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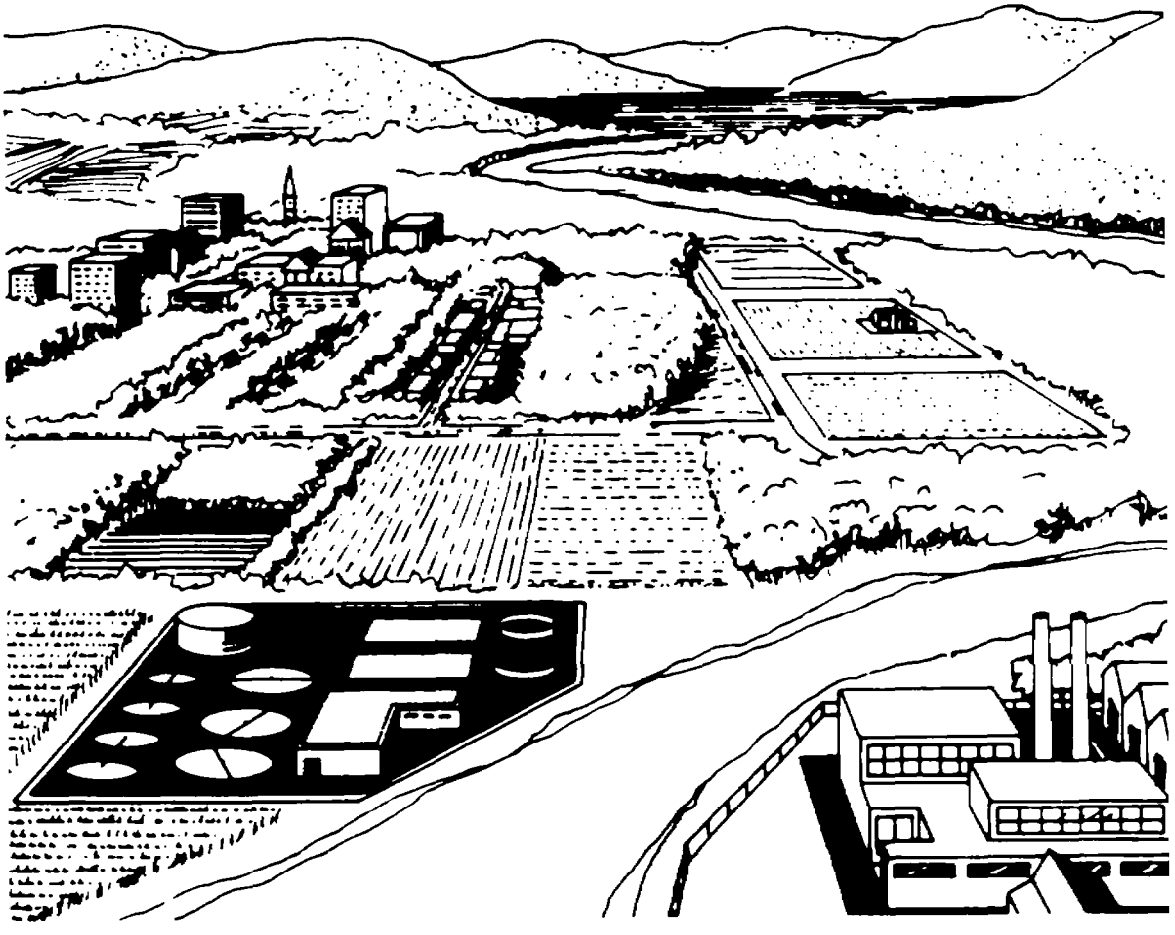
EPA

Guidance Manual for POTW Pretreatment Program Development



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 5 1983

OFFICE OF WATER

MEMORANDUM

SUBJECT: Pretreatment Program Guidance

FROM: Rebecca W. Hanmer
Acting Assistant Administrator for Water (WH-556)

TO: Users of the Guidance Manual for POTW Pretreatment Program Development

This manual provides information needed by a local POTW to develop an approvable pretreatment program. It also delineates what data and information the POTW must include in its submittal package so that the appropriate Approval Authority (either an approved State or an EPA Regional Office) can review and approve the program. The information is based on the requirements specified in the General Pretreatment Regulations (40 CFR Part 403) for an approvable pretreatment program. If changes to these requirements are needed, EPA will issue timely supplemental guidance.

The manual does not discuss in detail certain provisions of the national pretreatment program including the Combined Wastestream Formula and Removal Credits. The Agency will provide separate guidance on these aspects of the pretreatment program in the future.

EPA developed this manual for two reasons. First, POTWs need guidance on developing pretreatment programs which satisfy the regulatory requirements of the General Pretreatment Regulations. This manual includes instructions and guidance for conducting an industrial waste survey, developing a compliance sampling program, producing resource and funding estimates, and developing local effluent limitations for industrial users of the POTW's treatment facility. The manual's appendices contain very useful information, not only for program development, but also for program implementation. It contains worksheets for assisting the POTW in developing each element of the program.

Second, EPA recognized that there are differences in POTWs and that POTW pretreatment programs should consider such local conditions as the size of the POTW's service area, the number of industrial users, and the specific pollutants and the amounts of these pollutants which the industrial users are discharging to the POTW's treatment facilities.

The regulatory requirements which must be met are set forth in the General Pretreatment Regulations, 40 CFR Part 403. This guidance manual does not establish any new requirements. Where the term "must" is used, refer to a regulatory requirement. The term "should" denotes recommended good practice, but you do not have to abide by this practice in order to meet regulatory requirements if you have an acceptable alternate.

I believe that you, the POTW personnel responsible for developing a pretreatment program, will find this manual useful. As this guidance may be revised periodically to reflect program experience or changes in program regulations, please feel free to write to the Office of Water Enforcement and Permits (EN-336) if you have suggestions on how the guidance may be improved or areas which should be addressed. Thank you.

