shall not withdraw authorization unless it shall first have notified the POTW and all Industrial Users to whom revised discharge limits based on that authority have been applied, and made public, in writing, the reasons for such withdrawal. Following such notice and withdrawal of authority all Industrial Users to whom revised discharge limits based on the authorization had been applied, shall be subject to the discharge limits prescribed in the applicable categorical Pretreatment Standards and shall achieve compliance with such Standards within such time (not to exceed three years or such lesser period as may be prescribed in the applicable categorical Pretreatment Standard) as may be specified by the Approval Authority.

§ 403.8 POTW Pretreatment Programs: Development by POTW.

(a) *POTW's required to develop a Pretreatment Program.* Any POTW (or combination of POTW's operated by the same authority) with a total design flow greater than 5 million gallons per day (mgd) and receiving from Industrial Users pollutants which pass

through untreated or interfere with the operation of the POTW or are otherwise subject to section 307(b) or 307(c) standards will be required to establish a POTW Pretreatment Program. The Regional Administrator or State Director may require that a POTW with a design flow of 5 mgd or less develop a POTW Pretreatment Program if he finds that the nature or volume of the industrial influent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant in order to prevent interference with the POTW or pass through of untreated pollutants. In addition, any POTW desiring to modify national pretreatment standards for pollutants removed by the POTW (as provided for by § 403.7) must first have an approved POTW Pretreatment Program.

(b) A POTW which meets the criteria of paragraph (a) of this section must receive approval of a POTW Pretreatment Program no later than 3 years after the reissuance or modification of its existing NPDES permit but in no case later than July 1, 1983. POTW's whose NPDES permits are modified under section 301(h) of the Act shall have a Pretreatment Program within less than 3 years as provided for in 40 CFR Part 233. The POTW Pretreatment Program shall meet the criteria set forth in paragraph (f) of this section and will be administered by the POTW to ensure compliance by Industrial Users with applicable Pretreatment Standards and Requirements.

(c) A POTW may develop an approvable POTW Pretreatment Program anytime before the time limit set forth in paragraph (b) of this section. If (1) the POTW is located in a State which has an approved State permit program under section 402 of the Act and an approved State Pretreatment Program in accordance with § 403.11; or (2) the POTW is located in a State which does not have an approved permit program under section 402 of the Act; the POTW's NPDES Permit will be re-issued or modified by the NPDES State or EPA, respectively, to incorporate the approved Program conditions as enforceable conditions of the Permit (see § 403.11). If the POTW is located in an NPDES State which does not have an approved State Pretreatment Program, the approved POTW Pretreatment Program shall be incorporated into the POTW's NPDES Permit as provided for in § 403.10(d).

(d) If the POTW does not have an approved Pretreatment Program at the time the POTW's existing Permit is reissued or modified, the reissued or modified Permit will contain the shortest reasonable compliance schedule, not to exceed three years or July 1, 1983, whichever is sooner, for

the development of the legal authority, procedures and funding required by paragraph (f) of this section. Where the POTW is located in an NPDES State currently without authority to require a POTW Pretreatment Program, the Permit shall incorporate a modification or termination clause as provided for in § 403.10(d) and the compliance schedule shall be incorporated when the Permit is modified or reissued pursuant to such clause.

(e) Under the authority of section 402(b)(1)(C) of the Act, the Approval Authority may modify, or alternatively, revoke and reissue a POTW's Permit to put the POTW on a compliance schedule for development of a POTW Pretreatment Program where:

(1) The addition of pollutants into a POTW by an Industrial User or combination of Industrial Users presents a substantial hazard to the functioning of the treatment works, quality of the receiving waters, human health, or the environment; or

(2) The Permit must be reissued or modified to coordinate the issuance of a section 201 construction grant with the incorporation into a Permit of a compliance schedule for a POTW Pretreatment Program.

(3) A modification of the Permit is approved under sections 301(h) and 301(i) of the Act.

(f) *POTW Pretreatment Program Requirements.* A POTW Pretreatment Program shall meet the following requirements:

(1) *Legal Authority.* The POTW shall operate pursuant to legal authority, enforceable in Federal, State or local courts, which authorizes or enables the POTW to apply and to enforce the requirements of sections 307 (b) and (c), and 402(b)(3) of the Act and any regulations implementing those sections. Such authority may be contained in a statute, ordinance, or series of contracts or joint powers agreements which the POTW is authorized to enact, enter into or implement, and which are authorized by State law. At a minimum, this legal authority shall enable the POTW to:

(i) Deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the POTW by Industrial Users;

(ii) Require compliance with applicable Pretreatment Standards and Requirements by Industrial Users;

(iii) Control, through permit, contract, order, or similar means, the contribution to the POTW by each Industrial User to ensure compliance with applicable Pretreatment Standards and Requirements;

(iv) Require (A) the development of a compliance schedule by each Industrial User for the installation of technology required to meet applicable pretreatment standards and require-

ments and (B) the submission of all notices and self-monitoring reports from Industrial Users as are necessary to assess and assure compliance by Industrial Users with Pretreatment Standards and Requirements, including but not limited to the reports required in § 403.12;

(v) Carry out all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied by Industrial Users, compliance or noncompliance with applicable Pretreatment Standards and Requirements by Industrial Users. Representatives of the POTW shall be authorized to enter any premises of any Industrial User in which an effluent source or treatment system is located or in which records are required to be kept under § 403.12(m) to assure compliance with Pretreatment Standards. Such authority shall be at least as extensive as the authority provided under section 308 of the Act.

(vi) (A) Obtain remedies for noncompliance by any Industrial User with any Pretreatment Standard and Requirement. All POTW's shall be able to seek injunctive relief for noncompliance by Industrial Users with Pretreatment Standards and Requirements. In cases where State law has authorized the municipality or POTW to pass ordinances or other local legislation, the POTW shall exercise such authorities in passing legislation to seek and assess civil or criminal penalties for noncompliance by Industrial Users with Pretreatment Standards and Requirements. POTW's without such authorities shall enter into contracts with Industrial Users to assure compliance by Industrial Users with Pretreatment Standards and Requirements. An adequate contract will provide for liquidated damages for violation of pretreatment standards and requirements and will include an agreement by the Industrial User to submit to the remedy of specific performance for breach of contract.

(B) Pretreatment Requirements which will be enforced through the remedies set forth in subparagraph (A) will include but not be limited to, the duty to allow or carry out inspections, entry, or monitoring activities; any rules, regulations, or orders issued by the POTW; or any reporting requirements imposed by the POTW or these regulations. The POTW shall have authority and procedures to halt or eliminate immediately and effectively any actual or threatened discharge of pollutants to the POTW which presents or may present an imminent or substantial endangerment to the health or welfare of persons, to the environment, or causes interference with the operation of the POTW. The Approval Authority shall have authority to seek judicial relief for noncompliance by Industrial Users when

the POTW has acted to seek such relief but has sought a penalty which the Approval Authority finds to be insufficient.

(2) *Procedures.* The POTW shall have procedures to ensure compliance with the requirements of a Pretreatment Program. At a minimum, these procedures shall enable the POTW to:

(i) Identify and locate all possible Industrial Users which might be subject to the POTW Pretreatment Program. Any compilation, index or inventory of Industrial Users made under this paragraph shall be made available to the Regional Administrator or Director upon request.

(ii) Identify the character and volume of pollutants contributed to the POTW by the Industrial Users identified under § 403.8(f)(2)(i). This information shall be made available to the Regional Administrator or Director upon request.

(iii) Notify Industrial Users identified under § 403.8(f)(2)(i) of applicable Pretreatment Standards and any applicable requirements under section 204(b) and 405 of the Act and sections 3001, 3004, and 4004 of the Solid Waste Disposal Act.

(iv) Receive and analyze self-monitoring reports and other notices submitted by Industrial Users in accordance with the self-monitoring requirements in § 403.12.

(v) Randomly sample and analyze the effluent from Industrial Users and conduct surveillance and inspection activities in order to identify, independent of information supplied by Industrial Users, occasional and continuing noncompliance with Pretreatment Standards. The results of these activities shall be made available to the Regional Administrator or Director upon request.

(vi) Investigate instances of noncompliance with Pretreatment Standards and Requirements, as indicated in the reports and notices required under § 403.12, or indicated by analysis, inspection, and surveillance activities described in paragraph (f)(2)(v) of this section. Sample taking and analysis and the collection of other information shall be performed with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions;

(vii) Comply with the public participation requirements of section 101(e) of the Act and 40 CFR Part 105 in the enforcement of National Pretreatment Standards. These procedures shall include provision for at least annually providing public notification, in the largest daily newspaper published in the municipality in which the POTW is located, of Industrial Users which the POTW is located, of Industrial Users during the previous 12 months which at least once were not in compliance with the applicable Pretreatment

Standards or other pretreatment requirements. The notification shall summarize enforcement actions taken by the control authorities during the same 12 months.

(3) *Funding.* The POTW shall have sufficient resources and qualified personnel to carry out the authorities and procedures described in § 403.8(f) (1) and (2). In some limited circumstances, funding and personnel may be delayed where (i) the POTW has adequate legal authority and procedures to carry out the Pretreatment Program requirements described in § 403.8, and (ii) a limited aspect of the Program does not need to be implemented immediately (see § 403.9(b)).

§ 403.9 POTW Pretreatment Programs and/or Authorization to Revise Pretreatment Standards: Submission for Approval.

(a) A POTW requesting approval of a POTW Pretreatment Program shall develop a program description which includes the information set forth in subparagraphs (1)-(4) of this paragraph. If the POTW is located in a State which has not assumed NPDES authority, this description shall be submitted to the Regional Administrator. POTWs located in NPDES States shall submit this description to the Director. The Regional Administrator or Director, as appropriate, will make a determination on the request for program approval in accordance with the procedures described in § 403.11, except, where an NPDES State does not have an approved State pretreatment program, the director may deny, but not approve requests for POTW Pretreatment Program approval; in this case the Regional Administrator will make the final determination on whether to approve the program. The program description must contain the following information:

(1) A statement from the City Solicitor or a city official acting in a comparable capacity (or the attorney for those POTWs which have independent legal counsel) that the POTW has authority adequate to carry out the program described in § 403.8. This statement shall: (i) Identify the provision of the legal authority under § 403.8(f)(1) which provides the basis for each procedure under § 403.8(f)(2); (ii) identify the manner in which the POTW will implement the program requirements set forth in § 403.8, including the means by which Pretreatment Standards will be applied to individual Industrial Users (e.g., by order, permit, ordinance, contract, etc.); and, (iii) identify how the POTW intends to ensure compliance with Pretreatment Standards and Requirements, and to enforce them in the event of noncompliance by Industrial Users.

(2) A copy of any statutes, ordinances, regulations, contracts, agree-

ments, or other authorities relied upon by the POTW for its administration of the Program. This Submission shall include a statement reflecting the endorsement or approval of the local boards or bodies responsible for supervising and/or funding the POTW Pretreatment Program if approved.

(3) A brief description (including organization charts) of the POTW organization which will administer the Pretreatment Program. If more than one agency is responsible for administration of the Program the responsible agencies should be identified, their respective responsibilities delineated, and their procedures for coordination set forth;

(4) A description of the funding levels and full- and part-time manpower available to implement the Program;

(b) The POTW may request conditional approval of the Pretreatment Program pending the acquisition of funding and personnel for certain elements of the Program. The request for conditional approval must meet the requirements set forth in paragraph (a) of this section except that the submission shall demonstrate that:

(1) A limited aspect of the program does not need to be implemented immediately;

[Comment: For example, where a compliance monitoring program for a certain industrial category is not yet required because the Pretreatment Standard for that industrial category has not been promulgated and no other pretreatment requirements apply to that source.]

(2) The POTW had adequate legal authority and procedures to carry out those aspects of the program which will not be implemented immediately; and

(3) Funding and personnel for the program aspects to be implemented at a later date will be available when needed. The POTW will describe in the Submission the mechanism by which this funding will be acquired.

Upon receipt of a request for conditional approval, the Approval Authority will establish a fixed date for the acquisition of the needed funding and personnel. If funding is not acquired by this date, the conditional approval of the POTW Pretreatment Program, and any removal allowances granted to the POTW, may be withdrawn.

(c) The request for authority to revise Categorical Pretreatment Standards must contain the information required in § 403.7 (b) and (c).

(d) Prior to forwarding the Submission to the Approval Authority, the POTW shall provide for informal consultation on the Submission with interested as well as affected members of the public. This consultation may take the form of task forces, public meetings, advisory groups, workshops,

or conferences. A copy of the draft Submission should be available to the public 30 days before it is submitted to the Approval Authority, together with a fact sheet distributed to the public which adequately describes, in layman's language, the POTW Pretreatment Program and its significance and/or the basis for requesting authority to modify categorical Pretreatment Standards for pollutants removed by the POTW. The Submission to the Regional Administrator or the State Director shall include a summary of these public participation efforts; major public comments received, including comments received in conjunction with adopting any statute, ordinance, contract, agreement or other authority for enforcing pretreatment standards; and the manner in which major issues identified by the public have been resolved.

(e) Any POTW requesting POTW pretreatment program approval shall submit to the Approval Authority three copies of the Submission described in paragraphs (a), (b), and/or (c) of this section. Upon a preliminary determination that the Submission meets the requirements of paragraphs (a), (b), (d), and/or (c) of this section, the Approval Authority shall:

(1) Notify the POTW that the Submission has been received and is under review; and

(2) Commence the public notice and evaluation activities set forth in § 403.11.

(f) If, after review of the Submission as provided for in paragraph (e) of this section, the Approval Authority determines that the Submission does not comply with the requirements of paragraphs (a), (b), (d), and/or (c) of this section, the Approval Authority shall so notify the applying POTW in writing. This notification shall identify any defects in the Submission and advise the POTW of the means by which it can comply with the requirements of paragraphs (a), (b), (d), and/or (c) of this section.

(1) In order to be approved the POTW Pretreatment Program shall be consistent with any approved water quality management plan developed in accordance with 40 CFR Parts 130, 131, as revised, where such 208 plan includes Management Agency designations and addresses pretreatment in a manner consistent with 40 CFR Part 403. In order to assure such consistency the Approval Authority shall solicit the review and comment of the appropriate 208 Planning Agency during the public comment period provided for in § 403.11(b)(1)(ii) prior to approval or disapproval of the Program.

(2) Where no 208 plan has been approved or where a plan has been approved but lacks Management Agency designations and/or does not address pretreatment in a manner consistent

with this regulation, the Approval Authority shall nevertheless solicit the review and comment of the appropriate 208 planning agency.

§ 403.10 Development and Submission of NPDES State Pretreatment Programs.

(a) No State NPDES program shall be approved under section 402 of the Act after the effective date of these regulations unless it is determined to meet the requirements of paragraph (f) of this section. Any State which has submitted a request for program approval but has not received such approval prior to the effective date of these regulations and which does not comply with the requirements of paragraph (f) of this section may, at its option, request additional time to modify its submission. If additional time is requested, the 90-day period for review of a State NPDES program submission (provided for by section 402(c)(1) of the Act) shall be suspended and shall recommence upon receipt of a modified submission.

(b)(1) All NPDES States shall submit to the Administrator within 45 days of the effective date of 40 CFR Part 403 a statement by the State Attorney General (or the attorney for those State water pollution control agencies which have independent legal counsel) indicating whether the State has adequate authority, and a statement by the Director indicating whether the State has adequate procedures and funding to carry out the requirements of paragraph (f) of this section. If this statement asserts that the State does *not* have adequate authority, procedures or funding, to carry out the requirements of paragraph (f) of this section, the statement shall identify the authorities, procedures or funding which the State currently *does* have and the additional authorities, procedures or funding which will be obtained by the State in order to conform to the requirements of paragraph (f) of this section.

(2) Any NPDES State with a permit program approved under section 402 of the Act prior to December 27, 1977, which requires modification to conform to the requirements set forth in paragraph (f) of this section will be required to submit a request for approval of a modified program (hereafter State Pretreatment Program approval) within 6 months after promulgation of 40 CFR Part 403 or by March 27, 1979, whichever is later, unless an NPDES State must amend or enact a law to make required modifications, in which case the NPDES State shall request State Pretreatment Program approval by March 27, 1980.

(c) The Administrator may exercise the authorities available to him to apply and enforce pretreatment Standards and Requirements until the necessary implementing action is

taken by the State. Failure of a State to seek approval of a State Pretreatment Program as provided for in paragraph (a) or (b) and failure of an approved State to administer its State Pretreatment Program in accordance with the requirements of this section constitutes grounds for withdrawal of NPDES program approval under section 402(c)(3) of the Act.

(d)(1) Before the effective date for State Pretreatment Program approval set forth in § 403.10(b), any Permit issued to a POTW which meets the requirements of § 403.8(a) by an NPDES State without an approved State pretreatment program shall include a modification clause. This clause will require that such Permits be promptly modified or, alternatively, revoked and reissued after the effective date for State Pretreatment Program approval set forth in § 403.10(b) to incorporate into the POTW's Permit an approved POTW Pretreatment Program or a compliance schedule for the development of a POTW Pretreatment Program according to the requirements of § 403.8 (b) and (d) and § 403.12(h).

The following language is an acceptable clause for the purposes of this subparagraph:

This permit shall be modified, or alternatively, revoked and reissued, by September 27, 1979 (or September 27, 1980, as appropriate) to incorporate an approved POTW Pretreatment Program or a compliance schedule for the development of a POTW Pretreatment Program as required under section 402(b)(8) of the Clean Water Act and implementing regulations or by the requirements of the approved State pretreatment program, as appropriate.

[Comment: this clause allows the State six months from the date on which it is required to have an approvable State Pretreatment Program (see § 403.10(b)) in which to modify or reissue municipal permits to include pretreatment requirements.]

(2) All Permits subject to the requirements of subparagraph (1) of this paragraph which do not contain the modification clause referred to in that paragraph will be subject to objection by EPA under section 402(d) of the Act as being outside the guidelines and requirements of the Act.

(3) Permits issued by an NPDES State after the effective date for State Pretreatment Program approval set forth in 403.10(b) shall contain conditions of an approved Pretreatment Program or a compliance schedule for developing such a program in accordance with § 403.8 (b) and (d) and § 403.12(h).

(e) A State with an approved Pretreatment Program may assume responsibility for implementing the POTW Pretreatment Program requirements set forth in § 403.8 in lieu of requiring the POTW to develop a Pretreatment Program. However, this

does not preclude POTW's from independently developing Pretreatment Programs.

(f) In order to be approved, a request for State Pretreatment Program Approval must demonstrate that the State Pretreatment Program has the following elements:

(1) Legal Authority: The Director shall have legal authority to apply and enforce the requirements of sections 307 (b) and (c), and 402(b)(1), 402(b)(2), 402(b)(8), and 402(b)(9) of the Act. This authority should be substantially similar to that exercised by EPA under section 309 of the Act and should at a minimum be equal to the NPDES State authorities set forth in 40 CFR 124.73 and amendments thereto. At a minimum, this authority shall enable the Director to:

(i) Incorporate POTW Pretreatment Program conditions into permits issued to POTW's; require compliance by POTW's with these incorporated permit conditions; and require compliance by industrial Users with Pretreatment Standards.

(ii) ensure continuing compliance by POTW's with pretreatment conditions incorporated into the POTW Permit through review of monitoring reports submitted to the Director by the POTW in accordance with § 403.12 and ensure continuing compliance by Industrial Users with Pretreatment Standards through the review of self-monitoring reports submitted to the POTW or to the director by the Industrial Users in accordance with § 403.12.

(iii) Carry out inspection, surveillance and monitoring procedures which will determine, independent of information supplied by the POTW, compliance or noncompliance by the POTW with pretreatment conditions incorporated into the POTW Permit; and carry out inspection, surveillance and monitoring procedures which will determine, independent of information supplied by the Industrial User, whether the Industrial User is in compliance with Pretreatment Standards.