GUIDANCE MANUAL
FOR
POTW PRETREATMENT PROGRAM DEVELOPMENT

Rebecca Hanmer
Acting Assistant Administrator, Office of Water

Bruce R. Barrett, Jr.
Director, Office of Water Enforcement and Permits

Martha G. Prothro
Director, Permits Division

Dr. James D. Gallup
National Pretreatment Coordinator

October 1983

Office of Water Enforcement and Permits
Office of Water
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

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1. INTRODUCTION

This manual provides guidance to the municipal personnel responsible for the development and implementation of a local pretreatment program. It also provides relevant information to the official who will supervise the local program. This development manual has two purposes:

- To help you in developing your pretreatment program and implementing the program on an ongoing basis
- To assist you in preparing your program submission to obtain approval.

The intent of the manual is to provide sufficient guidance so that you can independently develop a local pretreatment program. However, some questions may require additional assistance beyond this manual's scope. Special questions or problems that are not completely addressed here should be referred to your State pretreatment office or the appropriate EPA Regional Office (a list of these offices appears in Appendix A). In addition, Appendix B lists other documents that you may find useful when developing a pretreatment program.

It is important for you to understand the goals of the National Pretreatment Program and the integral role of your local program in achieving these goals. The first section of this chapter briefly describes the National Pretreatment Program. The remainder of the chapter outlines typical pretreatment program elements and discusses this manual's organization.

1.1 THE NATIONAL PRETREATMENT PROGRAM

The goal of the U.S. Environmental Protection Agency's (EPA) National Pretreatment Program is to protect municipal treatment plants (commonly called "POTWs" for "publicly-owned treatment works") and the environment from the adverse impact that may occur when hazardous or toxic wastes are discharged into a sewage system. This protection is achieved mainly by regulating

nondomestic users of POTWs that discharge toxic wastes or unusually strong conventional wastes. There are four major problems that can be prevented through implementation of a local pretreatment program:

(1) Interference with POTW operations. Since municipal treatment systems are designed primarily to treat domestic wastes, the introduction of nondomestic wastes may affect these systems. For example, the bacteria in activated sludge systems or digesters can be inhibited by toxic pollutants. The result is interference with the treatment process, which means that domestic and industrial wastes are discharged essentially untreated into the receiving stream.

(2) Pass-through of pollutants. Even if pollutants do not interfere with the treatment systems, they often pass through POTWs without being removed because the systems are not designed to remove them. In many cases, industries may not be allowed to directly discharge these pollutants into a lake or stream because of potential environmental damage.

(3) Municipal sludge contamination. The removal of certain pollutants by the POTW's treatment system is likely to result in contamination of its sludge. If the sludge is buried in an unsecured landfill, these pollutants may leach and contaminate adjacent surface waters and aquifers. If the sludge is incinerated, these pollutants may be released to the air. If the sludge is applied to agricultural land, crops or pasture grasses may no longer be safe for human or animal consumption. In general, industrial pollutants (especially metals), can limit the POTW's sludge management alternatives and increase the cost of appropriate sludge disposal methods.

(4) Exposure of workers to chemical hazards. When combined with domestic wastes, industrial wastes can produce poisonous gases, such as hydrogen sulfide, which may be hazardous to POTW personnel.

EPA first issued regulations for the National Pretreatment Program on June 26, 1978. The revised regulations (see Appendix C) became final on January 28, 1981, with an effective date of March 30, 1981. The General Pretreatment Regulations for Existing and New Sources of Pollution (40 CFR 403) require that any POTW (or combination of POTWs operated by the same authority) with a design flow greater than 5 million gallons per day (mgd) must establish a pretreatment program as a condition of its National Pollutant Discharge Elimination System (NPDES) permit. POTWs with design flows less than 5 mgd may also be required to establish a pretreatment program if nondomestic waste causes upsets, sludge contamination, or violations of NPDES permit conditions,

or if their industrial users are subject to national pretreatment standards (described below). EPA estimates that about 1,700 of the nation's 14,000 POTWs must develop programs. The remaining municipal treatment plants are not believed to be receiving industrial wastes of concern at this time and will probably not be required to develop pretreatment programs unless local circumstances regarding industrial users of their system change.

The General Pretreatment Regulations establish prohibited discharge standards and categorical pretreatment standards to control pollutant discharges into treatment plants. Prohibited discharge standards apply to all industrial and commercial establishments connected to POTWs. Categorical pretreatment standards apply to industrial and commercial discharges in 25 specific industrial categories determined to be the most significant sources of toxic pollutants.*

Prohibited discharge standards protect the POTW's plant and operations by prohibiting the discharge of pollutants that:

- Create a fire or explosion hazard in the sewers or treatment works
- Are corrosive (with a pH lower than 5.0)
- Obstruct flow in the sewer system or interfere with operation
- Upset the treatment processes or cause a violation of the POTW's permit
- Increase the temperature of wastewater entering the treatment plant to above 104°F (40°C).

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*Originally, there were 34 categorical industries; however, to date nine categories have been exempted. Two industrial categories--organic chemicals, and plastics and synthetic fibers--were combined to form a single industrial class. In addition, the mechanical products category was incorporated into the metal-finishing industry group. A new industrial category, nonferrous metals forming, was recently added to the list of categories pending regulation under categorical standards.

Each categorical pretreatment standard is published by EPA as a separate regulation. The standard contains limits for pollutants commonly discharged by the specific industrial category. All firms regulated by a particular category are required to comply with these standards, no matter where they are located in the country. Table 1.1 lists the 25 industries and the status of the standard regulating that industry. One hundred and twenty-six toxic pollutants are being considered for regulation in the 25 categorical standards. Appendix D lists these pollutants, the generally accepted detection limits for each pollutant, and the regulated and exempted industrial categories.

Municipalities will use these national standards, as well as locally developed regulations, to control nondomestic users discharging to their wastewater collection and treatment systems. A local pretreatment program is the legal, technical, and administrative framework for achieving effective control of such dischargers. States participate in the National Pretreatment Program because the Federal pretreatment regulations require all States that administer NPDES programs to develop and administer State pretreatment programs. States with approved programs have the responsibility of overseeing and coordinating the development of local pretreatment programs, and approving or disapproving local pretreatment program submissions. If a State does not administer a pretreatment or NPDES program, then EPA is the Approval Authority for local pretreatment programs. However, many States participate in some pretreatment activities even before their State program is approved. By contacting your State pretreatment office, you can determine whether the State or EPA will review and approve your program.

1.2 ELEMENTS OF A PRETREATMENT PROGRAM

The development and implementation of a pretreatment program usually becomes a condition of your treatment plant's existing NPDES permit when the permit is reissued or revised. A compliance schedule is attached to the permit requiring the submission of certain elements of the pretreatment program by prescribed dates. A typical compliance schedule is shown in Appendix E. Each EPA Region has specific interim submission deadlines which all POTWs in

TABLE 1.1

INDUSTRIES SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS

FINAL REGULATIONS

Industry	Date Issued In Federal Register	Page Number	Effective Date
Timber Products	1-26-81	8260	3-30-81
Electroplating[1]	1-28-81	9462	3-30-81
Iron & Steel	5-27-82	23258	7-10-82
Inorganic Chemicals	6-29-82	28260	8-12-82
Textile Mills	9-02-82	38810	10-18-82
Coal Mining[2]	10-13-82	45382	11-26-82
Petroleum Refining	10-18-82	46434	12-01-82
Pulp & Paper Mills	11-18-82	52006	1-03-83
Steam Electric Power Plants	11-19-82	52290	1-02-83
Leather Tanning & Finishing	11-23-82	52848	1-06-83
Porcelain Enameling	11-24-82	53172	1-07-83
Coil Coating	12-01-82	54232	1-17-83
Ore Mining[2]	12-03-82	54598	1-17-83
Electrical & Electronic Components (Phase I)	4-08-83	15382	5-19-83
Metal Finishing	7-15-83	32462	8-29-83
Copper Forming	8-15-83	36942	9-26-83

PROPOSED REGULATIONS

Battery Manufacturing	11-10-82	51052
Metal Molding & Casting (Foundries)	11-15-82	51512
Aluminum Forming	11-22-82	52626
Pharmaceutical	11-26-82	53584
Pesticides	11-30-82	53994
Coil Coating (Canmaking)	2-10-83	6268
Nonferrous Metals (Phase I)	2-17-83	7032
Electrical & Electronic Components (Phase II)	2-28-83	10012
Organic Chemicals and Plastics and Synthetic Fibers	3-21-83	11828

PENDING REGULATION

Nonferrous Metals (Phase II)
Plastics Processing
Nonferrous Metals Forming

[1]Existing independent job shop electroplaters and circuit board manufacturers must comply with the electroplating regulations. All other electroplating subcategories are now covered by the metal-finishing standards.

[2]These two industries, to EPA's knowledge, contain only direct dischargers (i.e., they do not discharge to POTWs) and thus no pretreatment standards have been developed.

that Region must meet. This procedures manual will assist you in developing any interim program elements or your final program submission.

A local program includes the following six general elements. These elements parallel the pretreatment compliance schedule activities specified in most POTWs' NPDES permits.

(1) Industrial Waste Survey - The POTW must identify and evaluate the nondomestic discharges to its treatment system.

(2) Legal Authority - The POTW must operate under a legal authority that will enable it to apply and enforce the requirements of the General Pretreatment Regulations and any other State or local rules needed to control nondomestic discharges.

(3) Technical Elements/Local Limits - The POTW must characterize discharges to its treatment system and establish local effluent limits to protect the operation of its treatment plant, the quality of its receiving water, and the quality of its sludge.

(4) Compliance Monitoring - The POTW must develop procedures for monitoring its industrial users to determine compliance and noncompliance.

(5) Procedures - The POTW must develop administrative procedures to implement its pretreatment program.

(6) Resources - The POTW must have sufficient resources (funds, equipment, and personnel) to operate an effective and ongoing program.

1.3 ORGANIZATION OF THIS MANUAL

This manual is designed as a set of procedures to be followed in the development of your pretreatment program. Chapter 2 outlines the steps involved in an industrial waste survey. The survey is usually the first activity required in most POTW compliance schedules, and is the technical basis for the rest of the program. Chapter 3 presents the necessary legal authorities for a pretreatment program. Establishing these authorities is the next major step in developing a pretreatment program. Chapter 4 discusses the technical information required for pretreatment program development. Chapter 5 details compliance monitoring procedures, and Chapter 6 covers administrative procedures. Chapter 7 provides information concerning the resources necessary to

implement a pretreatment program, including organization, staffing, equipment, and funding. Chapter 8 describes the approval process and indicates your responsibilities after the pretreatment program is approved.

Each chapter of this manual summarizes the relevant regulations, discusses how to develop and present the required information, and outlines what to include in the request for approval submission. In addition, several worksheets have been provided to aid in program development. Within the text of the chapters, these worksheets have been filled in with examples to demonstrate their use. Appendix F contains blank worksheets for your use.

Every element in your program submission should be thoroughly documented, and this documentation should be included in the program submission to the Approval Authority (either the State or EPA). Without thorough documentation, the Approval Authority reviewing your program cannot determine the adequacy and effectiveness of the proposed local program. Your submission should describe a viable and effective pollution control program that serves to protect your treatment system, receiving water, and sludge, and therefore, to protect public health and the environment.