(iv) Seek civil and criminal penalties, and injunctive relief, for noncompliance by the POTW with pretreatment conditions incorporated into the POTW Permit and for noncompliance with Pretreatment Standards by Industrial Users as set forth in § 403.8(f)(1)(vi). The Director shall have authority to seek judicial relief for noncompliance by Industrial Users even when the POTW has acted to seek such relief (e.g., if the POTW has sought a penalty which the Director finds to be insufficient).

[Comment: However, in most cases the Director's authority to seek judicial relief will be exercised where there is no POTW Pretreatment Program or where the POTW has failed to act.]

(v) Approve and deny requests for approval of POTW Pretreatment Pro-

grams submitted by a POTW to the Director.

(vi) Deny and recommend approval of (but not approve) requests for Fundamentally Different Factors variances submitted by Industrial Users in accordance with the criteria and procedures set forth in § 403.13.

(vii) Approve and deny requests for authority to modify categorical Pretreatment Standards to reflect removals achieved by the POTW in accordance with the criteria and procedures set forth in §§ 403.7, 403.9 and 403.11.

(2) Procedures: The Director shall have developed procedures to carry out the requirements of sections 307 (b) and (c), and 402(b)(1), 402(b)(2), 402(b)(8), and 402(b)(9) of the Act. At a minimum, these procedures shall enable the Director to:

(i) Identify POTWs required to develop pretreatment programs in accordance with § 403.8(a) and notify these POTW's of the need to develop a POTW Pretreatment Program. In the absence of a POTW Pretreatment Program, the State shall have procedures to carry out the activities set forth in § 403.8(f)(2).

(ii) Provide technical and legal assistance to POTWs in developing Pretreatment Programs.

(iii) Develop compliance schedules for inclusion in expiring POTW Permits which set forth the shortest reasonable time schedule for the completion of tasks needed to implement a POTW Pretreatment Program.

(iv) Sample and analyze: (A) Influent and effluent of POTW to identify, independent of information supplied by the POTW, compliance or noncompliance with pollutant removal levels set forth in the POTW permit (see § 403.7); and (B) the contents of sludge from the POTW and methods of sludge disposal and use to identify, independent of information supplied by the POTW, compliance or noncompliance with sludge conditions set forth in the Permit.

(v) Investigate evidence of violations of pretreatment conditions set forth in the POTW Permit, by taking samples and acquiring other information as needed. This data acquisition shall be performed with sufficient care as to produce evidence admissible in an enforcement proceeding or in court.

(vi) Review and approve requests for approval of POTW Pretreatment Programs and authority to modify categorical Pretreatment Standards submitted by a POTW to the Director.

(vii) Consider requests for Fundamentally Different Factors variances submitted by Industrial Users in accordance with the criteria and procedures set forth in § 403.13.

(3) Funding: The Director shall assure that funding and qualified personnel are available to carry out the authorities and procedures described

in subparagraphs (1) and (2) of this paragraph.

(g) The request for State Pretreatment Program approval will consist of:

(1) A description of the State's legal authority to implement the State Pretreatment Program requirements set forth in § 403.10(f) above. At a minimum, this description shall:

(i) Include a statement from the State Attorney General (or the attorney for those State Agencies which have independent legal counsel), that the laws of the State, provide adequate authority to carry out the program described in § 403.10(f) above;

(ii) Identify the provision of legal authority under § 403.10(f)(1) which provides the basis for each procedure under § 403.10(f)(2);

(iii) Identify the mechanisms which the State Pretreatment Program will develop to ensure compliance by Industrial Users with Pretreatment Standards (e.g., by order, permit, regulation, or similar means) and enforce these Pretreatment Standards in the event of noncompliance by Industrial Users.

A copy of any statutes, regulations, agreements, or other authorities relied upon by the State for its implementation of the State Pretreatment Program shall be attached to the description of legal authority.

(2) A description of the funding levels and full- and part-time personnel available to implement the program; and

(3) Any modifications to the memorandum of agreement required by 40 CFR 123.5; program description required by 40 CFR 123.3; and/or the Attorney General's statement required by 40 CFR 123.4 which are necessary to implement the State Pretreatment Program.

(h) Any approved NPDES State requesting State Pretreatment Program approval shall submit to the Administrator three copies of the Submission described in paragraph (g) of this section. Upon a preliminary determination that the Submission meets the requirements of paragraph (g) the Administrator shall:

(1) Notify the Director that the Submission has been received and is under review; and

(2) Commence the public notice and Program evaluation activities set forth in § 403.11.

(i) If, after review of the Submission as provided for in paragraph (h) of this section, the Administrator determines that the Submission does not comply with the requirements of paragraph (g) of this section, the Administrator shall so notify the applying NPDES State in writing. This notification shall identify any defects in the Submission and advise the NPDES State of the means by which it can comply with the requirements of paragraph (g) of this section.

§ 403.11 Approval Procedures for State and POTW Pretreatment Programs and POTW revision of categorical pretreatment Standards.

The following procedures shall be followed in approving or denying requests for State and/or POTW Pretreatment Program approval:

(a) The Approval Authority shall have 90 days from the date of receipt of any Submission complying with the requirements of § 403.9 (e) and (f) or § 403.10(g) and/or § 403.7 (b) and (c), as appropriate, to review the submission for compliance with the requirements of § 403.8(f), § 403.10(f) and/or § 403.7 (b) and (c), as appropriate. The Approval Authority may have up to an additional 90 days to complete the evaluation of the Submission if the public comment period provided for in paragraph (b)(1)(ii) of this section is extended beyond 45 days or if a public hearing is held as provided for in paragraph (b)(2) of this section. In no event, however, shall the time for evaluation of the Submission exceed a total of 180 days from the date of receipt of a Submission meeting the requirements of § 403.9 (e) and (f) or § 403.10(g) and/or § 403.7 (b) and (c), as appropriate.

(b) Upon receipt of a Submission which meets the requirements of § 403.8(f), § 403.10(f) and/or § 403.7 (b) and (c), as appropriate, the Approval Authority shall:

(1) Issue a public notice of request for approval of the Submission.

(i) This public notice shall be published in the FEDERAL REGISTER in the case of a State Submission and shall be circulated in a manner designed to inform interested and potentially interested persons of the Submission. Procedures for the circulation of public notice shall include:

(A) Mailing notices of the request for approval of the Submission to adjoining States whose waters may be affected;

(B) Mailing notices of the request for approval of the Submission to designated 208 planning agencies; Federal and State fish, shellfish, and wildlife resource agencies; upon request, to other appropriate government agencies; and to any other person or group, including those on appropriate mailing lists; and

(C) Publication of a notice of request for approval of the Submission in the largest daily newspapers of the city or municipality in which the POTW is located if POTW Pretreatment Program approval is requested; and if State Pretreatment Program approval is requested, in the largest daily newspaper of all cities within that State with POTW's subject to the requirements of § 403.8(a).

(ii) The public notice shall provide a period of not less than 45 days following the date of the public notice

during which time interested persons may submit their written views on the Submission.

(iii) All written comments submitted during the 45 day comment period shall be retained by the Approval Authority and considered in the decision on whether or not to approve the Submission. The period for comment may be extended at the discretion of the Approval Authority.

(2) Provide an opportunity for the applicant, any affected State, any interested State or Federal agency, person or group of persons to request a public hearing with respect to the Submission.

(i) This request for public hearing shall be filed within the 45 day (or extended) comment period described in subparagraph (1)(ii) of this paragraph and shall indicate the interest of the person filing such request and the reasons why a hearing is warranted.

(ii) The Approval Authority shall hold a hearing if a State or a POTW so requests. In addition, a hearing will be held if there is a significant public interest in issues relating to whether or not the Submission should be approved. Instances of doubt should be resolved in favor of holding the hearing.

(iii) Public notice of a hearing to consider a Submission and sufficient to inform interested parties of the nature of the hearing and the right to participate shall be published in the same newspaper as the notice of the original request for approval of the Submission paragraph (b)(1)(i)(C) of this section).

(c) At the end of the 45 day (or extended) comment period and within the 90 day (or extended) period provided for in paragraph (a) of this section, the Approval Authority shall approve or deny the Submission based upon the evaluation in paragraph (a) of this section and taking into consideration comments submitted during the comment period and the record of the public hearing, if held.

(d) No POTW pretreatment program shall be approved by the Director if during the 45 day (or extended) evaluation period provided for in paragraph (b)(1)(ii) of this section, the Administrator objects in writing to the approval of such Submission.

(e) When, upon undertaking the determination referred to in paragraph (c) of this section, the Approval Authority determines that the Submission will not be approved, the Approval Authority shall so notify the POTW or Director, as appropriate. This notification shall include suggested modifications and revisions necessary to bring the Program into compliance with applicable requirements.

(f) The Approval Authority shall notify those persons who submitted comments and participated in the

public hearing, if held, of the approval or disapproval of the Submission. In addition, the Approval Authority shall cause to be published a notice of approval in the same newspapers as the original notice of request for approval of the Submission was published. The Approval Authority shall identify in any notice of POTW Pretreatment Program approval any authorization to modify categorical Pretreatment Standards which the POTW may make, in accordance with §403.7, for removal of pollutants subject to Pretreatment Standards.

(g) The Approval Authority shall ensure that the Submission and any comments upon such Submission are available to the public for inspection and copying.

§ 403.12 Reporting requirements for POTW's and Industrial Users.

(a) *Definition.* The term "Control Authority" as it is used in this section refers to: (1) The POTW if the POTW's Submission has been approved in accordance with the requirements of §403.11; or (2) the Approval Authority if the Submission has not been approved.

[Comment: In cases where there is an approved POTW Pretreatment Program, the Approval Authority may request that Industrial Users submit to it copies of reports required under §403.12.]

(b) *Reporting Requirements for Industrial Users.* Within (i) 180 days after the promulgation of a Pretreatment Standard under section 307 (b) or (c) of the Act, or (ii) 180 days of the effective date of 40 CFR Part 403 where 307 (b) or (c) pretreatment standards are promulgated before the effective date of 40 CFR Part 403, existing Industrial Users subject to such Pretreatment Standards and currently discharging or scheduled to discharge into a POTW will be required to submit to the Control Authority a report which contains the information listed in subparagraph (1)-(7) of this paragraph.

[Comment: Where reports containing this information already have been submitted to the Director or Regional Administrator in compliance with the requirements of 40 CFR 128.140(b), the Industrial user will not be required to submit this information again.]

New sources shall be required to submit to the Control Authority a report which contains the information listed in subparagraphs (1)-(5) of this paragraph:

- (1) The name and address of the Industrial User;
- (2) The location of such Industrial User;
- (3) The nature, average rate of production, and Standard Industrial Classification of the operation(s) carried out by such Industrial User;

(4) The average and maximum flow of the discharge from such Industrial User to the POTW, in gallons per day;

(5) The nature and concentration of pollutants in the discharge from each regulated process from such Industrial User and identification of the applicable Pretreatment Standards and Requirements. The concentration shall be reported as a maximum or average level as provided for in the applicable Pretreatment Standard. If an equivalent concentration limit has been calculated in accordance with the Pretreatment Standard, this adjusted concentration limit shall also be submitted to the Control Authority for approval.

(6) A statement, reviewed by an authorized representative of the Industrial User (as defined in subparagraph (k) of this section) and certified to by a qualified professional, indicating whether Pretreatment Standards are being met on a consistent basis and, if not, whether additional operation and maintenance (O. and M.) and/or additional pretreatment is required for the Industrial User to meet the Pretreatment Standards and Requirements; and

(7) If additional pretreatment and/or O. and M. will be required to meet the Pretreatment Standards; the shortest schedule by which the Industrial User will provide such additional pretreatment. The completion date in this schedule shall not be later than the compliance date established for the applicable Pretreatment Standard.

(c) The following conditions shall apply to the schedule required by paragraph (b)(7) of this section:

(1) The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the Industrial User to meet the applicable Pretreatment Standards (e.g., hiring an engineer, completing preliminary plans, completing final plans, executing contract for major components, commencing construction, completing construction, etc.).

(2) No increment referred to in paragraph (c)(1) of this section shall exceed 9 months.

(3) Not later than 14 days following each date in the schedule and the final date for compliance, the Industrial User shall submit a progress report to the Control Authority including, as a minimum, whether or not it complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason for delay, and the steps being taken by the Industrial User to return the construction to the schedule established. In no event shall more than 9 months elapse between

such progress reports to the Control Authority.

(d) Within 90 days following the date for final compliance with applicable Pretreatment Standards or, in the case of a New Source, following commencement of the introduction of wastewater into the POTW, any Industrial User subject to Pretreatment Standards and Requirements shall submit to the Control Authority a report indicating the nature and concentration of all pollutants in the discharge from the regulated process which are limited by Pretreatment Standards and Requirements and the average and maximum daily flow for these process units in the Industrial User which are limited by such Pretreatment Standards or Requirements. The report shall state whether the applicable Pretreatment Standards or Requirements are being met on a consistent basis and, if not, what additional O. and M. and/or pretreatment is necessary to bring the Industrial User into compliance with the applicable Pretreatment Standards or Requirements. This statement shall be signed by an authorized representative of the Industrial User, as defined in paragraph (k) of this section, and certified to by a qualified professional.

(e) (1) Any Industrial User subject to a Pretreatment Standard, after the compliance date of such Pretreatment Standard, or, in the case of a New Source, after commencement of the discharge into the POTW, shall submit to the Control Authority during the months of June and December, unless required more frequently in the Pretreatment Standard or by the Control Authority or the Approval Authority, a report indicating the nature and concentration, of pollutants in the effluent which are limited by such Pretreatment Standards. In addition, this report shall include a record of all daily flows which during the reporting period exceeded the average daily flow reported in paragraph (b)(4) of this section. At the discretion of the Control Authority and in consideration of such factors as local high or low flow rates, holidays, budget cycles, etc., the Control Authority may agree to alter the months during which the above reports are to be submitted. (2) The Control Authority may impose mass limitations on Industrial Users which are using dilution to meet applicable Pretreatment Standards or Requirements or in other cases where the imposition of mass limitations are appropriate. In such cases, the report required by subparagraph (1) of this paragraph shall indicate the mass of pollutants regulated by Pretreatment Standards in the effluent of the Industrial User.

(f) The Industrial User shall notify the POTW immediately of any slug loading, as defined by § 403.5(b)(4), by the Industrial User.

(g) The reports required in paragraphs (b)(5), (d), and (e) of this section shall contain the results of sampling and analysis of the discharge, including the flow and the nature and concentration, or production and mass where requested by the Control Authority, of pollutants contained therein which are limited by the applicable Pretreatment Standards. The frequency of monitoring shall be prescribed in the applicable pretreatment standard. All analysis shall be performed in accordance with procedures established by the Administrator pursuant to section 304(g) of the Act and contained in 40 CFR Part 136 and amendments thereto or with any other test procedures approved by the Administrator. Sampling shall be performed in accordance with the techniques approved by the Administrator.

[Comment: Where 40 CFR Part 136 does not include a sampling or analytical technique for the pollutant in question sampling and analysis shall be performed in accordance with the procedures set forth in the EPA publication, *Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants*, April 1977, and amendments thereto, or with any other sampling and analytical procedures approved by the Administrator.]

(h) *Reporting Requirements for POTW's.* The following conditions and reporting requirements shall apply to the compliance schedule for development of an approvable POTW Pretreatment Program required by § 403.8.

(1) The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the development and implementation of a POTW Pretreatment Program (e.g. acquiring required authorities, developing funding mechanisms, acquiring equipment).

(2) No increment referred to in paragraph (g)(1) of this section shall exceed nine months.

(3) Not later than 14 days following each date in the schedule and the final date for compliance, the POTW shall submit a progress report to the Approval Authority including, as a minimum, whether or not it complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason for delay, and the steps taken by the POTW to return to the schedule established. In no event shall more than nine months elapse between such progress reports to the Approval Authority.

(i) A POTW which has received authorization to modify categorical Pretreatment Standards for pollutants removed by the POTW in accordance

with the requirements of § 403.7 must submit to the Approval Authority, within 60 days after the promulgation of a Pretreatment Standard for which authorization to modify has been approved, a report which contains the information required by §§ 403.7(c)(2), 403.7(c)(5), and 403.7(c)(6). For the purposes of this section, the first line of subdivision (iii) of § 403.7(c)(2) shall read, "The data shall be obtained through a composite sample taken on 3 consecutive days during the reporting period."

(j) The reports referred to in paragraph (i) of this section will be submitted to the Approval Authority at 6-month intervals beginning with the submission of the initial report referred to in paragraph (i) of this section unless required more frequently by the Approval Authority.

(k) The reports required by paragraphs (b), (d), and (e), of this section must be signed by an authorized representative of the Industrial User. An authorized representative may be:

(1) A principal executive officer of at least the level of vice president, if the Industrial User submitting the reports required by paragraphs (b), (d), and (e) of this section is a corporation,

(2) A general partner or proprietor if the Industrial User submitting the report required by paragraphs (b), (d), and (e) of this section is a partnership or sole proprietorship, respectively;

(3) A duly authorized representative of the individual designated in subparagraph (1) or (2) of this paragraph if such representative is responsible for the overall operation of the facility from which the Indirect Discharge originates;

(l) Reports submitted to the Approval Authority by the POTW in accordance with paragraphs (h), (i), and (j) of this section must be signed by a principal executive officer, ranking elected official or other duly authorized employee if such employee is responsible for overall operation of the POTW.

(m) The reports required by paragraphs (b), (d), (e), (h), (i), and (j) of this section shall be subject to the provisions of 18 U.S.C. section 1001 relating to fraud and false statements and the provisions of section 309(c)(2) of the Act governing false statements, representations or certifications in reports required under the Act.

(n) (1) Any Industrial User and POTW subject to the reporting requirements established in this section shall maintain records of all information resulting from any monitoring activities required by this section. Such records shall include for all samples:

(i) The date, exact place, method, and time of sampling and the names of the person or persons taking the samples;

(ii) The dates analyses were performed;

- (iii) Who performed the analyses;
- (iv) The analytical techniques/methods use; and
- (v) The results of such analyses.

(2) Any Industrial User or POTW subject to the reporting requirements established in this section shall be required to retain for a minimum of 3 years any records of monitoring activities and results (whether or not such monitoring activities are required by this section) and shall make such records available for inspection and copying by the Director and the Regional Administrator (and POTW in the case of an Industrial User). This period of retention shall be extended during the course of any unresolved litigation regarding the Industrial User or POTW or when requested by the Director and the Regional Administrator.

(3) Any POTW to which reports are submitted by an Industrial User pursuant to paragraphs (b), (d), and (e) of this section shall retain such reports for a minimum of 3 years and shall make such reports available for inspection and copying by the Director and the Regional Administrator. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Industrial User or the operation of the POTW Pretreatment Program or when requested by the State Director or the Regional Administrator.

§ 403.13 Variances from categorical Pretreatment Standards for fundamentally different factors.

(a) *Definition.* (i) The term "Enforcement Division Director" means one of the Directors of the Enforcement Divisions within the Regional offices of the Environmental Protection Agency or the delegated representative of the Enforcement Division Director.

(ii) The term "Requester" means an Industrial User of a POTW or other interested person seeking a variance from the limits specified in a categorical Pretreatment Standard.

(b) In establishing categorical Pretreatment Standards for existing sources, the EPA will take into account all the information it can collect, develop and solicit regarding the factors relevant to pretreatment standards under section 307(b). In some cases, information which may affect these Pretreatment Standards will not be available or, for other reasons, will not be considered during their development. As a result, it may be necessary on a case-by-case basis to adjust the limits in categorical Pretreatment Standards, making them either more or less stringent, as they apply to a certain Industrial User within an industrial category or subcategory. Any interested person believing that factors relating to an Industrial User are fundamentally different from the factors considered during development of a categorical Pretreatment Standard applicable to that User and further, that the existence of those factors justifies a different discharge limit from that specified in the applicable categorical Pretreatment Standard, may request a fundamentally different factors variance under this section or such a variance request may be initiated by the EPA.