To assist you in preparing your submission and to ensure that all of the necessary program elements are included, Appendix G contains a checklist that addresses required and recommended program components. This checklist, or one similar to this, is frequently used by EPA Regional Offices and delegated States in conducting their review of a POTW program.

2. INDUSTRIAL WASTE SURVEY

Section 403.8(f)(2) of the General Pretreatment Regulations requires a POTW to identify and locate all possible industrial users subject to the pretreatment program, and to identify the volume and character of pollutants discharged by these users. The Industrial Waste Survey (IWS) is commonly used to obtain this information. The information gathered during the IWS is essential in developing your pretreatment program because it provides the basis for most other activities. By identifying these industries and what they discharge, you can logically identify sources of known (or suspected) treatment plant problems, develop local limits for problem dischargers, determine sampling and analysis needs (both at the industries and in the treatment plant itself), and estimate manpower and equipment needs. Four major activities comprise the IWS:

(1) Compiling a master list of potential industrial users located in the POTW service area

(2) Surveying each of these industries to collect the necessary information

(3) Conducting follow-up activities, where needed, to obtain complete and accurate information

(4) Summarizing the data for use in developing the pretreatment program.

Each of these activities is discussed in detail below.

2.1 COMPILE A MASTER LIST OF INDUSTRIAL USERS

The first step in conducting an IWS is to develop a master list of all industries (commonly called industrial users or IUs) in your POTW's service area that discharge to the treatment system. To identify these potential industrial users (including those in neighboring jurisdictions where appropriate) and to obtain their mailing addresses, you may want to consult the following sources:

- Existing sewer authority files

- Water use and billing records
- Utility company records
- Sewer connection permits
- Business license records
- Chamber of Commerce rosters
- Local telephone directory
- Property tax records
- City and State industrial directories
- Other standard listings of industrial firms.

Lists of industrial users from the first four sources are usually very complete and may be the best places to start in compiling a master list. If these listings are not available, the other sources indicated above may be consulted to develop the master list.

2.2 SURVEY INDUSTRIAL USERS

Once the master list has been compiled, the next step is to gather data from each IU. This information may be gathered by using questionnaires or telephone calls, or by visiting IUs. Some information may already be on file at the POTW. If your POTW is small (typically 7 or 8 mgd or less) and has very few industries (typically less than 10), you may visit or call to survey these industries. A POTW may also sponsor a workshop to distribute and explain survey questionnaires to its IUs. Questions about the survey or the local pretreatment program can be answered at this time.

POTWs with current industrial information may find it feasible to eliminate particular industries or groups of industries from survey efforts if the industry is:

- A manufacturing operation which does not generate wastewater (dry manufacturing process)
- A direct discharger
- A discharger of sanitary wastewater only.

If your master list of potential industrial users includes theaters, beauty shops, barber shops, or retail sales firms, such businesses can usually be eliminated prior to contacting the firms. These businesses can be eliminated because their discharges typically do not contain the volume or type of significant pollutants that concern the POTW.

Other listings may be classified as industries but are actually offices or warehouses, with no nondomestic wastewaters discharged. Thus, they also may be eliminated from the master list. Hotels, motels, restaurants, and gas stations may be removed as well if they do not contribute to problems in the collection system or the treatment plant involving oil and grease or other discharged substances. You should have reliable or verifiable information in order to eliminate any industry from the list. In addition, criteria for eliminating the industry from this list should be valid, and should be documented in your pretreatment program submission.

Regardless of how you decide to conduct the survey, the following information, at a minimum, should be requested from those industries that are contacted:

- Name of industry
- Address of facility
- Standard Industrial Classification (SIC) code(s) or expected classification
- Wastewater flow (if unknown, may use water consumption rate)
- Types and concentrations (or mass) of pollutants contained in discharge
- Major products manufactured or services supplied if pollutant constituents in discharge are not known
- Description of existing on-site pretreatment facilities and practices.

Although these data are sufficient for developing the pretreatment program, you may consider requesting the following information to better evaluate your industrial dischargers:

- Locations of discharge points

- Raw materials used or stored at the site
- Flow diagram or sewer map for the industry
- Number of employees
- Operation and production schedules
- Spill Prevention Control and Countermeasures (SPCC) plan description.

If the POTW already has portions of the necessary survey information in its files, then the survey need only request the outstanding portions of information. Generally, if the information was collected within the last three years, you may consider it up-to-date. However, this guideline should be followed only if POTW personnel can be relatively sure that the IUs in question have not significantly changed their operations during the period.

Most POTWs use questionnaires to gather the required information. You should develop questionnaires that are easy to read and understand. The questionnaire should require the signature of an official authorized to sign for the company, as well as the name of a company representative who can be contacted to arrange site visits for inspection and monitoring. A sample questionnaire is provided in Appendix H. This questionnaire uses a two-stage approach. If the company does not generate certain wastes (specified in Question A.8 of the questionnaire), then it need not complete the entire questionnaire. Also note that the questionnaire can serve as a wastewater discharge permit for the IU if the POTW chooses to use permits as a control mechanism.

A letter should accompany the questionnaire explaining the purposes of a local pretreatment program and describing how survey data will be used. It should also state the deadline for completing the form and returning it. Approximately two to three weeks should be sufficient time. The name and telephone number of a municipal official who can be contacted if the industries have questions about the survey should be included in the letter. To increase the initial response rate, you might include a stamped, self-addressed envelope for returning the completed questionnaire.

2.3 CONDUCT FOLLOW-UP ACTIVITIES

As industrial waste survey responses are gathered, they should be reviewed for completeness and accuracy. To determine which firms have not responded to the survey, you should develop a method to track firms that return a properly completed questionnaire and firms that do not respond. For firms that do not respond by the deadline, the POTW should undertake follow-up activities, such as letters of reminder, telephone calls, or site visits. A maximum of approximately six to eight weeks from the initial survey mailout date should be sufficient time to conduct follow-up activities. The amount of time you will need for follow-up activities will vary according to the number of firms which you are surveying. Your program submission should describe the follow-up measures used and list any IUs that ultimately did not submit a completed form.

2.4 SUMMARIZE SURVEY RESULTS

Your next step will be to summarize the type and number of local IUs and the types and quantities of specific pollutants, particularly toxic pollutants, entering the treatment plant system. This summary is the best way to interpret industrial data and begin to determine IU sampling and monitoring schedules, as well as specific local effluent limits.

Tables 2.1, 2.2, and 2.3 are presented here as sample worksheets for summarizing data. Table 2.1 provides a format to list industries surveyed by the POTW. Check marks can be used to complete the form where appropriate. Where further explanation is necessary for clarification, you can simply attach additional pages. Table 2.2 can be used to list those industries eliminated from survey efforts and the reason for their elimination. The combined lists of industries in Tables 2.1 and 2.2 should represent your master list of industrial users; thus, a separate master list would not be required in your submission.

Table 2.3 can be used to summarize information specifically related to the quantity and quality of waste discharged by the IUs. It can also be valuable if you operate more than one treatment plant and/or service other jurisdictions with your plant. The list should include only those firms that

TABLE 2.1

INDUSTRIAL WASTE SURVEY RESULTS

Company Name	Company Address	SIC Code	No Discharge to POTW	Domestic Wastewater Only (Noncontact Cooling, Boiler/Tower Blowdown)	Pollutants In Nondomestic Wastewater: 126 Priority Pollutants	Pollutants In Nondomestic Wastewater: Prohibited Pollutants	Did Not Respond
ABC Metal Prods.	111 2nd Ave.	3471		X			
Allen Co.	2 Fisk Pl.	3471			(Follow-up visit scheduled)		X
Anderson, Inc.	15 S. 9th St.	3351	X				
Boyd & Sons	3 Boyd Pl.	3471			X		
Cobol Enterpises	21 Main St.	3353		X			
D & D Leather, Inc.	622 Broadway	3111			X		

TABLE 2.2

INDUSTRIES ELIMINATED FROM FURTHER SURVEY EFFORTS

	Company Name	Company Address	Company Contact	Telephone Number
1.	ABC Metal Products	111 2nd Ave.	Joe Green, Manager	222-1111
	Reason Eliminated:	Domestic discharge only, no process water discharged to sewer, inspected 5/3/83		
2.	Anderson, Inc.	15 S. 9th St.	John Anderson, Pres.	222-1234
	Reason Eliminated:	Direct discharger, NPDES #222105, inspected 4/19/83		
3.	Cobol Enterprises	21 Main St.	Al Johnson, Manager	222-2211
	Reason Eliminated:	Branch sales office, domestic sewage only, inspected 4/21/83		
4.				
	Reason Eliminated:			
5.				
	Reason Eliminated:			
6.				
	Reason Eliminated:			

Note: The reason for eliminating each of these industrial users from further survey efforts must be shown. If groups of industrial users were all eliminated for the same or similar reasons, these can be listed together and a single explanation provided.

TABLE 2.3

INDUSTRIAL USERS DISCHARGING NONDOMESTIC WASTE

Company Name	SIC Code/ Industrial Category	Average Flow (gpd)	Pollutants Known or Suspected Present in Nondomestic Wastestream	Average Pollutant Concentrations, if known	Is Pretreatment of Nondomestic Wastestream Provided?	Treatment Plant	Jurisdiction
Allen Co.	3471	Site visit scheduled to attain information 5/19/83				Seatown #1	Seatown
Boyd & Sons	3471	13,000	Al $Cr+^{6}$ Cr total CN amenable CN total Cu Ni Zn	0.3(mg/l) 0.04 0.5 0.1 0.2 0.2 0.07 0.05	Yes	Seatown #1	Seatown
D&D Leather, Inc.	3111	6,000	$Cr+^{6}$, $Cr+^{3}$, Sulfides not available		Yes	Seatown #1	Seatown

discharge nondomestic industrial wastewater to the POTW. Data from the table can be organized in several formats:

- By SIC categories
- By specific pollutants entering the POTW system
- By POTW system.

The example in Table 2.3 illustrates grouping by SIC code. Depending on the format selected, the table can be used to identify industries subject to categorical standards, pollutants subject to local discharge limitations, or the treatment plant to which an industrial user discharges. To assist you in compiling these data, Appendix D presents the priority pollutants commonly found in the discharges of categorical industries, the SIC codes for industries affected by categorical standards, and a listing of generally accepted detection limits for the analysis of the priority pollutants.

2.4.1 Industrial Classification Scheme

At this stage of your pretreatment program development, it may be helpful to group IUs according to a classification scheme. A classification scheme is not required for the submission, but can be very useful for establishing monitoring, permitting, and administrative procedures. IUs can be classified by factors such as type of industry, flow rate, and the character of their waste. One suggested classification scheme involves a permit system and divides industries into the following three groups:

- Group 1: Major or significant industries, defined as any industry that:
  - Is subject to categorical standards
  - Discharges a nondomestic wastestream of 25,000 gallons per day (0.025 mgd) or more
  - Contributes a nondomestic wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic (BOD, TSS, etc.) capacity of the treatment plant
  - Has a reasonable potential, in the opinion of the POTW Supervisor, to adversely affect the POTW treatment plant (inhibition, pass-through of pollutants, sludge contamination, or endangerment of POTW workers).