(c) A request for a variance based upon fundamentally different factors establishing discharge limits either more or less stringent than those specified by a categorical Pretreatment Standard shall be approved only if:

(1) Factors relating to the Industrial User affected by the categorical Pretreatment Standard are fundamentally different from the factors considered by the EPA in establishing the Standard;

(2) The factors upon which the variance request is based existed prior to EPA promulgation of the categorical Pretreatment Standard.

(3) Because of the fundamental difference, the cost of compliance by the User with the categorical Pretreatment Standard would be grossly disproportionate to the cost of compliance considered by the EPA in establishing the Standard;

(4) The alternative discharge limits to be established for the User are justified by the extent of the fundamental difference;

(5) There is an applicable effluent limitation guideline or standard promulgated under section 307(b) of the Act which specifically controls the pollutant for which alternative effluent limitations or standards have been requested;

(6) In the case of a request for less stringent limits or standards, the Industrial Users' raw waste load cannot be treated to levels equal to or more stringent than those prescribed by the effluent limitations guidelines or standards by the technologies upon which guidelines or standards are based or by reasonably available control alternatives;

(7) In the case of a request for more stringent limits or standards, the discharger's raw waste load can be treated to levels more stringent than those prescribed by the effluent limitations guidelines or standards and by the technologies upon which guidelines or standards are based or by reasonably available alternatives;

(8) The request for alternative discharge limits is made in accordance with the procedural requirements of this section;

(9) The alternative effluent limitations or standards will not result in any additional requirements on any other point or non-point source discharger.

(d) *Factors which may be considered fundamentally different are:* (1) Fundamental aspects of the Industrial User's process which significantly affect the nature or quality of the pollutants or pollutant parameters contained in the raw waste load in the applicant's process wastewater;

(2) Fundamental aspects of the Industrial User's process which significantly affect the volume of the User's process wastewater and the volume of effluent discharged.

(3) Nonwater quality environmental impact of control and treatment of the discharger's raw waste load, but only when such control and treatment will result in the violation of another applicable Federal or State environmental law;

(4) Energy requirements of the application of control and treatment technology, but only if the discharger demonstrates that less energy consumptive alternative control technology is not available;

(5) Age, size, land availability, and configuration as they relate to the discharger's equipment or facilities, processes employed, engineering aspects of the application of control technology, and other factors viewed in light of the previous factors of this paragraph; and

(6) Cost of Compliance with required control technology, but only if it is caused by one or more of the above listed factors.

(e) Requests for a variance and supporting evidence must be submitted in writing to the Director if the Industrial User is located in a NPDES State or to the Enforcement Division Director. In order to be considered, requests for variances must be submitted within 90 days after promulgation by the EPA of the categorical Pretreatment Standard or where the Standard is published prior to the effective date of 40 CFR Part 403 within 90 days after the effective date of this regulation.

Written Submissions for variance requests, whether made to the Enforcement Division Director or to the Director must include:

- (i) The name and address of the person making the request;
- (ii) Identification of the interest of the Requester which is affected by the categorical Pretreatment Standard for which the variance is requested;
- (iii) Identification of the POTW currently receiving the waste from the Industrial User for which alternative discharge limits are requested;
- (iv) Identification of the categorical Pretreatment Standards which are applicable to the Industrial User;
- (v) A list of each pollutant or pollutant parameter for which an alternative discharge limit is sought;
- (vi) The alternative discharge limits proposed by the Requester for each pollutant or pollutant parameter identified in item (v) of this paragraph;
- (vii)

A description of the Industrial User's existing water pollution control facilities; (viii) A schematic flow representation of the Industrial User's water system including water supply, process wastewater systems, and points of discharge; and (ix) A statement of facts clearly establishing why the variance request should be approved, including detailed support data, documentation, and evidence necessary to fully evaluate the merits of the request, e.g., technical and economic data collected by the EPA and used in developing each pollutant discharge limit in the Pretreatment Standard.

(f) *Deficient Requests.* The Enforcement Division Director or Director will only act on written requests for variances that contain all of the information required. Persons who have made incomplete Submissions will be notified by the Enforcement Division Director or Director that their requests are deficient and unless the time period is extended, will be given 30 days to correct the deficiency. If the deficiency is not corrected within 30 days or within an extended period allowed by the Enforcement Division Director or the Director, the request for a variance shall be denied.

(g) *Preliminary findings.* When the Enforcement Division Director or Director receives a submittal from a Requester he will, after determining that it contains all of the information required by paragraph (b) of this section, consider the submission, any additional evidence that may have been requested, and any other available information relevant to the request. The Enforcement Division Director or Director will then make a written finding indicating whether or not there are factors which are fundamentally different, for that Industrial User, from those factors considered in the development of the appropriate categorical Pretreatment Standard. This preliminary finding will include the reasons as to whether or not the variance should be granted.

(h) *Fundamentally different factors do not exist.* (1) Where the request is submitted to the Director and the Director finds that fundamentally different factors do not exist, he may deny the request and notify the requester (and Industrial User where they are not the same) of the denial. (2) If the request is submitted to the Enforcement Division Director and the Enforcement Division Director finds that fundamentally different factors do not exist, he shall deny the request for a variance and send a copy of his written preliminary finding to the Director, where appropriate, and to the Requester (and to the Industrial User concerned, where they are not the same).

(i) *Fundamentally different factors do exist.* (1) If the request is submitted

to the Director and the Director finds that fundamentally different factors do exist, he shall forward the request, and a recommendation that the request be approved, to the Enforcement Division Director. (2) If upon review of the recommended approval submitted by the Director or on the basis of his own preliminary findings when the request has been submitted directly to him, the Enforcement Division Director finds that fundamentally different factors do exist and that a partial or full variance is justified, he will approve the variance. In approving the variance, the Enforcement Division Director will: (i) prepare recommended alternative discharge limits for the Industrial User either more or less stringent than those prescribed by the applicable categorical Pretreatment Standard to the extent warranted by the demonstrated fundamentally different factors; and (ii) provide the following information in his written determination: (a) the preliminary findings; (b) the recommended alternative discharge limits for the Industrial User concerned; (c) the rationale for the adjustment of the Pretreatment Standard (including the Enforcement Division Director's reasons for recommending that a fundamentally different factor variance be granted and an explanation of how the Enforcement Division Director's recommended alternative discharge limits were derived); (d) the supporting evidence submitted to the Enforcement Division Director; and (e) other information considered by the Enforcement Division Director in developing the recommended alternative discharge limits.

(j) *Requests for hearing and/or legal decision.* (1) Within 30 days following the date of receipt of notice of the Enforcement Division Director's decision approving in part a variance request or denying such a request, the Requester may submit a petition to the Regional Administrator for a hearing and/or legal opinion to reconsider or contest the decision.

(2) If the Regional Administrator declines to issue a legal opinion or to hold a hearing and the Regional Administrator affirms the Enforcement Division Director's findings, the Requester may submit a petition for a hearing and/or legal decision to the Administrator within 30 days of the Regional Administrator's decision.

§ 403.14 Public Access to Information.

Information and data provided by an Industrial User to the Approval Authority pursuant to this part, identifying the nature and frequency of a discharge, shall be available to the public without restriction. All other information which may be so submitted or which may be furnished by an Industrial User to the Approval Authority

in connection with required periodic reports shall also be available to the public unless the Industrial User or other interested person specifically identifies and is able to demonstrate to the satisfaction of the Approval Authority or its authorized representative that the disclosure of such information or a particular part thereof to the general public would divulge methods or processes entitled to protection as trade secrets. Any requests for confidential treatment of information and for access to such information shall be governed by procedures specified in 40 CFR Part 2.

APPENDIX A—NATIONAL PRETREATMENT STRATEGY

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APPENDIX A—NATIONAL PRETREATMENT STRATEGY

A. INTRODUCTION AND SUMMARY

This National Pretreatment Strategy includes revisions to the February 2, 1977 proposal in the FEDERAL REGISTER of common strategy elements and is a composite of several of the four proposed strategy options. The strategy as stated in this Appendix replaces both the common elements and the four options proposed on February 2, 1977.

The objectives of the National Pretreatment Strategy are: (i) To prevent inhibition/interference with the operation of publicly owned treatment works (POTW's), including contamination of municipal sludge; (ii) to correct inadequate treatment of many pollutants by industry and by POTW's prior to their release to the environment; and (iii) to improve opportunities to recycle and reclaim wastewaters and the sludges resulting from wastewater treatment.

Given these objectives and the complexity of the pretreatment problem, the EPA determined that an overall pretreatment strategy should be developed and outlined to the public. The strategy is intended to provide the framework for cleanup of industrial pollutant discharges to POTW's and to delineate the various responsibilities and deadlines applicable to each party involved in this effort, including the EPA, States, POTW's, industry and the public. Hopefully, publication of this strategy will minimize confusion over the EPA's intended actions in the coming years regarding pretreatment, result in better coordination among municipal and industrial water pollution control programs, and provide a consistent and equitable approach nationwide toward industrial use of POTW's.

A secondary objective of developing a National Pretreatment Strategy was to begin to reconcile existing pretreatment programs in many cities with the approach called for by the Federal legislation. Pretreatment programs which are fair, cost-effective, and successful in reducing pollutant discharges through POTW's and into the environment must be developed. This effort will require the dedication of substantial resources as well as public and political support at the local, State, and national level.

The strategy selected by the EPA, with the help of public comment and Congressional action, involves the establishment of pretreatment standards under section 307 (b) and (c) of the Clean Water Act. These pretreatment standards include general discharge prohibitions which apply to all non-domestic discharges to POTW's as well as pollutant discharge limits which apply to certain categories of industrial users of POTW's. The levels of pollutant control required by these "categorical" pretreatment standards will be determined by the application of the best available technology economically achievable for existing sources or any more stringent effluent standards under section 307(a) of the Act. The standards for new sources will be based upon the best available demonstrated technology economically achievable. As outlined in the following discussion the EPA will initially consider 21 industrial categories for coverage by

standards, although coverage of additional industries may be added subsequently. Categorical standards will focus on toxic incompatible pollutants. Guidance issued under section 304(g) of the Act will be provided to State and local governments to assist them in establishing limits for discharges of incompatible pollutants not covered by national standards.

All authorities who own and operate POTW's with design flows exceeding five (5.0) million gallons per day and which receive wastes from sources subject to coverage by national pretreatment standards will be required to establish pretreatment programs to enforce the standards as a condition of the NPDES permit. Smaller POTW's will be required to develop pretreatment programs where they wish to modify the pollutant discharge limits in categorical standards to account for POTW removal of a pollutant and also where the Regional Administrator or Director of an NPDES State determines that a program is necessary due to the significance of the character or volume of industrial influent to the POTW. Grants to assist local authorities in setting up a required pretreatment program will be made available and where a local program is required, establishing a pretreatment program will be a condition of any new construction grant. Where a POTW's pretreatment program is approved, the POTW may revise the discharge limits for its industrial users covered by categorical pretreatment standards to reflect actual pollutant removal attained and maintained by the POTW, although such revision may be made only where a POTW meets any EPA criteria applicable to the sludge disposal method it uses.

The regulations, 40 CFR Part 403, accompanying the National Pretreatment Strategy replace the previous general pretreatment regulations, 40 CFR 128, and will be the primary vehicle for implementing the EPA's overall approach toward regulating industrial use of POTW's.

Both POTW's and new and existing users of POTW's will be covered by this regulation and subject to its provisions. The application of this regulation does not depend on whether or not the POTW is Federally funded. Moreover, although section 301(b) of the Act contemplates that pretreatment requirements will apply to users of a POTW which meet the standards established for POTW's pursuant to sections 304(d)(1) and 201(g)(2)(A), the fact that a POTW may not be in compliance with the provisions of the Act does not relieve users of the POTW of their own obligations to comply with national pretreatment standards.

The following is a detailed discussion of major aspects of the EPA's National Pretreatment Strategy.

B. PRETREATMENT STANDARDS AND GUIDANCE

1. National Standards on Prohibited Wastes

The strategy calls for the EPA to establish two sets of pretreatment standards under the authority of sections 307 (b) and (c) of the Clean Water Act. The first set is contained in the general pretreatment regulations, 40 CFR Part 403. The standards, specified in § 403.5, prohibit the discharge by any user of a POTW of any non-domestic wastes containing certain types (or amounts) of pollutants which would substantially interfere with the operation of the POTW. These standards, are known as "prohibited discharge standards." They are

designed to prevent inhibition or interference with the municipal treatment works by prohibiting the discharge of pollutants of such nature or quantity that the mechanical or hydraulic integrity of the POTW is endangered. This includes prohibiting pollutants which create a fire or explosion hazard, non-domestic discharges with a pH lower than 5.0, solid or viscous pollutants which obstruct the flow in a sewer system, discharges of such volume or concentration that they upset the treatment process and cause a permit violation, and heat in such quantities that the POTW's influent water exceeds 40° C except where the POTW is designed to handle such heat. The prohibitions apply to all non-domestic discharges to POTW's whether or not a user is subject to other national and/or local pretreatment requirements.

While these prohibitions are Federally enforceable requirements it is the EPA's intent that all POTW's will develop specific limits for these pollutants based on each POTW's capacity to accept such pollutants and that such limits shall supplement the national discharge prohibitions. Those POTW's developing pretreatment programs pursuant to these regulations will be required to set and enforce such limits as a requirement of the program. Any POTW not meeting its permit limits as a result of interference by any of these pollutants will be required to develop and enforce specific discharge limits for such pollutants. Such limits will be incorporated into the POTW's NPDES permit. The EPA will publish guidance under section 304(g) of the Act to assist POTW's in establishing specific limits for the pollutants covered in the prohibited discharge standards.

Most of these prohibited discharge standards are identical or quite similar to the prohibitions contained in the previous general pretreatment regulations, 40 CFR Part 128. Specifically, § 403.5(b)(1)-(4) are similar to § 128.131. A few language changes have been made in these prohibitions, particularly the prohibitions concerning the discharge of high volume and high strength pollutants, but the intent and basic requirements are the same. Since these requirements are essentially the same and since the deadline for compliance with § 128.131 has passed, no lapse in compliance with these four requirements will be allowed.

These regulations also prohibit the discharge of heat in quantities sufficient to inhibit biological activity in a treatment system. In most cases, heat in fairly substantial quantities can be introduced into a municipal sewage system along with waste water without causing an upset or other difficulty in operating the POTW. As a matter of fact, some heat, particularly in cold weather, may prove to be beneficial and may accelerate the effectiveness of the treatment process. However, POTW's include biological treatment systems whose performance can be affected adversely if an excess of heat is found in the treatment plant itself. Hence, some safeguard is needed to prevent an excess of heat being discharged to the treatment plant while still allowing lesser amounts of heat to be discharged to and dissipated in a POTW. The point of damage to biological activity in the POTW is considered to be 40° C (104° F); and, thus this regulation as specified in § 403.5(b)(5), prohibits heat in such quantities that the influent waters to the POTW exceed 40° C except where the POTW is designed to accommodate such heat. Since

this is an additional requirement, not contained in §128.131, compliance with this provision will be required within three years of the date of promulgation of 40 CFR 403.

2. Categorical Pretreatment Standards

A second set of pretreatment standards will be established and from time to time revised under the authority of sections 307 (b) and (c) of the Clean Water Act. Provision for this second set of pretreatment standards is contained in 40 CFR 403.6. These pretreatment standards will apply to existing and new sources in specific industrial subcategories and will be established in the industrial subpart regulations of 40 CFR Chapter I, Subchapter N. These categorical pretreatment standards will contain numerical pollutant discharge limitations for each industrial subcategory based upon the best available technology economically achievable (BAT) by existing industrial users of a POTW or any more stringent effluent standards under section 307(a) of the Clean Water Act. New Source standards will be based upon the best available demonstrated technology economically achievable in each industrial subcategory.

a. *Requirements of the Consent Decree.* In 1976 the EPA entered into a Consent Decree in the case of *NRDC vs. Train*, 8 ERC 2120 (D.D.C. 1976) with the Natural Resources Defense Council, Inc.; Environmental Defense Fund, Inc.; Businessmen for the Public Interest, Inc.; National Audubon Society, Inc.; and citizens for a Better Environment.

Under the Consent Decree the EPA is obligated to: (i) Develop direct discharge standards under sections 301 and 304(b)(2) of the Act for 21 listed industrial categories by December 1979, (ii) establish pretreatment standards under section 307 (b) and (c) of the Act for 8 of the 21 before June 1977, and (iii) by December 1979 develop, as appropriate, BAT pretreatment standards for the remaining 13 industries as well as revise the standards for the first 8 industries such that they require BAT. The 21 industrial categories are listed in subsection B(2)(b) of this Appendix.

The Consent Decree requires the EPA to review 65 toxic pollutants which may be discharged by the 21 industrial categories and to establish pretreatment standards for any of the 65 toxic pollutants and any other nontoxic pollutants found not to be susceptible to treatment by POTW's or which would interfere with the operation of the POTW. The 65 toxic pollutants are listed in Appendix B. As provided by section 307 (b) and (c) of the Act, the Consent Decree requires that the pretreatment standards shall be established to prevent the discharge of pollutants through treatment works which interfere with, pass through, or otherwise are incompatible with the treatment works.

Paragraph 8 of the Consent Decree provides for exclusions from the pollutant coverage where:

(i) "Equally or more stringent protection is already provided by pretreatment a * * * standard * * *"

(ii) "The specific pollutant is present in the effluent which is introduced into (the POTW) * * * solely as a result of its presence in the * * * source's intake waters, provided however, that such * * * source may be subject to an appropriate effluent limitation for such pollutant pursuant to the requirements of section 307," or

(iii) "The specific pollutant is either not present * * * in the effluent which is intro-

duced into (the POTW) or is present only in trace amounts and is neither causing, nor likely to cause, toxic effects with respect to any identifiable organisms affected or likely to be affected by such * * * effluent".

The EPA believes that since many nontoxic incompatible pollutants would, after pretreatment for toxic pollutants, be present only in trace amounts and not cause toxic effects, they would not require standard setting under the terms of the Consent Decree. In cases where a nontoxic pollutant is found on a national level to pose very serious threats to the operation of POTW's or to water quality as a result of being incompatible with POTW's, the EPA would deem it consistent with the pretreatment strategy to set national standards for such a pollutant. If however, it is determined that many nontoxic pollutants of lesser significance are present in industrial discharges after the application of toxic pollutant standards and that such pollutants would not be exempt by a reasonable interpretation of paragraph 8, the EPA will seek a modification of the Consent Decree. Such action would be dictated by the limited resources of the EPA which do not enable it to issue and enforce categorical standards for all incompatible pollutants in the near future.

Paragraph 6(a) of the Consent Decree requires that the pretreatment standards cover 95 percent of the industrial users in each industrial category. Paragraph 8(b) provides that an industrial category may be excluded "if 95 percent or more of all * * * sources in the category or subcategory introduce into treatment works * * * only * * * (compatible) pollutants; or if (A) the amount * * * (of incompatible pollutants) and (B) the toxicity of such pollutants taken together is so insignificant as not to justify developing a pretreatment regulation in accordance with the schedules set out in (the Consent Decree)."

To reconcile the Federal resources available to establish pretreatment standards and the Federal, State, and local government capabilities, to enforce the standards within statutory timetables, the EPA will, in this round of standard setting, concentrate categorical standards on pollutants which now appear most toxic or hazardous. The pollutants which now appear most toxic are the 65 pollutants listed in the Consent Decree and referenced in section 307(a) of the Clean Water Act (See Appendix B). Provisions for adding or deleting pollutants and sources to this list of toxics are provided in the Consent Decree and section 307(a) of the Act. EPA studies of technology, economic, public health and ecological factors necessary to develop pretreatment standards and/or determine exclusions under paragraph 8 of the Consent Decree, will focus on the 65 toxic pollutants and the 21 industrial categories (see subsection B(2)(b) of this Appendix) through 1979. The EPA will issue guidelines under section 304(g) of the Act to State and local governments to assist them in setting their own standards on pollutants which may be incompatible but which do not merit national standards under this strategy.