These industries would be regulated individually and have specific effluent limitations (including conventional pollutants, where necessary) placed on their discharges. They should also be monitored and inspected periodically to ensure compliance with their limitations.

- Group 2: Minor IUs, defined as small industries and some commercial users (restaurants, auto repair shops, etc.) whose individual discharges do not significantly impact the treatment system, degrade receiving water quality, or contaminate sludge. Industries that have the potential to discharge a nondomestic or process wastestream, but at the present time discharge only sanitary waste, may also be included in this group. However, this group does not contain any categorical industries. Industries in this classification may be included in a general permit system and occasionally monitored and inspected to determine if their status has changed. If wastestreams from any of these users or a group of these IUs becomes a problem, the POTW may require a general permit for all IUs in that group or may wish to change their classification to a significant or major IU.

- Group 3: Insignificant IUs, defined as those that have been eliminated from further consideration. These include industries that do not discharge to the POTW, or do not have any reasonable chance of discharging a nondomestic wastestream to the POTW.

2.4.2 Industrial Waste Survey Data Management

In conducting the IWS, a POTW (especially a large one with many industrial users) may generate a great quantity of data that must be summarized and readily accessible. To manage this information, you will need to establish a data management system, either by developing a new filing system, expanding your current filing system, or using a computerized management information system. For large POTWs, a computer may be the most accurate means to maintain and update IU information because of the varied capabilities it offers, such as:

- Accepting IWS data
- Printing labels for mailing out questionnaires, notices, etc.
- Tracking the status of each mailed questionnaire
- Storing survey responses in an accessible manner
- Providing aggregate data statistics
- Incorporating data from future monitoring programs.

Chapter 6 of this manual also discusses data management needs you might encounter as you develop the pretreatment program.

2.5 IWS INFORMATION FOR THE PROGRAM SUBMISSION

To adequately document the IWS and assist the Approval Authority in reviewing your program, the submission should include the following:

- Sources used to compile a comprehensive (master) list of IUs
- Methods used for the survey (questionnaire, site visit, telephone, etc.)
- A copy of the questionnaire and the letter sent to the industries including dates the forms were sent (if questionnaire was used)
- A description of follow-up actions taken by the POTW to obtain properly completed survey forms from IUs, and the response rate for the entire survey (including industries that did not return completed survey forms despite follow-up actions)
- A master list of all industries discharging to the treatment plant that:
  - Indicates which industries were eliminated from the survey and the criteria used to eliminate them
  - Summarizes IWS results including a list of IUs affected by the program, a classification of these users (either by SIC code, industrial category, or other appropriate scheme), and a list of pollutants known or suspected to be discharged from each IU. Where available, information on the concentrations of these pollutants should also be presented.

  These two items can appear either separately or together (as a master list).

3. LEGAL AUTHORITY

The ability to develop and implement a successful local pretreatment program depends on adequate legal authority at the local level. The legal authorities that your local government must have to implement the pretreatment program are listed in Section 403.8(f)(1) of the General Pretreatment Regulations. To summarize, the POTW must be able to:

- Deny or condition new or increased contributions of pollutants, or changes in the nature of the pollutants discharged to the POTW
- Require compliance with applicable pretreatment standards and requirements by IUs
- Control, through permit, contract, or other means, the contribution to the POTW by each IU
- Require the development of a compliance schedule by each IU, and the submission of all notices and self-monitoring reports as necessary to assure compliance
- Carry out all inspection, surveillance, and monitoring procedures to determine compliance independent of information supplied by the IU
- Obtain remedies for noncompliance, including the ability to seek injunctive relief, civil or criminal penalties, and/or collect liquidated damages
- Obtain effective summary relief from industrial waste discharges that endanger public health, the environment, or POTW operations
- Comply with the confidentiality requirements and limitations on data restrictions specified in 40 CFR 403.14.

3.1 REQUIRED LEGAL AUTHORITIES

Section 403.8(f)(1)(i-vii) of the General Pretreatment Regulations states the specific legal authorities required in your ordinance to implement and enforce a pretreatment program. After reviewing these legal authorities (summarized below), you may find that the community needs a new sewer use ordinance or that you must make significant modifications to your present ordinance. For these reasons, EPA's model ordinance is included in Appendix I. The model ordinance is intended only as a guide, indicating the legal

authorities that should be included in an ordinance. Your local ordinance should be specifically tailored to the procedures that will be used to administer and enforce your local pretreatment program. The following sections briefly outline the required legal authorities.

3.1.1 Deny or Condition

The POTW must have the authority, according to 40 CFR 403.8(f)(1)(i), to deny or condition new or increased contributions of pollutants to the POTW by IUs where such contributions do not meet applicable pretreatment standards and requirements, or could cause the POTW to violate its NPDES permit. This means the POTW must have the power to regulate the discharge of pollutants that cause pass-through, interference, or sludge contamination problems, or that exceed Federal categorical standards. The ordinance or other written documentation that provides the authority to effectively control such discharges by IUs satisfies this requirement.

The ordinance should also include a general prohibition of unauthorized (or unpermitted) discharges and the authority to deny or place conditions on discharges that change in character or volume (i.e., a permit that can be modified on notice of changed industrial discharges). You may also find it useful to include a specific provision requiring IUs to provide timely notice of any substantial change in the quantity or quality of their industrial waste discharge to the POTW.

3.1.2 Compliance with Pretreatment Standards

The authority to require compliance by IUs with applicable pretreatment standards and requirements must be stated in your ordinance, according to 40 CFR 403.8(f)(1)(ii). The POTW must be able to prohibit the introduction of pollutants that pass through or interfere with the operation or performance of the treatment works, and must be able to enforce national categorical pretreatment standards (as they are promulgated), prohibited discharge standards, and any local limits.

A POTW must be able to require compliance with the categorical pretreatment standards as they are promulgated. The ordinance should explicitly reference categorical pretreatment regulations and standards as an indication that they have been fully incorporated and made enforceable by the ordinance. Since not all categorical standards have been promulgated, they are not likely to appear fully in an ordinance. Still, the ordinance should state that these standards, once promulgated, shall apply to IUs. A possible mechanism for applying such standards is as a permit or contract condition.

Prohibited discharge standards must be enumerated in your ordinance. In exceptional instances where this is not possible, standards can be imposed as permit or contract conditions. Each of the prohibitions must be specified. General language is usually sufficient in establishing prohibited discharge standards. However, there are a few special cases which may require explanation in the submission. For example, if an IU end-of-pipe heat limitation is set at a temperature higher than 104°F (as is often the case), your submission should include a technical justification showing that the higher end-of-pipe heat limitation will not cause the temperature at the treatment plant influent to exceed the prohibited discharge standard of 104°F. In addition, it is beneficial to the POTW if the ordinance explicitly prohibits dilution as a means of meeting pollutant concentration limits set in categorical pretreatment standards and provides the accompanying authority to impose mass effluent limits. This authority should be extended to noncategorical industrial users.

You must also have the legal authority to establish local effluent limits for industries that discharge to your treatment plant. Typically, local discharge limits apply to noncategorical significant industries and those industries for which categorical standards have not yet been promulgated. Any generic authority to establish local limits must be included in the ordinance. You may set local limits by industrial category, by pollutant, or by individual industrial facility. Although the ordinance can include specific numerical limits, the POTW is often allowed more flexibility if the limits are specified in the permit. This allows the POTW the flexibility to modify the limits, if necessary, to protect its treatment plant operation, or sludge or water

quality. If categorical standards do not afford adequate protection for the POTW, you should establish local limits more stringent than categorical standards.

If your ordinance allows the POTW to form special agreements with IUs to accept industrial waste discharges that otherwise do not conform to effluent limits contained in the ordinance, this special agreements provision must not allow the waiver of national categorical standards and prohibited discharge standards. Local standards may be waived, but national standards may not, unless this waiver is granted by mechanisms established under the General Pretreatment Regulations (such as removal credits, fundamentally different factors variances, or net/gross calculations).

3.1.3 Control Mechanism

Under 40 CFR 403.8(f)(1)(iii), the POTW must have the authority to control, through permit, contract, order, or similar means, the contribution to the POTW from each IU to ensure compliance with applicable pretreatment standards and requirements. A POTW must be able to control the discharge of each industry even when that industry is located in an outlying jurisdiction. It is strongly recommended that a control mechanism, such as a permit system, be established for the program and then described in your submission. A contractual mechanism, whereby the POTW provides its services subject to mutually agreeable terms, is also acceptable. Another acceptable control technique is an administrative order. Each of these mechanisms establishes a legal framework for controlling the volume and constituents discharged by an industry.

For larger systems, a permit system to administer and enforce pretreatment standards and requirements may be very efficient. This permit system would employ discharge permits, rather than connection permits. The distinction is that a connection permit merely allows individuals to hook up to the sewer system, similar to a building license or construction permit, while a discharge or sewer use permit regulates continuing use of the sewer system and places conditions on discharges. You will find a permit system most effective if it contains the following components:

- Permit application - used to collect pertinent data; often appended to final industrial discharge permit

- Limited duration - preferably no more than five years; allows periodic review of discharge conditions

- Non-transferability - any transfer of a discharge permit, at a minimum, should be subject to POTW approval

- Modification - allows incorporation of categorical standards and any local effluent limits necessary to correct operational problems at the POTW; useful in dealing with noncompliance

- Conditions - conditions for discharge should be clearly stated in the discharge permit

- Revocation - excellent enforcement tool; a permit system can be used effectively to enforce against detrimental activities besides illegal waste discharges (e.g., falsification of self-monitoring reports, tampering with monitoring equipment, or refusal to allow timely access to industrial premises).

A discharge permit system should be flexible to allow modification of discharge conditions to correct any operational problems at the POTW, to accommodate changes in environmental regulations, and to reflect changes in an industrial process. However, an industrial discharge permit should never give excessive legal right to discharge, as may occur, for example, if permits are issued for indefinite duration or made freely transferable without the need for POTW approval. A sample permit can be found in Appendix J.

3.1.4 Compliance Schedules/Reporting Requirements

Under 40 CFR 403.8(f)(1)(iv), the POTW must have the authority to require (1) the development of a compliance schedule by each IU for the installation of technology required to meet applicable pretreatment standards and requirements, and (2) the submission of all notices and self-monitoring reports from IUs as are necessary to assess and assure compliance by industries with pretreatment standards and requirements, including, but not limited to, the reports required in 40 CFR 403.12. The specific requirements of 403.12 can be found in Appendix C, which contains a copy of the General Pretreatment Regulations.

3.1.4.1 Compliance Schedules

Your POTW must have the authority to establish and enforce deadlines for the installation by an IU of any pretreatment facilities or technology needed to meet applicable pretreatment standards. These conditions should include time limits to ensure that progress is made over time. A permit system allows this requirement to be easily implemented.

3.1.4.2 Reporting Requirements

Your POTW must have the authority to require its IUs to submit self-monitoring reports. This authority must encompass any reporting required of categorical industries, including baseline monitoring reports, compliance schedule progress reports, compliance reports on categorical standards deadlines, periodic self-monitoring reports, and any other applicable reporting requirement. A POTW must also have the authority to require IUs to notify it promptly upon the discharge of any slug load that may contribute to an interference at the treatment facility. It is also helpful if you establish penalties for any industrial actions that affect the integrity of monitoring procedures, including falsification of self-monitoring reports or tampering with monitoring equipment and methods.