The focus of categorical pretreatment standards on toxic pollutants is consistent with: (i) The Congressional priority placed on pretreatment standards for the 65 toxic pollutants in section 307(a) of the Clean Water Act; (ii) the overwhelming preference, especially of State and local governments, expressed in testimony received by the EPA on its February 2, 1977 proposal

for four alternative pretreatment strategies; and (iii) the Congressional intent expressed through amendments to sections 307(b), 309(f) and 402(b)(8) of the Act to make State, and especially local, governments responsible for enforcing pretreatment standards. The following sections on (b) Coverage of Industrial Categories, (c) Coverage of Pollutants, (d) Determining Incompatibility, and (e) Establishing Levels of Treatment, describe the EPA's approach to establishing national categorical standards. The EPA considers itself bound by the Consent Decree. Where the approach discussed in these sections is determined at any future date to be inconsistent with the Consent Decree, the EPA will seek modification of the Decree.

b. *Coverage of Industrial Categories.* The strategy calls for the EPA concentrate its standard setting effort on the industries believed to be by discharging the pollutants of greatest environmental concern. The 21 industrial categories listed in the Consent Decree will be the initial focus of the EPA for categorical pretreatment standards. These 21 industrial categories are listed below. The 8 industries identified with an asterisk (*) are those for which interim pretreatment standards were promulgated in 1977 and 1978 pursuant to the Consent Decree. These eight industries are candidates for revised pretreatment standards based upon studies being conducted to develop BAT limits on all 21 categories.

Automatic and Other Laundries
Coal Mining
Electroplating*
Inorganic Chemicals Manufacturing*
Iron and Steel Manufacturing
Leather Tanning and Finishing*
Machinery and Mechanical Products Manufacturing
Miscellaneous Chemicals Manufacturing
Nonferrous Metals Manufacturing*
Ore Mining
Organic Chemicals Manufacturing
Paint and Ink Formulation Printing
Paving and Roofing Materials
Petroleum Refining*
Plastic and Synthetic Materials Manufacturing
Pulp and Paperboard Mills and Converted Paper Products
Rubber Processing
Soap and Detergent Manufacturing
Steam Electric Power Plants*
Textile Mills*
Timber Products Processing*

A more detailed list of specific industrial subcategories, identified by four-digit Standard Industrial Classification Code is contained in Appendix C.

Since the EPA desires to focus on the most significant environmental problems and the industries which contribute to these problems, categorical pretreatment standards covering toxic pollutants will be established for all industrial users of POTW's in the 21 industrial categories except where the EPA determines, following its examination of a category or subcategory, that it meets the exclusion criteria set forth in paragraph 8 of the Consent Decree (see earlier discussion of paragraph 8).

Based on current information from the first ten industrial categories being reviewed for BAT standards, the EPA believes that many subcategories within the 21 major industry groups (and some entire groups) will not require categorical pretreatment standards because they may be excludable under paragraph 8 of the Consent Decree.

Within each industrial category the EPA will establish pretreatment standards for 95 percent of the sources unless, consistent with the criteria in paragraph 8 of the Consent Decree, a category or subcategory is excluded. Three of the categories (paint and ink formulation printing, automatic and other laundries, and machinery and mechanical products manufacturing) may total more than 85,000 industrial sources. The environmental problems produced by some of the sources in these three categories may not warrant national regulation for 95 percent of the sources in each category. In addition, Federal, State and local resources to enforce pretreatment standards for 95 percent of the sources in these three categories may be beyond the projected capabilities. If it is determined that a lesser coverage of sources in one or more of these three categories is not consistent with the criteria for exclusions in the Consent Decree but that the environmental problems associated with these sources would, in light of available State and local enforcement capabilities, not warrant 95 percent coverage, then the EPA will seek modification of the Decree. Any modification found to be necessary would be designed to enable enforcement to focus on a smaller number of sources while significantly reducing the environmental impact of discharges from these three industrial categories.

c. Coverage of Pollutants. Under the EPA's strategy, technology-based categorical pretreatment standards for existing and new sources in the 21 industrial categories will be established for incompatible toxic pollutants. In developing categorical pretreatment standards the EPA will consider the 65 priority toxic pollutants listed in Appendix B and published in the FEDERAL REGISTER on January 31, 1978. The criteria for excluding a pollutant would be as stated above in paragraph 8 of the Consent Decree. As provided below (see d. Determining Incompatibility) and in section 307(a) of the Act, modifications to the list (deletions and additions) may result as the EPA develops further information about toxic substances. Under the strategy, it is possible that additional pollutants, not on or added to the list of toxics, may be covered by categorical standards where their discharge results in potentially harmful effects on the public or where they are surrogates for toxic pollutants.

The 65 pollutants were selected on the basis of a review of available data on the 232 pollutants of greatest environmental concern at the time the Consent Decree was developed. The 65 toxic pollutants include:

(i) Substances for which there is substantial evidence of carcinogenicity, mutagenicity and/or teratogenicity;

(ii) Substances which are structurally similar to the above compounds or for which there is some evidence of carcinogenicity, mutagenicity, or teratogenicity; and

(iii) Substances which are known to have toxic effects on human or aquatic organisms at sufficiently high concentration and are present in industrial influent.

Guidance on regulating incompatible pollutants not covered by categorical pretreatment standards will be provided to State and local government under section 304(g) of the Act. The EPA believes that the technology required to meet the discharge limits in categorical pretreatment standards for the 65 toxic pollutants will incidentally pretreat most other incompatibles as well. Furthermore, EPA or an NPDES State may, in

a permit under section 402 of the Act, establish limits on the POTW which would require further pretreatment by industrial users excluded from categorical pretreatment standards. The EPA is required to establish more stringent limits where necessary to achieve water quality standards or to comply with Best Practicable Waste Treatment Technology.

d. Determining Incompatibility. In determining whether to regulate a particular pollutant in categorical pretreatment standards the Act requires that the EPA make a determination as to whether the pollutant is "incompatible" with a POTW based on the criteria of interference, pass-through, sludge contamination or other incompatible effects. Pollutants discharged to POTW's will fall, generally, into two classes. The first class is composed of those which are found in municipal sewage and for which a POTW is "designed" to treat. In general, these "compatible pollutants or parameters" will include biochemical oxygen demand (BOD) and suspended solids (SS). (See the Secondary Treatment Regulation, 40 CFR Part 133.) Categorical pretreatment standards under section 307 (b) and (c) of the Act will not establish limits for discharges of compatible pollutants, except in instances where compatible pollutants may be used as indicators or surrogates for toxic pollutants.

The second class of pollutants contains those which may be incompatible and require pretreatment prior to discharge in order to prevent interference with the operation of the POTW, sludge contamination, or pass-through the POTW into receiving waters or into the atmosphere. All of the 65 pollutants would be subject to coverage in categorical pretreatment standards based on whether or not they are determined to be incompatible.

To be more specific regarding potentially incompatible pollutants, some materials other than BOD and SS can be treated effectively in small concentrations in a POTW but cannot be treated effectively when the concentrations exceed the system's tolerance levels. In addition, some pollutants are degradable, but only if retained in the treatment works longer than usual. Some pollutants are considered incompatible because they simply are not effectively treated by a POTW regardless of the influent concentration or retention time. Many of the pollutants of greatest environmental concern (those on the list of 65 toxics) fall into this category.

In determining which toxic pollutants are incompatible, the EPA will consider: (i) Potential inhibition and interference effects of the pollutant on the POTW; (ii) whether the pollutant is susceptible to treatment in the POTW; and (iii) the ability of POTW's to remove the pollutant from wastewaters, and if removed, the potential impact of the pollutant on the POTW's ability to use or dispose of its municipal sludge and on air quality.

In determining whether a pollutant is removed and treated in the POTW some assumption must be made regarding the type of POTW being used. Because the EPA is developing national standards, it will assume that the POTW is a secondary biological treatment works. Although some POTW's provide less than secondary treatment at this time, these POTW's are required under the Act to achieve secondary treatment.

To be more specific regarding this assumption, the EPA will assume that the

POTW is one of a group or family of biological treatment processes which are commonly used in the treatment of municipal sewage and which are designed to achieve the secondary treatment standards for biochemical oxygen demand, suspended solids and pH in 40 CFR Part 133.

There are a variety of sewage treatment plant systems which, when properly designed and operated, meet secondary treatment requirements on a consistent basis. These designs include the activated sludge system and its modifications, trickling filters, and oxidation ponds. There are a number of activated sludge system modifications which incorporate variations on the amount of sludge recirculation, the amount of air or oxygen supplied to the aeration tanks, the use of pre- and post-chlorination, and the use of sludge digestion, sludge combustion, or land filling as mechanisms for disposal of the sludge generated. The retention time of sewage in such systems generally is short; it is normally 6 hours with retention times as short as 3 to 4 hours not uncommon. POTW's having facilities for substantial chemical addition for the purpose of removing materials other than BOD and SS will not be included in this group of sewage treatment systems assumed by the EPA in determining the incompatibility of a pollutant.

In determining compatibility or incompatibility of a toxic pollutant, the EPA will not consider the mere removal of the substance from the POTW's wastewater as adequate to protect the environment since the substance may be discharged into the air or onto the land. Some toxic pollutants (i.e., organic compounds such as polynuclear aromatic hydrocarbons) may not be treated by the POTW but instead may be volatilized during treatment (such as aeration) and thus increase human exposure to air pollutants.

The EPA will also consider the ultimate fate of toxic pollutants removed from the wastewater and concentrated in the municipal sludge in determining the incompatibility of a pollutant. Section 307(b) of the Act requires pretreatment standards for pollutants introduced into POTW's as defined in section 212 which would interfere with the operation of such works. Section 212 of the Act contemplates sludge use or disposal as included in the definition of treatment works. In addition, the House Conference Report (95th Congress, first session, No. 95-830, page 88) directed the Administrator in establishing pretreatment standards to consider any guidelines for sludge disposal or use established under section 405 of the Act.

Industrial discharges to POTW's may increase the levels in municipal sludge of heavy metals such as lead, mercury, and cadmium as well as organic substances such as chloroforms, benzene, pesticides and PCB's. Incineration of sludge containing toxic pollutants may result in hazardous air emissions and surface and ground water pollution both by fallout and improper disposal of the ash. Landfilling of sludge with toxic pollutants may result in pollution of surface and groundwaters. In some areas, sludge is used for landspreading on croplands. Landspreading of sewage sludge and other recycle methods can have three important benefits: It can reduce the tremendous volumes of sludge which now must be disposed of in less environmentally acceptable ways; it can contribute to crop and forest production; and it can substantially reduce public costs of sludge management in contrast to dispos-

al alternatives. However, landspreading of sludges contaminated by toxicants can result in their bioaccumulation in the food chain. Thus, the presence of toxic pollutants in sludge can limit the disposal alternatives available to the POTW and thereby increase the cost of sludge disposal or use.

In recognition of these problems the EPA will classify a toxic pollutant incompatible, even when removed by the POTW, if there is evidence that its presence in municipal sludge can interfere with sludge use or disposal. The method of sludge use to which the interference criteria will be applied will be landspreading on croplands since this requires the cleanest sludge. In addition, any toxic pollutant identified as hazardous under section 3001 of the Solid Waste Disposal Act, will also be considered incompatible for the purposes of section 307 (b) and (c) of the Clean Water Act. This interpretation of incompatibility will complement Congress' intent under sections 201(d) and 516(d) of the Clean Water Act to encourage the beneficial uses of municipal sludge.

Thus, the incompatibility of a pollutant will be determined on the basis of the criteria discussed above as well as the extent to which it is consistently removed by the POTW and will not cause problems in sludge disposal or use or other problems for the POTW. However, given the extreme variability in removals experienced by most secondary treatment systems, the EPA's focus on toxic pollutants, and its commitment to encourage beneficial uses of municipal sludge, the EPA will be conservative in its assumptions regarding POTW removal capabilities.

Under the EPA's strategy, a toxic pollutant which is found to be incompatible will be regulated in the categorical pretreatment standards for those industrial users who discharge the pollutant. In the EPA's strategy, a pollutant which is found to be incompatible, but is not included on a list of toxic or hazardous substances, will be covered by section 304(g) guidance. Section 304(g) guidance is designed to be used by State and local governments to establish their own pretreatment limits. The pollutant discharge limits for incompatible toxic pollutants in categorical pretreatment standards will be developed in the manner described below.

e. Establishing Levels of Treatment. The pollutant discharge limits in categorical pretreatment standards will be based upon technologies available to each industrial subcategory, taking into account the technical and economic constraints (e.g., space limitations, economic impact, etc.) peculiar to industrial users of POTW's. The levels of treatment required of existing sources of toxic pollutants will be based on the best available technologies economically achievable (pretreatment techniques, process and procedure innovations, operating methods) or any more stringent effluent standards established under section 307(a) of the Clean Water Act. The Consent Decree requires best available control technology economically achievable and Congress concurred in this decision in amending the provisions of section 307(a) with respect to toxic pollutants and in the Legislative History for section 307(b) (House Conference Report, 95th Congress, first session, No. 95-830, page 87). In establishing the standards, the EPA will take into account such factors as the cost of achieving these limits, the age of equipment and industrial facilities involved, the process employed, the engineering aspects of apply-

ing various types of control techniques, process changes, nonwater quality environmental impacts, and any other factors the Administrator deems appropriate.

The EPA will also consider the economic impact of its regulations before establishing categorical pretreatment standards. In determining economic impact, the cost of municipal waste treatment, including the charges imposed on industry by a POTW (user charges and industrial cost recovery, etc.) will be assumed as part of the baseline cost for an industrial user. The incremental cost of the technologies or process changes will then be evaluated to determine if significant impacts in terms of price effects, potential plant closings, and unemployment, etc. will result from implementation of the standard. As with the technical factors considered, this analysis may result in the establishment of separate standards (with different discharge limits) for some industrial subcategories.

Categorical pretreatment standards for new sources established pursuant to section 307(c) of the Act will be the same as New Source Performance Standards established under section 306 of the Act. The discharge limits in these standards will be based upon the "degree of effluent reduction achievable through the application of the best available demonstrated control technology, processes, operating methods, or other alternatives" (see section 306(a)(1) of the Act). In establishing these pretreatment standards for new sources, the EPA will take into account the economic, energy, and nonwater quality environmental impacts of these standards.

The discharge limits in categorical pretreatment standards and section 304(g) guidance will be expressed in terms of concentrations. The rationale for the derivation of the concentration discharge limits will be described in detail in the supporting documentation for each pretreatment standard. An attempt will also be made to provide equivalent mass discharge limits in each standard's preamble or the supporting documentation so that local, State, and Federal authorities may enforce either concentration or mass limits. The mass limits may be applied by State and local authorities in implementing a pretreatment program, provided the State or local mass limits are consistent with Federal requirements (see section 307(b)(4) of the Act and § 403.4 below). State and local authorities will be encouraged to enforce mass limits wherever possible.

The major reasons for expressing national pretreatment standards in terms of uniform concentration limits include the ease of enforcing such limits and the desire to ensure that POTW's are willing and able to implement the pretreatment program as quickly as possible. However, dilution as a means of achieving compliance can be a problem where the costs of increased water and sewer use are less than the annualized costs of installing and operating pretreatment technology. To minimize this problem, restrictions and constraints against excessive water use and dilution will be included when appropriate in each national pretreatment standard. Such prohibitions against dilution will apply at the point of process discharge. The national standards will also require continuous flow monitoring. POTW's will also be encouraged to inspect pretreatment design plans and constructed facilities as well as to apply surcharges to limit water usage and compliance with standards by di-

lution. Where dilution is encountered POTW's should give preference to the use of equivalent mass limits.

In addition, upon NPDES permit issuance, POTW's with approved pretreatment programs who have been unable to minimize dilution associated with concentration limits, may be required by the Regional Administrator or State Director to enforce equivalent mass limits instead of concentration limits. Finally, section 307(b)(2) of the Act provides for periodic reconsideration, and where appropriate, revision of pretreatment standards. When reconsidering standards, the EPA will review the effectiveness of concentration limits as a means to enforce pretreatment standards. Where deemed necessary to prevent dilution or further encourage water conservation the EPA may, on a category-by-category basis, re-promulgate specific categorical pretreatment standards with discharge limits expressed only as mass limits.

Pollutant discharge limits in categorical pretreatment standards expressed as a concentration will apply to the treated effluent of the industrial process regulated by the standard. Where process effluent is mixed prior to treatment with wastewaters other than those generated by the regulated process, an equivalent concentration limit will be derived by the enforcement authority (or by the discharger with the written concurrence of the enforcement authority) and applied to the mixed effluent so as to account for the presence of flows not contributed by the regulated process. However, in no event may an equivalent pretreatment limit be used if the regulated pollutants would no longer be detectable by the equipment monitoring the combined wastewaters. The equivalent concentration limit for a specified pollutant would be derived by the use of the following formula:

$$Y = \frac{XF}{F_1}$$

Where:

X=Pollutant limit specified in the applicable categorical pretreatment standard for a process (expressed in mg/l).

Y=Equivalent pollutant limit to be applied to a mixed discharge which includes the wastewater of the regulated process (expressed in mg/l).

F=Wastewater flow generated solely by the regulated process (expressed as an average flow per day).

F₁=Total flow of the mixed discharge including the wastewater from the regulated process (expressed as an average flow per day).

For example if the limit in a categorical pretreatment standard for a specific pollutant is 3 mg/l and the process, to which the standard applies, generates 1000 liters of wastewater per day but is mixed prior to treatment with 5000 liters per day of additional wastewater from other processes, the equivalent concentration of the specified pollutant that would apply to the mixed effluent would equal 0.5 mg/l.

f. Compliance Deadlines. Under section 307(b) of the Act compliance deadlines for pretreatment standards will be not later than three years from the date of standard promulgation for existing industry standards. A shorter compliance date may be specified where risk to human health or the environment may result from delays in com-

pliance. Compliance with pretreatment standards for new sources will be required immediately upon their promulgation and will apply to sources whose construction is commenced after the publication of a proposed new source pretreatment standard, if the standard is promulgated within one hundred and twenty days of proposal. If a new source pretreatment standard is promulgated later than 120 days after its proposal in the FEDERAL REGISTER, it will apply to sources whose construction is commenced on or after the date the standard is promulgated.

Prior to the NRDC vs. Train Consent Decree, the EPA had promulgated final existing source pretreatment standards for two industrial categories on the list of 21. Until these standards are superseded by new standards being developed under the Consent Decree, they will remain in effect for those pollutants covered which are on the list of 65. New source pretreatment standards already promulgated for industries on the list of 21 will also remain in effect for those pollutants covered which are on the list of 65.

The Agency has promulgated pretreatment standards for existing sources in 10 industrial categories not on the Consent Decree list of 21 and for new sources in 13 categories not in the Consent Decree. Most of these standards were promulgated with no pretreatment required because the wastes from these sources are compatible and can be treated by most POTW's.

A few existing and new source pretreatment standards which set limitations were also promulgated for industries not on the list of 21 industrial categories. These standards addressed either potential or known incompatibles, including some on the list of 65. Where these standards cover pollutants on the list of 65 they will remain in effect but may be revised upward by the EPA to reflect BAT or best available demonstrated control technology, as appropriate, if they presently represent best practicable technology levels of treatment.

As previously mentioned, the Consent Decree required pretreatment standards for 8 of the 21 listed industry categories by May 1977. For the most part these standards do not address toxic pollutants on the list of 65. The EPA recognizes that revisions to the first eight pretreatment standards promulgated pursuant to the Consent Decree are needed now that the general policy has been determined and established. Until these first eight pretreatment standards are superseded by the revised standards also being developed under the Consent Decree, these standards will remain in effect.

g. Section 304(g) Guidance. Prior to developing this National Pretreatment Strategy and 40 CFR Part 403, EPA issued guidance prepared by a contractor under section 304(g) of the Clean Water Act for use by State and local government in establishing pretreatment programs and interference/inhibition limits. The EPA will revise and expand this 304(g) guidance so that it is consistent with this National Pretreatment Strategy. In the interim, local authorities may wish to refer to this guidance document for assistance in initiating pretreatment programs. The guidance was issued in 1977 and is entitled *Federal Guidelines: State and Local Pretreatment Programs*, Volumes I, II, and III. The guidelines are available from GSA Centralized Mailing Lists Services, Building 41, Denver, Colo. 80225. Please request publication No. EPA-

430/9-76-017 (a), (b), and (c). Care should be exercised by readers to ensure that any consulted portions of the 1975 guidance are not inconsistent with this statement of the National Pretreatment Strategy and 40 CFR Part 403.

Revised guidance under section 304(g) will contain recommended discharge limits for use by local and State government for pollutants which may be incompatible and which have not been regulated by national pretreatment standards including those covered in the general prohibitions. Recommended discharge limits for incompatible pollutants, which can be treated effectively in small concentrations in a POTW but which cannot be treated when the concentrations exceed the system's tolerance levels (for example, oil and grease of mineral origin), would be aimed at reducing the concentrations so the POTW can provide treatment without interference. Limits on these pollutants would be based on the levels at which inhibition or interference with the POTW can be prevented and would tend to be similar regardless of the industrial subcategories being regulated. On the other hand, pollutants considered incompatible because they simply are not effectively treated by a POTW regardless of the influent concentrations would be given recommended limits which are technology-based. The guidance will include an explanation of the technical/economic factors to be considered in establishing local or State pretreatment requirements. The guidance will also provide information for identifying toxic pollutants not included on the list of 65, including background information on Ames tests, structure analyses, fish cough, and other short-cut testing methods.

In addition, the revised section 304(g) guidance will include:

(i) Model ordinances and industry contracts for enforcing pretreatment standards;

(ii) Recommended staffing levels;

(iii) Recommended procedures for inspection, monitoring and enforcement activities, including testing protocols for toxic pollutants;

(iv) Criteria and guidance for use in documenting POTW removal efficiencies for toxic pollutants;

(v) Criteria and guidance for documenting compliance with requirements for municipal sludge disposal or use;

(vi) Guidance in establishing user charge and surcharge systems to defray the public costs of treating industrial wastes, operate a POTW pretreatment program, and penalize industrial noncompliance with pretreatment requirements.

C. MODIFICATION OF NATIONAL STANDARDS

1. Variance for Fundamentally Different Factors

In the preparation of the supporting documentation (Development Document) for a 307(b) categorical pretreatment standard, all of the information which the EPA can amass concerning processes and procedures related to that industrial subcategory is collected and analyzed. However, it is possible that certain facts do not become available to the EPA and cannot be employed in decisions related to the pollutants which may be discharged from a particular industrial operation. Because of this possibility it has been recognized that variations from the numerical discharge limits contained in a national pretreatment standard for an existing source may be necessary in certain cir-

cumstances to compensate for factors not adequately considered in establishing the pretreatment standard. The Agency has provided a mechanism (the "BPT variance") to compensate for such circumstances in direct discharge effluent limitations and similarly, §403.13, of this regulation provides for a fundamentally different factors variance for existing industrial users of POTW's similar to that provided for direct dischargers.

This provision for a variance will allow an existing (but not a new source) industrial user of a POTW (or any other interested person) to apply for an adjustment (either more or less stringent) to the numerical discharge limits contained in a categorical pretreatment standard when factors relating to an industrial user, fundamentally different from those considered in promulgating the pretreatment standard, justify the establishment of a significantly different discharge limit. The factors considered in approving or disapproving a variance will generally include the nature and volume of the discharge including the types and amounts of pollutants, the raw materials used in the operation, equipment, facilities and processes employed by the discharger, nonwater quality environmental impact of complying with pretreatment standards and the cost (and energy requirements) of applying pretreatment technologies. The economic/financial capability of the firm will not be considered in this variance. A fundamentally different factors variance will be granted only with the approval of the EPA; where the source is located in an NPDES State, the State Director must also approve the variance. Where a fundamentally different factors variance is approved, the EPA will establish alternative discharge limits for the industrial user that are justified by the fundamental difference. The NPDES permit regulations (40 CFR Part 125) are being updated by the EPA. When 40 CFR Part 125 are promulgated they will repeal the provisions for fundamentally different factors variances now included in 40 CFR 403 and consolidate in one place (40 CFR Part 125) the variance provisions for direct dischargers and industrial users of POTW's.

2. Revisions to Reflect POTW Removal of Pollutants

a. Pollutant Removal by POTW's. As discussed previously (see B. Pretreatment Standards and Guidance) levels of treatment required in categorical pretreatment standards for existing and new sources will be technology-based. Such a level of pretreatment will be established with the assumption that no pollutant removal occurs in the POTW to which the industry discharges. While the legislative history (House Conference Report (95th Congress, first session, No. 92-911, page 113)) of the Federal Water Pollution Control Act Amendments of 1972 cautions against preventing redundancies in treatment, consideration of POTW pollutant removal in establishing national pretreatment standards is extremely difficult, and in many cases impossible. Among the reasons for this difficulty are the vast numbers of industrial users of POTW's, the numerous combinations of municipal/industrial waste treatment facilities, and the extreme variability in pollutant removals experienced by POTW's (even those POTW's of the same treatment configuration).

It is recognized that some industrial users may have to treat to levels higher than

would be required if the removal capability of POTW's were considered in setting national standards. Approximately 900-1,000 POTW's provide better than secondary treatment and a number of these may be specifically designed (e.g., physical-chemical systems) to remove pollutants from industrial contributors. In addition, some secondary biological treatment systems may provide substantial removal of pollutants that they are not specifically designed to treat.

b. *Accounting for POTW removal capabilities.* The National Pretreatment Strategy, in accordance with the Federal Water Pollution Control Act Amendments of 1972 and the Clean Water Act of 1977, provides a mechanism for POTW's to revise the pollutant discharge limits in categorical pretreatment standards for industrial users to compensate for pollutant removals attained by the POTW. This section will discuss such revisions for POTW removal of a pollutant and will explain the requirements of § 403.7 which sets out the conditions and procedures for modifying categorical pretreatment standards.

Section 307(b)(1) of the Clean Water Act provides for case-by-case revisions of categorical pretreatment standards for existing sources to compensate for pollutants removed and treated by the POTW, both where the POTW is designed to remove the pollutant as well as for cases where the additional removal is incidental to the treatment configuration. In section 307(b)(1) the Act conditions such case-by-case revisions upon: (i) The POTW removing all or part of the pollutant, (ii) the POTW not violating the effluent limitation applicable to the pollutant if it were discharged by the industrial source other than through a POTW, and (iii) any such revision not preventing use or disposal of the POTW's sludge in accordance with section 405 of the Act. The same requirements will be applied to modifications of pretreatment standards for new sources.

Each categorical pretreatment standard will include a provision recognizing the option of the owner or operator of the POTW to modify the discharge limits in the standard applicable to individual classes of sources introducing a pollutant which is removed in whole or in part by the POTW. Revision of a categorical pretreatment standard will be conditioned on documentation submitted to EPA (or an NPDES State) which:

(i) Justifies the revision on the basis of POTW specific data showing reliable and consistent removal of the pollutant in accordance with the definitions and criteria set forth in § 403.7; and

(ii) Demonstrates that its method of sludge use or disposal is in compliance with any published EPA criteria applicable to the sludge disposal method being used and would remain so with the revisions.

In addition to meeting these two major requirements, the POTW must have an approved POTW pretreatment program pursuant to § 403.8.

c. *Documented POTW removal of pollutant.* One criterion in section 307(b)(1) of the Act states: " * * * the treatment by such [POTW] removes all or any part of such toxic pollutant and the discharge from such works does not violate that effluent limitation or standard which would be applicable to such toxic pollutant if it were discharged by such source other than through a publicly owned treatment works * * *". The House Conference Report (95th Congress, first ses-

sion, No. 95830, page 87) accompanying the Clean Water Act states that the intent of Congress was that the combination of pretreatment and treatment by the POTW shall achieve at least that discharge limit required if the same industrial source were making a direct discharge. In other words, the modified pretreatment requirement for an industrial user, plus the treatment provided by the POTW must equal at least the treatment level required by BAT for a direct discharger in the same industrial category. The statements of Senator Muskie of Maine and others regarding this particular provision of the Act indicate that the intent of Congress was to provide equity in the criteria establishing the levels of pollutant removal required of industrial dischargers, whether they discharge through a POTW or directly to receiving waters.

In applying the statutory language, as written, the first decision is to determine what would be the equivalent direct discharge limitation for an industrial user of a POTW. National pretreatment standards will be expressed as concentration limits and in most cases will specify uniform limits across an entire industrial subcategory. On the other hand, direct discharge limitations are expressed as a mass limit or amount of a pollutant per unit of production. This means that the effluent limit for each direct industrial discharger varies with its production. An accurate conversion would, therefore, require the POTW to examine the flow, concentration and production levels of each industrial user and calculate an equivalent direct discharge limitation. Many POTW's especially smaller ones, have submitted testimony to the EPA stating it would not be possible for them to examine and determine a mass pretreatment standard for each industrial user because of staff limitations and difficulties in obtaining accurate production data and correlating the data with concentration and flow.

In some subcategories industrial users will be regulated by categorical pretreatment standards, but direct discharges in the same subcategories have not or will not be regulated by national effluent guidelines. This could mean that for industrial users in some industrial categories (i.e. electroplaters) direct discharge limitations needed to determine compliance with the criteria in section 307(b)(1) for modifying categorical pretreatment standards will not be available in time to determine and apply a modified standard. Where no national effluent limitation will be developed, industrial users would be denied the opportunity to reduce the costs of compliance with pretreatment standards only because a comparable standard had not been developed.

Under the statutory criteria for modifying a categorical pretreatment standard, a POTW would next have to monitor, over time, the mass of the particular pollutant in its effluent and compare it with the total allowable mass discharge from all regulated sources of the pollutant (based on the calculated equivalent direct discharge limits for each source of the pollutant). In determining eligibility for modifying national standards, the POTW's effluent would include mass emissions by unregulated point and nonpoint sources. If the monitored POTW effluent did not exceed the computed total allowable direct discharge standard, the POTW would then have to develop modified categorical pretreatment standards for all sources of the pollutant and check to insure that the modified pretreatment standards

would still allow the POTW's effluent to be at least equivalent to the effluent limitation that would apply to a direct discharger in the same industrial category. Finally, as industrial dischargers to the POTW change over time, continued compliance with the statutory criterion as written in the Act would require repetitions of this complex procedure.

The EPA does not believe that the intent of Congress in drafting section 307(b)(1) was to establish a criterion that prevented modified categorical pretreatment standards simply because (i) direct discharge standards did not exist, (ii) some POTW's were technically unable to perform the required analysis, or (iii) the administrative burden to the POTW, NPDES States, and the EPA was unmanageable in the time required for compliance with the categorical pretreatment standards.

For the above reasons the strategy provides a system for calculating POTW removals and modified pretreatment standards which the EPA believes fulfills the intent of the law, but is workable. The system bases the determination of eligibility to modify a categorical pretreatment standard upon operating data that shows consistent removal of a pollutant by the POTW. That is, the system is based on the language in section 307(b)(1) which states that " * * * the treatment by such [POTW] removes all or any part of such toxic pollutant * * *". The POTW's removal of a pollutant would be determined by measuring the influent concentration versus the effluent concentration at the POTW and expressing the difference as a percentage of the influent concentration. The categorical pretreatment standard for each industrial subcategory discharging the pollutant could then be modified by the percentage removed by the POTW. Since the national standard for direct discharges and the pretreatment standard for industrial users are both based upon BAT or more stringent criteria, the modified pretreatment standard should "achieve at least that level of treatment which would be required if the industrial source were making a direct discharge" and it will "reflect the degree of reduction of that pollutant achieved by the treatment works" (See House Conference Report (95th Congress, first session, No. 95830, page 87)).

The revised discharge limit for a specified pollutant would be derived by use of the following formula:

$$y = \frac{x}{1 - r}$$

where:

x=pollutant discharge limit specified in the applicable categorical pretreatment standard (expressed in mg/l)

r=POTW's consistent removal rate for that pollutant percentage expressed as a decimal

y=revised discharge limit for the specified pollutant (expressed in mg/l)

For example, if the national standard for a pollutant is 1 mg/l and the POTW consistently removes 50 percent of that pollutant, then the new pretreatment limit would be 2 mg/l. The same modified pretreatment requirement would be applied to all users of the POTW in that industrial subcategory.

The strategy and regulation call for removal to be calculated by measuring the dif-

ference between the concentrations of a pollutant in the influent and effluent of the POTW for representative conditions during dry and wet weather and expressing that difference as a percent of the measured influent concentration. The "removal" must be the result of actual treatment by the POTW, that is either a reduction in the amount of, or an alteration in the nature of a pollutant in the wastewater to a less toxic or harmless state. The EPA recognizes that in some cases small amounts of a toxic pollutant discharged to a POTW's sewer system may become so diluted by huge volumes of municipal wastewater that monitoring equipment will be unable to detect it in the influent of the POTW. This inability of equipment to detect a highly diluted toxic pollutant will not, by itself, be accepted by the Agency as proof that the POTW removes the pollutant. In the case of pollutants that can be shown to be degradable during the average retention time in the sewer system removal could still be assumed where no detectable amount was found in the influent to the POTW. However, in the case of conservative or nondegradable pollutants, inability to measure pollutant concentration in the influent or removal across the POTW would not justify revising the categorical pretreatment standard.

In order to justify allowing a revision to a categorical pretreatment standard the pollutant removal claimed by a POTW must occur virtually all of the time. The EPA believes that a stringent interpretation of "removal" is warranted in light of the policy of the Act to prohibit the discharge of toxic pollutants in toxic amounts (section 101(a)(3)) and the application of section 307(b)(1) to section 307(a)(1) toxic pollutants. Most of these toxic pollutants are persistent and/or may bioaccumulate in food chains. As used in the regulation (§ 403.7), "consistent" removal is the removal capability that a POTW is able to show occurs in 95 percent of the representative measurements taken.

POTW's which have combined sewers or systems which regularly bypass untreated waste to receiving waters allow significant discharges of toxic pollutants. POTW's which bypass more than once per year may modify categorical pretreatment standards for their documented removal only where, in compliance with the EPA's policy (see EPA, Office of Water Programs Operations document, "PRM 7534," also known as "Program Guidance Memorandum 61," dated December 16, 1975), efforts are underway to correct conditions that result in untreated bypasses. At a minimum a POTW that bypasses at least once a year will be required to have an approved facility plan which includes treatment and control of combined sewer overflows and be implementing the plan or have submitted an application for a step 2 construction grant to implement the plan. Allowances for POTW removal will not be considered where efforts (detention and treatment, street sweeping, point or nonpoint source control, etc.) are not being made to minimize pollution from bypasses.

In the case of POTW's whose removal may be altered by construction, approval of POTW removals may be conditioned on an existing pilot plant's influent and effluent data. The conditional approval would give the owner or operator of the POTW up to 12 months after completion of the construction to collect the necessary operating data and confirm or modify the removals that were allowed based on pilot plant data.

d. *Compliance with section 405 of the Act.* The second major criterion in section 307(b)(1) of the Act governing modification of categorical pretreatment standards is that the modified standard " * * * (will) not prevent sludge use or disposal by such works in accordance with section 405 * * * " The purpose of this provision is to insure that any additional amount of incompatible pollutants allowed into the POTW as a result of modified pretreatment standards not contaminate the sludge or otherwise interfere with use or disposal in a manner which protects the environment.

Section 405 of the Act requires the EPA to develop and publish regulations providing guidelines for the disposal and the utilization of sludge for various purposes. These regulations will identify uses (including disposal), specify factors to be taken into account in determining measures and practices applicable to use or disposal options, and identify wherever possible, concentrations of pollutants which interfere with each such use or disposal option. Under section 405, the determination of the manner of sludge use or disposal is a local decision. However, once a sludge management option is selected, it is unlawful for the POTW to violate the guidelines established under section 405 for that use or disposal option. The applicable guidelines from section 405 will be incorporated as conditions in the municipal NPDES permit.

EPA expects to propose section 405 regulations by December 1978. The regulations will be issued jointly with regulations developed under section 4004 of the Solid Waste Disposal Act (Pub. L. 94-580). The regulation will also incorporate by reference applicable regulations issued under the authority of the Clean Air Act for incineration, the Toxic Substances Control Act, existing ocean dumping regulations, and any more stringent State criteria (including those contained in any State sludge management plans developed in partial fulfillment of the Solid Waste Disposal Act). The section 405 regulations will also incorporate, as appropriate, provisions for disposal of municipal sludges classified as hazardous under subtitle C of the Solid Waste Disposal Act.

Under section 307(b)(1) of the Clean Water Act local authority to modify categorical pretreatment standards will in part be contingent upon the POTW's sludge management meeting and remaining in compliance with any published section 405 criteria applicable to the method of sludge management that has been locally selected. Where section 405 criteria are not yet available, applicable EPA and State guidance will be used and the municipal NPDES permit will condition continuation of the allowances for POTW removal upon compliance with section 405 criteria whenever it is published. A reasonable time for compliance will be established by the Regional Administrator.

e. *Approved POTW pretreatment program required.* The 40 CFR Part 403 regulations authorize modification of a national pretreatment standard only where a POTW pretreatment program (pursuant to § 403.8) has been developed and approved. Section 402(b)(8) of the Clean Water Act requires the POTW to have a program to assure compliance with national pretreatment standards. The EPA believes that Congress intended to require an approved POTW pretreatment program to be established prior to authorizing a POTW to modify national standards. A local pretreatment program is

necessary to insure that the revised pretreatment standards are complied with by industrial users and that the POTW removal levels which justify modification of national standards can be maintained.

The House Conference Report (95th Congress, first session, No. 95-830, pages 8788) states that: "Any effluent reduction attained by the treatment works and used to justify a modification of pretreatment requirements must be a permit condition enforceable against the owner or operator of the treatment works." In this manner Congress provided a way to ensure that the requirements of section 307(b)(1) were met initially and continued and that the public would be accorded due process protections in any modification of a national standard.

In establishing the right to grant modifications of national standards for pollutant removals attained by a POTW, Congress, in section 402(b)(8) of the Act provided that local programs to enforce categorical pretreatment standards must precede modifications of the standards. Page 87 of the House Conference Report states " * * * in applying these pretreatment standards through its pretreatment program, the owner or operator of the municipal treatment works could modify the requirements * * * to reflect the degree of reduction achieved by the treatment works" [emphasis added]. Senator Muskie explained the rationale for this precondition to modifying a national standard in his Floor Manager's Report: " * * * Tying local credits (allowances for POTW removals) to local compliance programs * * * provides assurance that the removal levels which justified the local credits will be maintained by a publicly owned treatment works committed to operating a sound pretreatment program."

When a POTW revises a categorical pretreatment standard to compensate for its removal of a pollutant, a partnership is formed in which both the discharger and the POTW assume responsibility for meeting the pretreatment standards. The shared responsibility is established by section 307(b)(1) which requires that where national standards are revised, the combination of pretreatment and treatment by the POTW shall be at least equal to BAT for a direct discharger. Thus section 307(b)(1) presumes that the POTW will replace the national standard with a locally enforced pretreatment requirement. The shared responsibility for compliance with national standards, with or without local modification for POTW removals, is reinforced in section 309(f) of the Act. Section 309(f) requires that where a source is in violation of a pretreatment standard and the POTW does not commence enforcement within 30 days, Federal enforcement shall be against the POTW for failing to secure compliance by the source. Such Federal enforcement must include the owner or operator of the violating source as a co-defendant according to section 309(f). Thus section 309(f) assumes the prior existence of a POTW pretreatment program. Logic dictates that the existence of a POTW pretreatment program is even more necessary where consistent national standards are modified locally and the source and the POTW share responsibility for treatment in compliance with the modified standards.

The requirements for POTW pretreatment programs and procedures by which such programs are approved are discussed in both the strategy (see D. POTW pretreatment programs) and the regulation (§ 403.8).

f. Establishment of modified pretreatment standards. Application for authorization to revise discharge limits for users who are or may in the future be subject to categorical pretreatment standards may be included with a POTW's pretreatment program submission pursuant to § 403.8, § 403.9 and § 403.11 of the regulation. Subsequent applications for authorizations covering additional pollutants will be processed only at the time of the POTW's NPDES permit reissuance; therefore, POTW's should apply initially for authorization for any pollutant they remove and for which they may wish to modify an existing or prospective categorical pretreatment standard prior to the next scheduled permit reissuance. Upon receipt of the application, the approval authority (either the Regional Administrator or State director in an NPDES State with an approved pretreatment program) will review, issue notices and receive public comment on the request in accordance with the procedures described in § 403.11 of the regulation. The POTW will be authorized to modify categorical pretreatment standards (according to the procedures described in § 403.7) where the POTW demonstrates that the following summary of conditions have been met:

(i) The pollutant is consistently removed and treated by the POTW in whole or in part. This means: (a) The documented removal occurs in 95 percent of the representative samples taken; and (b) the POTW, if it bypasses untreated discharges one or more times annually, has completed an analysis as required in program guidance memorandum PG-61 and is implementing control measures identified by that analysis.

(ii) The POTW's method of sludge disposal or utilization is currently and will remain in compliance with the criteria, guidelines, and regulations established under section 405 of the Clean Water Act.

(iii) If the POTW has a construction grant from funds authorized in a fiscal year beginning after September 30, 1978, it must have completed the analysis required by section 201(g)(5) of the Clean Water Act and have demonstrated that the removal claimed will not preclude an alternative or innovative technology.

(iv) The POTW has a pretreatment program approved in accordance with the provisions of 40 CFR 403.

After a POTW has been authorized to modify categorical pretreatment standards for one or more pollutants, the modified standards established by the POTW will become the applicable limits for new and existing industrial sources of that pollutant. These alternative pretreatment requirements will be included in the POTW's NPDES permit and enforced through the local authority's industrial waste ordinance, permits, licenses, joint powers agreements, or contractual agreements. The EPA will also enforce the alternative pretreatment limits, if necessary, against both the POTW and the industrial user. Further, EPA or the NPDES State can withdraw the authorization (and the POTW pretreatment program) upon 60 days notice of continued violation of either the modified pretreatment limits or any conditions contained in the POTW's permit. If the authorization is withdrawn, the EPA or the NPDES State will notify the industrial users of the POTW and require compliance with limits in the categorical pretreatment standards as quickly as possible (never more than 3 years) thereafter.

D. POTW PRETREATMENT PROGRAMS

The pretreatment strategy embodied in these regulations envisions a parallel effort on the part of Federal, State and local governments to implement and enforce pretreatment and municipal sludge management requirements. The main focus of this implementation and enforcement effort is at the local level through the establishment of POTW pretreatment programs.

The primary responsibility for ensuring compliance with and enforcing against violations of pretreatment standards will fall upon these local authorities since they have the most immediate stake in the success of the pretreatment program, including protection of the proper functioning of the POTW, protection of public health and the local environment, and increased opportunity to use lower cost sludge management methods. This focus on local implementation and enforcement of national pretreatment standards is reflected in section 402(b)(8) of the Clean Water Act which requires the establishment of pretreatment programs enforceable through the POTW's NPDES permit. It is also reflected in the requirement of section 309(f) that a civil action be taken against a POTW if the POTW does not enforce against violations of national pretreatment standards by industrial users.

NPDES States, through State pretreatment programs which meet the requirements of § 403.10, will oversee the operation of the POTW program, provide backup compliance assurance and enforcement activities and, where a POTW pretreatment program has not been developed, assume primary responsibility for applying pretreatment standards and other pretreatment requirements to industrial users. The Federal role in this three-tiered hierarchy is much like that of the NPDES State. EPA will oversee the operation of NPDES State pretreatment programs and POTW pretreatment programs, provide backup enforcement and compliance assurance activities to supplement those carried out by NPDES States and POTW's and, in the absence of a POTW pretreatment program and State pretreatment program, apply pretreatment standards and requirements to industrial users.

1. POTW's Which Must Establish Pretreatment Programs

Section 402(b)(8) of the Act requires that POTW's receiving pollutants from significant industrial sources subject to section 307(b) standards establish a POTW pretreatment program to ensure compliance with these standards. Therefore, POTW's receiving wastes from industrial sources of non-domestic pollutants subject to the discharge prohibitions in 40 CFR 403.5 and the categorical pretreatment standards in 40 CFR Chapter I, Subchapter N will be required to develop a POTW pretreatment program.

The only exception to this broad requirement is that smaller POTW's which would be unlikely to have sufficient funding or technical expertise to implement an effective pretreatment program will not automatically be required to develop a POTW pretreatment program. These smaller POTW's are defined as those with a design flow of 5 million gallons per day (mgd) or less. However, a local authority operating two or more small POTW's in a regional system whose combined design flow is greater than 5 mgd, will be required to develop a

pretreatment program. The Approval Authority (an NPDES State with an approved pretreatment program or EPA) will assume primary responsibility for enforcing pretreatment standards for industrial users in these 5 mgd or smaller POTW's. The Approval Authority may require that a POTW with a design flow of 5 mgd or less develop a POTW pretreatment program if the nature or volume of the industrial effluent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant. In addition, any POTW desiring to modify categorical pretreatment standards for pollutants removed by the POTW must first have an approved POTW pretreatment program. POTW's excepted from the requirement to have a pretreatment program will nevertheless be subject to an enforcement action under section 309(f) of the Act.

There are approximately 568 POTW's which are designed to accept wastewater flows of more than 5 mgd and which are believed to receive industrial wastes subject to national pretreatment standards. These 568 POTW's account for approximately 87 percent of the industrial influent to POTW's. EPA and the NPDES States will be responsible for enforcement of national pretreatment standards in the approximately 1,900 POTW's receiving industrial wastewaters which are not required to develop pretreatment programs.

Although POTW's with a design flow of more than 5 mgd receiving industrial wastes subject to pretreatment standards will be required to develop a POTW pretreatment program, EPA will initially focus particular attention on ensuring that certain classes of POTW's are in compliance with the requirement for a pretreatment program. POTW's receiving significant toxic loadings from any of the 21 industrial classes identified in the NRDC Consent Decree will be a prime focus for Federal, State, and local pretreatment efforts. In addition, POTW's which are failing to meet effluent limitations because of possible interference with POTW operations by industrial effluent, and POTW's which receive industrial effluent and are on State priority lists for receipt of construction grant monies will receive priority attention.

2. NPDES Permit Requirements for POTW Pretreatment Programs

When the existing municipal NPDES permit for those POTW's required to develop a pretreatment program, is next issued, reissued, or modified, a compliance schedule will be incorporated in the permit. The compliance schedule will require the development of an approvable POTW pretreatment program as soon as reasonable and within not more than 3 years of the time of permit issuance, reissuance or modification but in no case later than July 1, 1983 (see § 403.8). This compliance schedule will be incorporated into almost all affected POTW permits upon reissuance at the end of their existing term.

In some cases, however, the compliance schedule will be incorporated into the POTW permit in mid-term through a permit modification. POTW's discharging into marine waters and requesting a waiver of secondary treatment requirements under section 301(h) of the Act will have their permits modified to incorporate a pretreatment program compliance schedule (see proposed 40 CFR Part 233, Subpart H) if a modification of the secondary treatment require-

ment is approved. POTW's which receive a modified permit to extend the compliance schedule for development of secondary treatment under the provisions of section 301(i) of the Act will also have a pretreatment program compliance schedule incorporated into the permit at the time of approval of any time extension. The pretreatment compliance schedules for section 301(h) will require a pretreatment program within not more than 2 years of permit modification. In addition, a POTW permit will be modified in mid-term to incorporate a schedule for the development of a POTW pretreatment program, including the disposal or use of its sludge, where the operation of a POTW without a pretreatment program poses significant public health, environmental or related concerns, or where a pretreatment program compliance schedule must be developed to coordinate with construction grant awards (see proposed 40 CFR 35.907).

Development of the POTW pretreatment program according to the compliance schedule will be enforced through the POTW's NPDES permit. Upon approval of the POTW pretreatment program, the requirements of the program will also be enforceable through incorporation into the POTW permit, as the discussion in section F. Enforcement will explain.

A POTW may elect and is encouraged to begin developing a pretreatment program before its existing NPDES permit is reissued or modified. Those POTW's with permits not expiring until 1982 or later will probably have to begin developing a pretreatment program prior to reissuance of their permit in order to comply with the requirements for a local program by July 1, 1983. Where a POTW desires to modify categorical pretreatment standards to take into account removal of pollutants by the treatment works, the POTW's pretreatment program must first be approved. In accordance with the requirements of § 403.8 and § 403.9, the POTW would submit a description of the program which has been developed to the Approval Authority. Upon approval of the program by the Approval Authority, the POTW's NPDES permit will be modified to incorporate the conditions of the POTW pretreatment program and any demonstrated percentage of removal and/or modified pretreatment standards, if the POTW is requesting authority to modify national standards (§ 403.9).

In addition to the requirements for a POTW pretreatment program which will be incorporated into some municipal NPDES permits, several other requirements may be incorporated into any municipal permit issued a POTW regardless of its capacity which receives wastes from sources subject to 307(b) pretreatment standards. To supplement the national discharge prohibitions (§ 403.5), NPDES permits will require the POTW to develop prohibitions which are specific to the POTW's capacity and ability to accept and treat pollutants without interference. Under the authority of section 402(b) of the Act, POTW's may also be required as a condition of their permit to develop local pretreatment standards which are more stringent than national standards or cover other incompatible pollutants. More stringent or additional local standards may be required to comply with State water quality standards, attain and maintain best practicable waste treatment technology, comply with section 405 sludge management requirements, or compensate for lower rates of removal of toxics associated with sus-

pended solids in POTW's not yet providing at least secondary treatment.

3. Requirements of POTW Pretreatment Program

A POTW, through its pretreatment program will be expected to require compliance with national pretreatment standards and with pretreatment requirements developed by the POTW. The POTW will also be expected to enforce against industrial users for violations of these standards. To be approved by EPA or an NPDES State, the POTW pretreatment program would be required to contain a number of authorities, procedures, and program elements as described in 40 CFR 403.8.

First, the POTW will be required to have an ordinance, statute, contract, permit, joint powers agreement or other written legal authority binding upon industrial users which authorizes and enables the POTW to enforce pretreatment standards and requirements under contract law or the police powers in the appropriate courts (§ 403.8(f)(1)). This authority shall include authority and procedures for identifying sources of industrial wastewaters, prohibiting the discharge by industrial users of certain hazardous wastes, requiring compliance with applicable pretreatment standards and requirements, and initiating enforcement actions, if needed.

Second, the POTW will be required to have procedures and authority to require monitoring and reporting by industrial users; to enter the industrial users' premises; to carry out monitoring and inspections to verify compliance by industrial users, independent of reports submitted by industrial users; to enforce against violations identified in these reports; and comply with public participation requirements (§ 403.8(f)(2)). EPA or the NPDES State may recommend that the POTW annually audit a specified sample of its industrial users and follow-up these compliance reviews with enforcement proceedings where needed.

Third, the POTW would be required to show it has the funding, personnel, and other resources to implement a POTW pretreatment program (§ 403.8(f)(3)) including, where a construction grant is involved, a user charge system which meets the requirements of amendments to 40 CFR 35.929-2.

4. Process for Approval of POTW Pretreatment Program and Authorization of POTW Removals

A description of the POTW pretreatment program authorities and procedures described above, copies of statutes, ordinances, contracts, and agreements to be relied upon in implementing these authorities and procedures, and an accounting of funding and manpower for the program along with a description of the organization of the responsible administrative body of the POTW will comprise the pretreatment program submission. In addition, POTW's requesting authority to modify national standards under § 403.7 shall include in the submission the demonstrated level of removal of those pollutants for which a modification of national standards is requested. This POTW pretreatment program submission would be submitted for approval to the Approval Authority.

If the POTW is located in an NPDES State with an approved State pretreatment program, the Director of the NPDES State

is the Approval Authority. If the POTW is located in a State without NPDES responsibility, or in an NPDES State without an approved State pretreatment program, EPA is the Approval Authority. Where EPA is the Approval Authority, an NPDES State without an approved pretreatment program will receive requests for program approval and authorization to modify categorical pretreatment standards from POTW's, but will have only the authority to deny such requests, and to forward any recommendations for approval to EPA for a final determination. Denial by NPDES States of POTW requests for approval of the program or pollutant removals may not be appealed to EPA. EPA will consult with the NPDES State in approving all POTW pretreatment programs and POTW authorizations to modify national standards.

At the Approval Authority's discretion, approval of POTW pretreatment programs which do not have resources sufficient to carry out all program objectives may be granted if resources sufficient to address current program needs are available and a mechanism has been developed to acquire additional resources as required (i.e., user charges, surcharges, industrial cost recovery, etc.—see § 403.8(f)(3)).

Upon submission of a request for approval of a POTW pretreatment program the Approval Authority will issue a public notice, provide a 45 day comment period, and provide an opportunity for a public hearing. The public comment period and public hearing on the submission may be held at the same time and it is recommended that this be done wherever possible.

In general, EPA or the State will be required to approve or disapprove the POTW pretreatment program within 90 days after receipt of the request. This period may be extended to no more than 180 days if the public comment period is extended or if a public hearing is held.

Where the NPDES State is the Approval Authority, EPA will reserve the right to veto the State approval within 45 days upon a written finding that the POTW pretreatment program does not comply with the Act or these regulations (40 CFR Part 403).

5. Financial Incentives for Pretreatment Programs

The strategy provides for Federal grants under sections 106, 201, 205, and 208 of the Clean Water Act to assist POTW's and States to develop pretreatment programs. Under the authority of sections 201 and 208, Federal funds can provide 75 percent of the costs of developing POTW pretreatment programs. Construction grants would be used to fund development of a POTW pretreatment program wherever the EPA Regional Administrator or a State determines that a section 208 plan or areawide wastewater management plan has not provided for the development of a pretreatment program which meets the requirements of § 403.8.

On April 28, 1978, EPA proposed amendments to the construction grant regulations (40 CFR Part 35). These amendments are summarized in this section. The public comment period on these amendments closes June 30, 1978. EPA expects to promulgate regulations for 40 CFR Part 35 in the fall of 1978.

The proposed amendments to 40 CFR 35.907 would require the development of a pretreatment program where required under 40 CFR 403.8. EPA will issue guid-

ance to States encouraging increased priority for step 1 grants to help establish local pretreatment programs. States should consider priority funding of POTW pretreatment programs where significant problems with toxics may exist, industrial wastes may be responsible for frequent inhibition or interference with POTW operations, and where wastewater recycle/reuse or land application of municipal sludge may be prevented by industrial pollutants.

The proposed amendments would authorize the Regional Administrator to require revision or amendment of a step 1, 2, or 3 grant for the development of an approvable POTW pretreatment program.

The proposed amendments would require accomplishing increments of progress in developing pretreatment programs in step 1, 2, and 3 grants, including:

(i) Developing an inventory of industrial and commercial wastes being introduced into the treatment works;

(ii) An evaluation of legal authority, including the adequacy of enabling legislation and the selection of mechanisms to be used for control and enforcement;

(iii) An evaluation of financial programs and revenue sources to ensure adequate funding to carry out the pretreatment program;

(iv) A determination of technical information (including specific requirements to prevent sludge discharges and specify violations of the discharge prohibitions in § 403.5) necessary to develop an industrial waste ordinance or other means of enforcing pretreatment standards;

(v) Design of a monitoring enforcement program;

(vi) A determination of pollutant removals in existing treatment works;

(vii) A determination of the treatment work's tolerance to pollutants which interfere with its operation or with sludge use or disposal;

(viii) Purchase of monitoring and laboratory equipment for use by the POTW;

(ix) Construction of facilities necessary to monitor industrial wastes; and

(x) Any other works or activities approved by the Regional Administrator as necessary to obtain approval of the pretreatment program pursuant to 40 CFR Part 403.

The amendments proposed to 40 CFR 35.940-1 would establish development of a POTW pretreatment program which meets the requirements of § 403.8 as allowable project costs. Items (vi) and (vii) above would be grant eligible when necessary for the design of the treatment facility; they would not be grant eligible when done only to support a request for authorization to modify national standards under § 403.7.

The requirements for POTW pretreatment programs in construction grants would be phased in so that pretreatment programs are established at the maximum practicable pace and without severe disruption of the construction grants program. Proposed amendments to 40 CFR 35.917-1 would require that a POTW pretreatment program as described above be provided for in facilities plans. Proposed amendments to 40 CFR 35.920-3 provide that after December 31, 1979, grantees who are required to develop a pretreatment program shall submit items (i), (ii), and (iv) above to obtain approval of their step 2 application. After June 30, 1980, grantees subject to the requirement for pretreatment programs would be required to submit items (i) through (vii) above, as applicable, in their step 3 application. Items

(viii) and (ix) above would be funded in step 3.

Amendments proposed in May 1978 to 40 CFR 35.929-2 require the grantee to demonstrate that local funds will be available to operate the pretreatment program as part of compliance with section 204(b) of the Act. Where a pretreatment program is required, a user charge system submitted for approval after June 30, 1979, would, in combination with other sources of revenue, have to be adequate to fund the operating costs of the pretreatment program. These costs include compliance with applicable municipal sludge disposal or use criteria in section 405 of the Act and related regulations.

The proposed amendments to 40 CFR 35.935 would prohibit the Regional Administrator from paying more than 90 percent of the Federal share of any step 3 grant awarded after the effective date of the promulgated regulation if the grantee has not submitted a POTW pretreatment program approvable by the Regional Administrator or the NPDES State. For grants awarded prior to June 30, 1980, the proposed amendment enables the Regional Administrator to decide to continue grant payments upon determining that significant progress has been made (and is likely to continue) toward the development of an approvable pretreatment program and that withholding grant payments would not be in the best interest of protecting the environment.

EPA will use funds available under section 208 to provide 75-percent funding for the development of State or local pretreatment programs. Some existing areawide 208 planning grants are assisting in the development of pretreatment programs. To assist States and areas currently lacking 208 funding for developing pretreatment programs in areas where a construction grant is not anticipated, EPA has requested 208 funding for pretreatment in fiscal years 1979 and 1980.

The Agency recognizes that in many cases POTW's may be the best equipped to develop the technical aspects of a local pretreatment program and, that as the NPDES permittee, POTW's are legally responsible for ensuring compliance by industrial contributors with pretreatment standards. In such cases, 208 planning agencies, if different than the POTW, will be encouraged to channel some of their 208 funds directly to POTW's for development of specific parts of the local pretreatment program. In other instances States may designate 208 agencies as the agency responsible for developing POTW pretreatment programs or they may assign the responsibility to a POTW with provisions for assistance from the 208 planning agency.

Section 208 planning funds may be used to fund the pretreatment program development costs listed in items (i) through (v) and item (vii) above. Section 208 planning funds may also be used to coordinate development of the various POTW pretreatment programs in an area to insure that issues such as economic growth, sludge use or disposal, and wastewater reclamation and reuse are adequately considered in developing the pretreatment program. Section 208 funds may, in addition, be used to provide areawide or statewide services to assist POTW's to develop and implement pretreatment programs, including: Resolving jurisdictional disputes, assisting in public participation, central contracting for monitoring and technical services to be used by POTW's in areas where qualified consultants experienced with toxics are limited, design of pre-

treatment program financing arrangements, etc. In addition, where POTW's are 5 mgd or less and have not developed a pretreatment program, NPDES States may use 208 funds to develop the State's NPDES enforcement program for pretreatment.

E. NPDES STATE PRETREATMENT PROGRAMS

Section 402 of the Act requires that NPDES States have a program to ensure compliance by POTW's with the requirements described in the previous discussion and in § 403.7 and § 403.8 of this regulation. States with approved NPDES programs must seek a modification of the existing program, if necessary, to incorporate the necessary pretreatment authorities. NPDES States will be allowed until March 27, 1979, to apply for this modification unless new State legislation or revision of existing statutes is needed, in which case the deadline for modifying the State program will be March 27, 1980. The requirement to modify the State NPDES program for pretreatment may be accomplished by modifying the State/EPA memorandum of agreement, providing a State attorney general's statement attesting to State pretreatment program sufficiency, or through another similar mechanism. States which have not yet received NPDES authority must develop the requisite pretreatment program elements before their application to assume NPDES authority is approved.

All NPDES States will be required to submit to the Administrator within 45 days of the effective date of 40 CFR 403, a statement by the State attorney general (or the attorney for those State water pollution control agencies which have independent legal counsel) indicating whether the State has adequate authority, and a statement by the Director indicating whether the State has adequate procedures and funding to carry out the requirements of § 403.8(f) of these regulations. If this statement asserts that the State does not have adequate authority, procedures or funding, to carry out the requirements of § 403.8(f), it will identify the additional authorities, procedures or funding which will be obtained by the State in order to conform to the requirements of § 403.8(f) and the State will be allowed until March 27, 1979, or March 28, 1980, as appropriate, to develop an approvable State pretreatment program.

An NPDES State which currently lacks authority to reissue or modify existing POTW permits to incorporate pretreatment requirements before the appropriate effective date for State pretreatment program approval set forth in § 403.10(b) will not be required to do so before March 27, 1979, or March 27, 1980, as appropriate. For example, such States will not be required to put compliance schedules for the development of a POTW pretreatment program into expiring POTW permits or to modify or reissue a POTW's NPDES permit to incorporate the requirements of an approved POTW pretreatment program as required by § 403.8 (c) and (d). However, those States which lack the necessary authority will be required by § 403.10(d) to put a modification clause in expiring POTW permits requiring that such permits be promptly reissued or modified, after the effective date for State pretreatment program approval, to incorporate an approved POTW pretreatment program or a compliance schedule for the development of a POTW pretreatment program within 3 years of permit reissuance but in no case later than July 1, 1983. All

appropriate POTW permits reissued without this modification clause will be subject to veto by EPA.

The statement by the Director and State Attorney General referred to earlier will also identify the authorities, procedures or funding which the State currently does have. A State will be required to implement those authorities, procedures and funding conforming with the requirements of 403.8(f) which it does have before the appropriate compliance date for an approved State pretreatment program set forth in §403.10(b). For example, before attaining pretreatment program approval, NPDES States will receive and review requests for fundamentally different factors variances from industrial users and either deny the request or recommend approval of the request to EPA (see §403.13). Similarly, prior to pretreatment program approval, NPDES States will either deny or recommend for approval to EPA requests for POTW pretreatment program approval and requests for authority to modify categorical pretreatment standards.

The components of an acceptable NPDES State pretreatment program are set forth in §403.10. There are three basic requirements for an approvable State pretreatment program. First, an NPDES State must have legal authority, similar to that granted to EPA through section 309 of the Act, sufficient to apply and enforce section 307 (b) and (c) pretreatment standards and section 402(b)(8) pretreatment program and reporting requirements for POTW's. Second, the NPDES State must have developed procedures to carry out this authority, such as procedures to assist POTW's in developing pretreatment programs, and monitoring, inspection and surveillance procedures to ensure compliance by industrial users and POTW's. Third, the NPDES State must have adequate funding and qualified personnel to carry out the authorities and procedures described above.

NPDES State costs of enforcing pretreatment standards in areas without a local program will be included in the section 106 State program grant. NPDES State costs of developing its pretreatment program may be funded under section 208 of the Act. State costs of assisting, reviewing and approving POTW pretreatment programs and authorizations to modify national standards may be financed under section 205(g) of the Act.

NPDES States with approved pretreatment programs may elect to vest in the State program the primary responsibility for ensuring compliance by industrial users with pretreatment standards and enforcing against industrial users in violation of these standards. A determination that the State will assume primary responsibility for implementing a pretreatment program, in lieu of encouraging the development of POTW pretreatment programs, will not prohibit a POTW from also developing a pretreatment program.

F. ENFORCEMENT

1. Enforcement of National Pretreatment Standards for Industrial Users

a. *POTW enforcement.* While EPA, NPDES States and POTW's with approved pretreatment programs will have authority to ensure compliance with pretreatment standards and enforce against violations by industrial users of pretreatment standards, POTW's will play the most significant role.

Approximately 87 percent of the industrial influent to POTW's occurs in the larger POTW's which will be required to have a pretreatment program. Where an approved POTW pretreatment program exists, State and Federal enforcement will serve in a backup capacity. The POTW's responsibility will include but not be limited to:

(i) Identifying sources subject to national pretreatment standards;

(ii) Determining that industrial users are in compliance with national pretreatment standards within 3 years or less;

(iii) Developing mass-based standards or equivalent concentration standards where process flows are combined prior to pretreatment;

(iv) Receiving and evaluating self-monitoring reports prepared by industrial users;

(v) Carrying out inspection and monitoring activities to ensure, independent of the self-monitoring reports that the industrial user is in compliance with pretreatment standards, and

(vi) Enforcing against pretreatment violations by the industrial user.

The POTW will derive its enforcement authorities through a contract, joint powers agreement, ordinance or any of the other mechanisms allowed by §403.8. Remedies for industrial noncompliance available to the POTW will include at a minimum the ability to seek permanent or temporary injunctive relief.

Where an approved POTW pretreatment program exists, the approval authority (EPA or the NPDES State) may request review of the industrial users self-monitoring reports to spotcheck the POTW's detection of violations by industrial users. The approval authority will exercise its enforcement authorities where the POTW requests assistance, fails to take necessary enforcement action or where the penalty sought by the POTW is determined to be insufficient by the State director or the EPA Regional Administrator.

b. *State and Federal enforcement.* In the absence of an approved POTW pretreatment program, the NPDES State, if it has an approved State pretreatment program, will assume responsibility for those activities for which the POTW would have had primary responsibility (see the previous section on POTW enforcement). Federal enforcement in this case will play a backup role. The NPDES State responsibility will include ensuring compliance with and enforcing against violations by industrial users, receiving and evaluating self-monitoring reports submitted by industrial users and verifying compliance by the industrial user independent of information supplied by the industrial users' reports.

If the NPDES State does not have an approved pretreatment program, it will be required to exercise in the interim before State pretreatment program approval, those authorities and procedures required by §403.10(f) which it does have. EPA will assume responsibility for those activities which the State does not exercise (see §403.10(b)).

Where no POTW pretreatment program exists and where the State does not have NPDES authority, EPA will assume responsibility for those activities which would otherwise be a POTW or State responsibility (see the previous section on POTW enforcement).

Section 402(b)(2) of the Act requires that an NPDES State have legislation providing equivalent monitoring, inspection, and entry

authorities granted to EPA under section 308 of the Act. Section 308 of the Act provides EPA and NPDES States with authority to impose monitoring and reporting requirements on industrial users to ensure attainment of and continuing compliance with pretreatment standards promulgated under section 307 (b) and (c) of the Act.

EPA will use the enforcement authority granted it under section 309 of the Act to enforce against violations of pretreatment standards by industrial users. An approved State NPDES permit program must have similar enforcement authorities. Section 309 of the Act allows the imposition of criminal and civil penalties and injunctive relief for violation of national pretreatment standards. The operation of a source in violation of national pretreatment standards is unlawful under section 307(d) of the Act. Thus EPA and NPDES States may seek civil, criminal, or injunctive relief for violation of pretreatment standards promulgated under section 307 (b) and (c).

In addition to granting enforcement authority to EPA and NPDES States, the Act, through section 505, provides citizens with the authority to bring a civil action for non-discretionary actions required under sections 201(g)(5), 307, 402(b)(8), and 405 of the Act.

2. Enforcement of POTW Pretreatment Program Requirements

Once NPDES States have the legal authority, they will assume primary responsibility for ensuring compliance by POTW's with the POTW pretreatment program requirements set forth in §403.8 and for enforcing against POTW's in violation of these requirements. EPA will assume primary enforcement responsibility pending the State acquiring this authority.

The main vehicle for enforcing POTW pretreatment program requirements will be the POTW's NPDES permit. The Act provides that a POTW must develop a pretreatment program if it receives wastes regulated by national pretreatment standards from a significant industrial user (Section 402(a)(3) and 402(b)(8)). Upon the reissuance or modification of the existing permit for a POTW required to have a pretreatment program under §403.8, a compliance schedule for development of a pretreatment program which meets the requirements of §403.8 will be incorporated into the permit. This schedule for development of a POTW pretreatment program will require a program as soon as possible or within 3 years of permit reissuance or modification, but in no event later than July 1, 1983.

Once the schedule for development of the POTW pretreatment program is incorporated into the POTW's permit, compliance with this schedule is enforceable through the NPDES permit. Once the POTW's pretreatment program is approved, the conditions of the program will also be enforceable through the NPDES permit. These conditions will include but not be limited to:

(1) Carrying out monitoring and inspection activities to determine compliance by industrial users with pretreatment standards;

(2) Enforcing against violations of national, State and local pretreatment standards and requirements;

(3) Maintaining a demonstrated percentage removal by the POTW of any pollutant for which authorization to modify a national standard has been granted; and

(4) Ensuring that the POTW's sludge does not violate applicable criteria set forth in section 405 of the Act.

Once the approved POTW pretreatment program is incorporated into the NPDES permit, EPA will use section 309 of the Act to seek civil, criminal or injunctive relief for violations of NPDES permit conditions. State NPDES programs will have similar authority to seek civil or criminal sanctions or injunctive relief. EPA or the NPDES State may also exercise the option of withdrawing POTW pretreatment program approval in whole or part if the POTW fails to ensure that industrial users comply with pretreatment standards or fails to fulfill other responsibilities under the program. Withdrawal of program approval would mean a simultaneous withdrawal of any authorization to modify national standards which had been approved to compensate for pollutants removed by the POTW.

Under section 309(f) of the Act, EPA has authority to take an enforcement action against a POTW for pretreatment violations by its industrial users even in the absence of a POTW pretreatment program enforceable through the POTW's permit. Section 309(f) states that when EPA finds that an industrial user is discharging into the POTW in violation of pretreatment standards, EPA has the authority to notify the owner or operator of the POTW and the State of this violation. If the owner or operator of the POTW does not commence an appropriate enforcement action within 30 days of this notification, EPA has the authority to bring a civil action against the owner or operator of the POTW for the appropriate relief, including but not limited to, a permanent or temporary injunction. This provision manifests the Act's clear intention that the POTW have the primary role in enforcing pretreatment standards. The Act further requires that the industrial users which are violating the pretreatment standards must be joined in any enforcement action against the POTW. An appropriate remedy to an enforcement action against the POTW would be to require the POTW to enforce compliance by the industrial users with pretreatment standards. NPDES States are required to have a similar authority to enforce against violations of State-issued POTW permits (40 CFR Part 123).

An additional enforcement tool is provided to EPA through section 402(h) of the Act. The Clean Water Act of 1977 amends section 402(h) to enable EPA to seek through the courts to restrict or prohibit the introduction of any pollutant into a POTW from a new industrial source where any conditions of a POTW's permit are being violated. EPA may use this enforcement option in NPDES States as well as in all other States. This authority could be used by EPA in a variety of situations to encourage, for example; (i) development of POTW pretreatment programs that are behind schedule, (ii) local enforcement of national standards in an approved but recalcitrant program, and (iii) to ensure continued maintenance of POTW pollutant removal efficiencies and compliance with the sludge management requirements of section 405 of the Act.

In some cases the POTW, NPDES State, or EPA may want to commence development of a POTW pretreatment program before the existing POTW permit is reissued. There may be instances, for example, in which a delay in implementing a POTW pretreatment program will result in

substantial endangerment to public health, the environment, operation of the POTW, municipal sludge disposal or the quality of surface or ground waters. In such a case, EPA or the NPDES State will use its authority to modify or revoke and reissue permits for cause in order to require the development of a local pretreatment program. Section 402(b)(1)(C) of the Act provides that EPA and NPDES States may terminate or modify a permit in mid-term for a justifiable cause. The NPDES regulations which implement this section of the Act specify that a situation in which there is a potential threat to the public health or welfare will constitute a justifiable cause within the meaning of the Act.

3. Enforcement of State Pretreatment Programs

The Act requires that NPDES States modify their existing NPDES programs if necessary to develop a pretreatment program which meets the requirements set forth in §403.10. The Act specifies that NPDES States be given not less than one year from enactment of the Act in which to make any necessary modifications to their program unless a legislative enactment or revision is needed, in which case there is a 2-year time limit for the necessary modifications. If an NPDES State fails to make required modifications within the time period allowed by §403.10 or if the State fails to implement the State pretreatment program in the manner agreed upon by the State and EPA, EPA may withdraw NPDES authority in whole or part from that State, or withhold section 106, 208 or that portion of section 205(g) funds not required to manage the State's construction grant program.

G. POSSIBLE ADDITIONS TO THE STRATEGY

The National Pretreatment Strategy as presented in this Appendix should not be considered static. With time and experience, changes in such a complex and large regulatory program should be anticipated. The purpose of this section is to highlight five additions to the Pretreatment Strategy that the EPA is currently aware of and may give further consideration to.

1. Pretreatment by Regulating the POTW's Effluent

The EPA will continue to explore means of supplementing technology-based pretreatment standards with pollutant specific limits which may be applied to the POTW's effluent. Limits applied to the POTW's effluent could result in improved operation and maintenance of the POTW, increased coverage of sources of nondomestic pollutants, increased stringency in locally-derived pretreatment standards, and/or local controls on discharges from nonpoint sources entering municipal sewers. If such POTW effluent limits can be developed and appear worthwhile, they could be incorporated in a redefinition of best practicable waste treatment technology for POTW's pursuant to sections 201(g)(2)(A), 301(b) and 304(d) of the Act.

2. Innovative Pretreatment Technology

The Clean Water Act enables direct industrial dischargers to receive an extension of the 1983 BAT deadline to not later than July 1, 1987 for the use of innovative technology. Consideration of such a provision for industrial users of POTW's may be considered if a legal basis exists for such a revision to the strategy.

3. Best Management Practices for Pretreatment

Section 304(e) of the Clean Water Act provides for the establishment of best management practices for toxic (section 307(a)(1)) and hazardous (section 311) pollutants to control industrial plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage. Consideration may be given to extending such best management practices as part of pretreatment standards to industrial users of POTW's who handle or store toxic and hazardous materials if a legal basis exists for such a revision to the strategy.

4. Section 301(c) Variance

If nontoxic incompatible pollutants are regulated by national pretreatment standards, consideration may be given to administratively extending the provisions of section 301(c) of the Clean Water Act to industrial users of POTW's in order to ensure that direct and indirect dischargers in the same industrial category are regulated equitably. Section 301(c) enables the Administrator to modify the effluent requirements of certain direct dischargers upon a showing that the modified requirements represent the maximum use of technology within the economic capability of the source and that they will result in reasonable further progress toward the elimination of the discharge of pollutants. Any decision to consider section 301(c) for industrial users of POTW's would only occur following promulgation of and experience with regulations implementing section 301(c) for direct dischargers.

5. Utilization of Treated Sludge

The EPA may in the future revise the policy on modifying national pretreatment standards to account for pollutant removal by the POTW. The modification to the policy stated in this appendix and 40 CFR 403 could be to encourage greater beneficial use of municipal sludge for energy production and/or nutrient conservation and recovery. A decision to modify the policy would be made as part of compliance with section 518(d) of the Act. Under this section the EPA is required by October 1, 1978 to submit a report to Congress on the current and potential utilization of municipal sludge for productive purposes. The report is to include the legal, institutional, public health and other impediments to the greater utilization of sludge. The report is also to recommend whether Federal legislation is adequate to encourage or require the expanded use of municipal sludge or whether new legislation will be necessary.

APPENDIX B—65 TOXIC POLLUTANTS

Acenaphthene
Acrolein
Acrylonitrile
Aldrin/Dieldrin
Antimony and compounds¹
Arsenic and compounds
Asbestos
Benzene
Benzidine
Beryllium and compounds
Cadmium and compounds
Carbon tetrachloride
Chlordane (technical mixture and metabolites)

¹As used throughout this Appendix B the term "compounds" shall include organic and inorganic compounds.

Chlorinated benzenes (other than dichlorobenzenes)
 Chlorinated ethanes (including 1,2-dichloroethane, 1,1,1-trichloroethane, and hexachloroethane)
 Chloroalkyl ethers (chloromethyl, chloroethyl, and mixed ethers)
 Chlorinated naphthalene
 Chlorinated phenols (other than those listed elsewhere; includes trichlorophenols and chlorinated cresols)
 Chloroform
 2-chlorophenol
 Chromium and compounds
 Copper and compounds
 Cyanides
 DDT and metabolites
 Dichlorobenzenes (1,2-, 1,3-, and 1,4-dichlorobenzenes)
 Dichlorobenzidine
 Dichloroethylenes (1,1- and 1,2-dichloroethylene)
 2,4-dichlorophenol
 Dichloropropane and dichloropropene
 2,4-dimethylphenol
 Dinitrotoluene
 Diphenylhydrazine
 Endosulfan and metabolites
 Endrin and metabolites
 Ethylbenzene
 Fluoroanthene
 Haloethers (other than those listed elsewhere; includes chlorophenylphenyl ethers, bromophenylphenyl ether, bis(dichloroisopropyl) ether, bis(chloroethoxy) methane and polychlorinated diphenyl ethers)
 Halomethanes (other than those listed elsewhere; includes methylene chloromethylchloride, methylbromide, bromoform, dichlorobromomethane, trichlorofluoromethane, dichlorodifluoromethane)
 Heptachlor and metabolites
 Hexachlorobutadiene
 Hexachlorocyclohexane (all isomers)
 Hexachlorocyclopentadiene
 Isophorone
 Lead and compounds
 Mercury and compounds
 Naphthalene
 Nickel and compounds
 Nitrobenzene
 Nitrophenols (including 2,4-dinitrophenol, dinitrocresol)
 Nitrosamines
 Pentachlorophenol
 Phenol
 Phthalate esters
 Polychlorinated biphenyls (PCBs)
 Polynuclear aromatic hydrocarbons (including benzantracenes, benzopyrenes, benzofluoroanthene, chrysenes, dibenzanthracenes, and indenopyrenes)
 Selenium and compounds
 Silver and compounds
 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)
 Tetrachloroethylene
 Thallium and compounds
 Toluene
 Toxaphene
 Trichloroethylene
 Vinyl chloride
 Zinc and compounds

APPENDIX C—SUBCATEGORIES OF 21 INDUSTRIES

1. TIMBER PRODUCTS PROCESSING

SIC 2411—Logging Camps and Logging Contractors (Camps Only)
 SIC 2421—Saw Mills and Planing Mills, General
 SIC 2426—Hardwood Dimension and Flooring Mills

SIC 2429—Special Purpose Sawmills, Not Elsewhere Classified
 SIC 2431—Millwork
 SIC 2434—Wood Kitchen Cabinets
 SIC 2435—Hardwood Veneer and Plywood
 SIC 2436—Softwood Veneer and Plywood
 SIC 2439—Structural Wood Members, Not Elsewhere Classified
 SIC 2491—Wood Preserving
 SIC 2499—Wood Products, Not Elsewhere Classified (Furniture Mills)
 SIC 2661—Building Paper and Building Board Mills (Hardboard Only)

2. STEAM ELECTRIC POWER PLANTS

SIC 4911—Electric Services (Limited to Steam-Electric Power Plants)

3. LEATHER TANNING AND FINISHING

SIC 31—Leather and Leather Products

4. IRON AND STEEL MANUFACTURING

SIC 3312—Blast Furnaces (Including Coke Ovens), Steel Works and Rolling Mills.
 SIC 3313—Electrometallurgical Products.
 SIC 3315—Steel Wire Drawing and Steel Nails and Spikes.
 SIC 3316—Cold Rolled Steel Sheet, Strip and Bars.
 SIC 3317—Steel Pipe and Tubes.

5. PETROLEUM REFINING

SIC 2911—Petroleum Refining (Including (1) Topping Plant; (2) Topping and Cracking Plants; (3) Topping, Cracking and Petro-chemical Plants; (4) Integrated Plants; and, (5) Integrated and Petro-chemical Plants)

6. INORGANIC CHEMICALS MANUFACTURING

SIC 2812—Alkalies and Chlorine
 SIC 2813—Industrial Gasses
 SIC 2816—Inorganic Pigments
 SIC 2819—Industrial Inorganic Chemicals, Not Elsewhere Classified

7. TEXTILE MILLS

SIC 22—Textile Mill Products
 SIC 23—Apparel and Other Finished Products Made from Fabrics and Similar Materials

8. ORGANIC CHEMICALS MANUFACTURING

SIC 2865—Cyclic (Coal Tar) Crudes, and Cyclic Intermediates, Dyes, and Organic Pigments (Lakes and Toners)
 SIC 2869—Industrial Organic Chemicals, Not Elsewhere Classified

9. NONFERROUS METALS MANUFACTURING

SIC 2819—Industrial Inorganic Chemicals, Not Elsewhere Classified (Bauxite Refining Only)
 SIC 3331—Primary Smelting and Refining of Copper
 SIC 3332—Primary Smelting and Refining of Lead
 SIC 3333—Primary Smelting and Refining of Zinc
 SIC 3334—Primary Production of Aluminum
 SIC 3339—Primary Smelting and Refining of Nonferrous Metals, Not Elsewhere Classified
 SIC 3341—Secondary Smelting and Refining of Nonferrous Metals

10. PAVING AND ROOFING MATERIALS (TARS AND ASPHALT)

SIC 2951—Paving Mixtures and Blocks
 SIC 2952—Asphalt Felts and Coatings

SIC 3995—Linoleum, Asphalted-Felt-Base, and Other Hard Surface Floor Coverings, Not Elsewhere Classified

11. PAINT AND INK FORMULATION AND PRINTING

SIC 2711—Newspapers: Publishing, Publishing and Printing
 SIC 2721—Periodicals: Publishing, Publishing and Printing
 SIC 2731—Books: Publishing, Publishing and Printing
 SIC 2732—Book Printing
 SIC 2741—Miscellaneous Publishing
 SIC 2751—Commercial Printing, Letterpress and Screen
 SIC 2752—Commercial Printing, Letterpress and Lithographic
 SIC 2753—Engraving and Plate Printing
 SIC 2754—Commercial Printing, Gravure
 SIC 2761—Manifold Business Forms
 SIC 2771—Greeting Card Publishing
 SIC 2793—Photocopying
 SIC 2794—Electrotyping and Stereotyping
 SIC 2795—Lithographic Platemaking and Related Services
 SIC 2851—Paints, Varnishes, Lacquers, Enamels, and Allied Products
 SIC 2893—Printing Ink
 SIC 3951—Pens, Mechanical pencils, and Parts and Stamp Pads (Inked Materials Only)
 SIC 3952—Lead Pencils, Crayons, and Artists' Materials
 SIC 3955—Carbon Paper and Inked Ribbons

12. SOAP AND DETERGENT MANUFACTURING

SIC 2841—Soap and Other Detergents, except Specialty Cleaners

13. AUTO AND OTHER LAUNDRIES

SIC 7211—Power Laundries, Family and Commercial
 SIC 7213—Linen Supply
 SIC 7214—Dlaper Service
 SIC 7215—Coin-operated Laundries and Dry Cleaning
 SIC 7216—Dry Cleaning Plants, Except Rug Cleaning
 SIC 7217—Carpet and Upholstery Cleaning
 SIC 7218—Industrial Laundries
 SIC 7219—Laundry and Garment Services, Not Elsewhere Classified
 None—Auto Wash Establishments

14. PLASTIC AND SYNTHETIC MATERIALS MANUFACTURING

SIC 282—Plastic Materials and Synthetic Resins, Synthetic and Other Manmade Fibers, except Glass

15. PULP AND PAPERBOARD MILLS; AND CONVERTED PAPER PRODUCTS

SIC 2611—Pulp Mills
 SIC 2621—Paper Mills, except Building Paper Mills
 SIC 2631—Paperboard Mills
 SIC 2641—Paper Coating and Glazing
 SIC 2642—Envelopes
 SIC 2643—Bags, Except Textile Bags
 SIC 2645—Die-Cut Paper and Paperboard and Cardboard
 SIC 2646—Pressed and Molded Pulp Goods
 SIC 2647—Sanitary Paper Products
 SIC 2648—Stationery, Tablets, and Related Products
 SIC 2649—Converted Paper and Paperboard Products, Not Elsewhere Classified
 SIC 2651—Folding Paperboard Boxes
 SIC 2652—Set-up Paperboard Boxes
 SIC 2653—Corrugated and Solid Fiber Boxes
 SIC 2654—Sanitary Food Containers

SIC 2655—Fiber Cans, Tubes, Drums, and Similar Products
 SIC 2661—Building Paper and Building Board Mills
 SIC 2782—Blankbooks, Looseleaf Binders and Devices

16. RUBBER PROCESSING

SIC 2822—Synthetic Rubber (Vulcanizable Elastomers)
 SIC 2891—Rubber Cement
 SIC 3011—Tires and Inner Tubes
 SIC 3021—Rubber and Plastics Footwear (Rubber Only)
 SIC 3031—Reclaimed Rubber
 SIC 3041—Rubber and Plastics Hose and Belting (Rubber Only)
 SIC 3069—Fabricated Rubber Products, Not Elsewhere Classified
 SIC 3293—Gaskets, Packing, and Sealing Devices (Rubber Packing Only)

17. MISCELLANEOUS CHEMICALS

SIC 2831—Biological Products
 SIC 2833—Medicinal Chemicals and Botanical Products
 SIC 2834—Pharmaceutical Preparations
 SIC 2861—Gum and Wood Chemicals
 SIC 2879—Pesticides and Agricultural Chemicals, Not Elsewhere Classified
 SIC 2891—Adhesive and Sealants
 SIC 2892—Explosives
 SIC 2895—Carbon Black
 SIC 2899—Chemicals and Chemical Preparation, Not Elsewhere Classified
 SIC 3861—Photographic Equipment and Supplies

18. MACHINERY AND MECHANICAL PRODUCTS MANUFACTURING

SIC 3021—Rubber and Plastics Footwear (Balance)
 SIC 3041—Rubber and Plastics Hose and Belting (Balance)
 SIC 3079—Miscellaneous Plastics Products
 SIC 3293—Gaskets, Packing, and Sealing Devices (Balance)
 SIC 3321—Gray Iron Foundries
 SIC 3322—Malleable Iron Foundries
 SIC 3324—Steel Investment Foundries
 SIC 3325—Steel Foundries, Not Elsewhere Classified
 SIC 3351—Rolling, Drawing, and Extruding of Copper
 SIC 3353—Aluminum Sheet, Plate, and Foil
 SIC 3354—Aluminum Extruded Products
 SIC 3355—Aluminum Rolling and Drawing, Not Elsewhere Classified
 SIC 3356—Rolling, Drawing, and Extruding of Nonferrous Metals, except copper and aluminum
 SIC 3357—Drawing and Insulating of Nonferrous Wire
 SIC 3361—Aluminum Foundries (Castings)
 SIC 3362—Brass, Bronze, Copper, Copper Base Alloy Foundries (Castings)
 SIC 3369—Nonferrous Foundries (Castings), Not Elsewhere Classified
 SIC 3398—Metal Heat Treating
 SIC 3399—Primary Metal Products, Not Elsewhere Classified
 SIC 3411—Metal Cans
 SIC 3412—Metal Shipping Barrels, Drums, Kegs, and Pails
 SIC 3421—Cutlery
 SIC 3423—Hand and Edge Tools, Except Machine Tools and Hand Saws
 SIC 3425—Hand Saws and Saw Blades
 SIC 3429—Hardware, Not Elsewhere Classified
 SIC 3431—Enameled Iron and Metal Sanitary Ware
 SIC 3432—Plumbing Fixture Fittings and Trim (Brass Goods)

SIC 3433—Heating Equipment, Except Electric and Warm Air Furnaces
 SIC 3441—Fabricated Structural Metal
 SIC 3442—Metal Doors, Sash, Frames, Molding, and Trim
 SIC 3443—Fabricated Platework (Broiler Shops)
 SIC 3444—Sheet Metal Work
 SIC 3446—Architectural and Ornamental Metal Work
 SIC 3448—Prefabricated Metal Buildings and Components
 SIC 3449—Miscellaneous Metal Work
 SIC 3451—Screw Machine Products
 SIC 3452—Bolts, Nuts, Screws, Rivets, and Washers
 SIC 3462—Iron and Steel Forgings
 SIC 3463—Nonferrous Forgings
 SIC 3465—Automotive Stampings
 SIC 3466—Crowns and Closures
 SIC 3469—Metal Stampings, Not Elsewhere Classified
 SIC 3482—Small Arms Ammunition
 SIC 3483—Ammunition, Except for Small Arms, Not Elsewhere Classified
 SIC 3484—Small Arms
 SIC 3489—Ordnance and Accessories, Not Elsewhere Classified
 SIC 3493—Steel Springs, Except Wire
 SIC 3494—Valves and Pipe Fittings, Except Plumbers' Brass Goods
 SIC 3495—Wire Springs
 SIC 3496—Miscellaneous Fabricated Wire Products
 SIC 3497—Metal Foil and Leaf
 SIC 3498—Fabricated Pipe and Fabricated Pipe Fittings
 SIC 3499—Fabricated Metal Products, Not Elsewhere Classified
 SIC 3511—Steam, Gas, and Hydraulic Turbines and Turbine Generator Set Units
 SIC 3519—Internal Combustion Engines, Not Elsewhere Classified
 SIC 3523—Farm Machinery and Equipment
 SIC 3524—Garden Tractors and Lawn and Garden Equipment
 SIC 3531—Construction Machinery and Equipment
 SIC 3532—Mining Machinery and Equipment, Except Oil Field Machinery and Equipment
 SIC 3533—Oil Field Machinery and Equipment
 SIC 3534—Elevators and Moving Stairways
 SIC 3535—Conveyors and Conveying Equipment
 SIC 3536—Hoists, Industrial Cranes, and Monorail Systems
 SIC 3537—Industrial Trucks, Tractors, Trailers, and Stackers
 SIC 3541—Machine Tools, Metal Cutting Types
 SIC 3542—Machine Tools, Metal Forming Types
 SIC 3544—Special Dies and Tools, Die Sets, Jigs and Fixtures and Industrial Molds
 SIC 3545—Machine Tool Accessories and Measuring Devices
 SIC 3546—Power Driven Hand Tools
 SIC 3547—Rolling Mill Machinery and Equipment
 SIC 3549—Metalworking Machinery, Not Elsewhere Classified
 SIC 3551—Food Products Machinery
 SIC 3552—Textile Machinery
 SIC 3553—Woodworking Machinery
 SIC 3554—Paper Industries Machinery
 SIC 3555—Printing Trades Machinery and Equipment
 SIC 3559—Special Industry Machinery, Not Elsewhere Classified
 SIC 3561—Pumps and Pumping Equipment
 SIC 3562—Ball and Roller Bearings

SIC 3563—Air and Gas Compressors
 SIC 3564—Blowers and Exhaust and Ventilation Fans
 SIC 3565—Industrial Patterns
 SIC 3566—Speed Changers, Industrial High Speed Drives, and Gears
 SIC 3567—Industrial Process Furnaces and Ovens
 SIC 3568—Mechanical Power Transmission Equipment, Not Elsewhere Classified
 SIC 3569—General Industrial Machinery and Equipment, Not Elsewhere Classified
 SIC 3572—Typewriters
 SIC 3573—Electronic Computing Equipment
 SIC 3574—Calculating and Accounting Machines, Except Electronic Computing Equipment
 SIC 3576—Scales and Balances, Except Laboratory
 SIC 3579—Office Machines, Not Elsewhere Classified
 SIC 3581—Automatic Merchandising Machines
 SIC 3582—Commercial Laundry, Dry Cleaning, and Pressing Machines
 SIC 3585—Air Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment
 SIC 3586—Measuring and Dispensing Pumps
 SIC 3589—Service Industry Machines, Not Elsewhere Classified
 SIC 3592—Carburetors, Piston, Piston Rings, and Valves
 SIC 3599—Machinery, Except Electrical, Not Elsewhere Classified
 SIC 3612—Power, Distribution, and Specialty Transformers
 SIC 3613—Switchgear and Switchboard Apparatus
 SIC 3621—Motors and Generators
 SIC 3622—Industrial Controls
 SIC 3623—Welding Apparatus, Electric
 SIC 3624—Carbon and Graphite Products
 SIC 3629—Electrical Industrial Apparatus, Not Elsewhere Classified
 SIC 3631—Household Cooking Equipment
 SIC 3632—Household Refrigerators and Home and Farm Freezers
 SIC 3633—Household Laundry Equipment
 SIC 3634—Electric Housewares and Fans
 SIC 3635—Household Vacuum Cleaners
 SIC 3639—Household Appliances, Not Elsewhere Classified
 SIC 3641—Electric Lamps
 SIC 3643—Current-Carrying Wiring Devices
 SIC 3644—Noncurrent-Carrying Wiring Devices
 SIC 3645—Residential Electric Lighting Fixtures
 SIC 3646—Commercial, Industrial, and Institutional Electric Lighting Fixtures
 SIC 3647—Vehicular Lighting Equipment
 SIC 3648—Lighting Equipment, Not Elsewhere Classified
 SIC 3651—Radio and Television Receiving Sets, Except Communication Types
 SIC 3652—Phonograph Records and Pre-recorded Magnetic Tape
 SIC 3661—Telephones and Telegraph Apparatus
 SIC 3662—Radio and Television Transmitting, Signaling, and Detection Equipment and Apparatus
 SIC 3671—Radio and Television Receiving Type Electron Tubes, Except Cathode Ray
 SIC 3672—Cathode Ray Television Picture Tubes
 SIC 3673—Transmitting, Industrial, and Special Purpose Electron Tubes
 SIC 3674—Semiconductors and Related Devices

SIC 3675—Electronic Capacitors
 SIC 3676—Resistors, for Electronic Applications
 SIC 3677—Electronic Coils, Transformers and Other Inductors
 SIC 3678—Connectors, for Electronic Applications
 SIC 3679—Electronic Components, Not Elsewhere Classified
 SIC 3691—Storage Batteries
 SIC 3692—Primary Batteries, Dry and Wet
 SIC 3693—Radiographic X-ray, Fluoroscopic X-ray, Therapeutic X-ray, and Other X-ray Apparatus and Tubes; Electromedical and Electrotherapeutic Apparatus
 SIC 3694—Electrical Equipment for Internal Combustion Engines
 SIC 3699—Electrical Machinery, Equipment, and Supplies, Not Elsewhere Classified
 SIC 3711—Motor Vehicles and Passenger Car Bodies
 SIC 3713—Truck and Bus Bodies
 SIC 3714—Motor Vehicle Parts and Accessories
 SIC 3715—Truck Trailers
 SIC 3721—Aircraft
 SIC 3724—Aircraft Engines and Engine Parts
 SIC 3728—Aircraft Parts and Auxiliary Equipment, Not Elsewhere Classified
 SIC 3731—Ship Building and Repairing
 SIC 3732—Boat Building and Repairing
 SIC 3743—Railroad Equipment
 SIC 3751—Motoreycles, Bicycles, and Parts
 SIC 3761—Guided Missiles and Space Vehicles
 SIC 3764—Guided Missile and Space Vehicle Propulsion Units and Propulsion Unit Parts
 SIC 3769—Guided Missile and Space Vehicle Parts and Auxiliary Equipment, Not Elsewhere Classified.
 SIC 3792—Travel Trailers and Campers
 SIC 3795—Tanks and Tank Components

SIC 3799—Transportation Equipment, Not Elsewhere Classified
 SIC 3811—Engineering, Laboratory, Scientific, and Research Instruments and Associated Equipment
 SIC 3822—Automatic Controls for Regulating Residential and Commercial Environments and Appliances
 SIC 3823—Industrial Instruments for Measurement, Display and Control of Process Variables; and Related Products
 SIC 3824—Totalizing Fluid Meters and Counting Devices
 SIC 3825—Instruments for Measuring and Testing of Electricity and Electrical Signals
 SIC 3829—Measuring and Controlling Devices, Not Elsewhere Classified
 SIC 3832—Optical Instruments and Lenses
 SIC 3841—Surgical and Medical Instruments and Apparatus
 SIC 3842—Orthopedic, Prosthetic, and Surgical Appliances and Supplies
 SIC 3843—Dental Equipment and Supplies
 SIC 3851—Ophthalmic Goods
 SIC 3873—Watches, Clocks, Clockwork Operated Devices and Parts
 SIC 3911—Jewelry, Precious Metal
 SIC 3914—Silverware, Plated Ware, and Stainless Steel Ware
 SIC 3915—Jewelers' Findings and Materials, and Lapidary Work
 SIC 3931—Musical Instruments
 SIC 3942—Dolls
 SIC 3944—Games, Toys, and Children's Vehicles; Except Dolls and Bicycles
 SIC 3949—Sporting and Athletic Goods, Not Elsewhere Classified
 SIC 3951—Pens, Mechanical Pencils, and Parts (Balance)
 SIC 3961—Costume Jewelry and Costume Novelties, Except Precious Metal
 SIC 3991—Brooms and Brushes
 SIC 3993—Signs and Advertising Displays
 SIC 3995—Burial Caskets

19. ELECTROPLATING

SIC 347—Coating, Engraving, and Allied Services

20. ORE MINING AND DRESSING

SIC 1011—Iron Ores
 SIC 1021—Copper Ores
 SIC 1031—Lead and Zinc Ores
 SIC 1041—Gold Ores
 SIC 1044—Silver Ores
 SIC 1051—Bauxite and Other Aluminum Ores
 SIC 1061—Ferroalloy Ores, Except Vanadium
 SIC 1092—Mercury Ores
 SIC 1094—Uranium-Radium-Vanadium Ores
 SIC 1099—Metal Ores, Not Elsewhere Classified

21. COAL MINING

SIC 1111—Anthracite
 SIC 1112—Anthracite Mining Services
 SIC 1211—Bituminous Coal and Lignite
 SIC 1213—Bituminous Coal and Lignite Mining Services

APPENDIX C

Acetone
 n-alkanes (C₁₂—C₁₇)
 Biphenyl
 Chlorine
 Dialkyl ethers
 Dibenzofuran
 Diphenyl ether
 Methyleneethyl Ketone
 Nitrites
 Secondary amines
 Styrene
 Terpenes

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