3.1.5 Inspection, Sampling, and Monitoring

The POTW must have the authority, as required by 40 CFR 403.8(f)(1)(v), to carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance or noncompliance with applicable standards and requirements independent of information supplied by IUs. Your POTW must have the authority to enter industrial premises for the purposes of inspecting, sampling, and monitoring industrial waste discharges, and reviewing and copying any necessary records. The POTW also must be able to set up and maintain its monitoring equipment at the industrial facility for a sufficient length of time to complete such monitoring.

POTW officials should be allowed to enter the premises at any reasonable time, not only during normal working hours. This additional flexibility may be necessary for handling emergency situations, suspected illegal non-work

hour discharges, and cases of suspected tampering with monitoring equipment. No language in your ordinance should require the POTW to afford prior notice of inspection, sampling, and monitoring activities. Random inspection, sampling, and monitoring should be done with the least possible prior notification. Although prior notice may be given to ensure cooperation, it is not always a good idea and should not be required in the ordinance. In accordance with Section 308 of the Clean Water Act, a POTW should be able to require installation of monitoring facilities and equipment, and prescribe monitoring methods.

3.1.6 Legal Remedies

According to 40 CFR 403.8(f)(1)(vi)(A), two remedies for noncompliance must be available to the POTW: (1) injunctive relief, and (2) civil or criminal penalties. The POTW must have the right to seek injunctive relief against IUs violating pretreatment standards and requirements. This authority may be demonstrated either by including specific language in your ordinance or by discussing in the attorney's letter (described below in Section 3.2) the existing case law or statutory authority that can be used to support a suit for injunctive relief against pretreatment violations.

If your POTW has police powers, it must establish the authority to enforce civil or criminal penalties against IUs that violate pretreatment standards or requirements. Your ordinance should contain provisions granting the POTW authority to impose fines or penalties. EPA recommends a fine of at least $300 per violation per day to act as a sufficient deterrent. If State law limits the amount of the fines or penalties you can impose, you may want to consider alternative courses of action, such as pursuing amendments to State statutory law to allow for greater fines and penalties. If State law does not permit your municipality to impose civil or criminal penalties, EPA regulations specify that the municipality must enter into contracts which provide for liquidated damages for violations of pretreatment standards and requirements. However, this contractual mechanism may prove ineffective for two reasons. First, courts generally do not enforce penalty clauses in contracts. The recommended liquidated damages clause would actually be a penalty

substitute and therefore unenforceable. Second, even if a clause is enforceable, most POTWs will not want to limit the amount recoverable from an industry if substantial damages occur at the treatment plant.

You may also find that establishing an administrative/adjudicative mechanism (such as a show-cause hearing) to resolve conflicts between IUs and the POTW will be helpful in maintaining a good relationship with the industries in the area. Effective and equitable administrative proceedings should help expedite the enforcement of pretreatment standards and requirements.

3.1.7 Emergency Relief

Under 40 CFR 403.8(f)(1)(vi)(B), the POTW must have the authority, upon notification to the IU of a violation, to halt immediately any actual or threatened discharge to the POTW that may present an imminent endangerment to public health, the environment, or the POTW. Where the health or welfare of persons is threatened, notification should be immediate, such as by telephone call. Where the environment or POTW operations are threatened, the violating user must be notified and afforded the opportunity to terminate the discharge and mitigate any damage.

Your ordinance can provide this authority by allowing the POTW to suspend wastewater treatment service and/or discharge permits in emergency situations, and by requiring the discharger to immediately stop or eliminate the contribution upon notification of the suspension. The ordinance must further provide that, if the discharger fails to comply voluntarily with a suspension order, the POTW may take any steps necessary, including severance of the sewer connection, to prevent further discharge. If your ordinance does not provide this authority, the authority may still be available to the POTW as a valid exercise of its police powers. In this case, the POTW attorney's statement should explain how the authority is a part of the POTW's police powers.

3.1.8 Confidentiality

Under 40 CFR 403.8(f)(1)(vii), the POTW must comply with the confidentiality requirements of 40 CFR 403.14 which states that effluent data provided

to the POTW be available to the public without restriction. While most confidential data can be protected, the POTW must be able to release effluent data, such as:

- Information necessary to determine the identity, amount, frequency, concentration, temperature, or other characteristics of any pollutant discharged
- A description of the manner or rate of operation of any source to the extent necessary to determine what was discharged under an applicable standard or limitation
- A general description of the location and nature of the source to the extent necessary to distinguish it from others.

Data or information on research, products, processes, and methods need only be released if necessary to disclose that a source is in or out of compliance, or to allow a determination of feasibility/attainability of a standard or limitation. Information that is proprietary, a trade secret, or otherwise confidential can be withheld provided it is not "effluent data" as defined above. A good approach for your POTW to take in providing this confidentiality requirement is to state in your ordinance that effluent data are considered nonconfidential.

3.1.9 Multijurisdictional Issues

Very often, POTWs serve more than one political jurisdiction. In these multijurisdictional situations, the agency or entity holding the NPDES permit for the discharge of municipal wastewater has the primary responsibility to enforce pretreatment standards throughout the service area. This may or may not present a problem, depending on how your POTW is structured. If a special sewer district encompassing your entire service area has been created and the sewer district has rulemaking authority sufficient to implement a centralized pretreatment program, there is no problem. However, when the sewer district's powers are limited, your POTW must supplement its existing legal authorities by negotiating and signing an interjurisdictional pretreatment agreement with each contributing jurisdiction containing a categorical or significant IU.

On the other hand, if your POTW does not involve a special sewer district and it services industries that lie beyond the municipal boundaries and thus beyond the reach of your municipal ordinances, a mechanism to control the discharges of these industries must be created. In order to control the discharges of these industries in outlying jurisdictions, there must be either: (1) a contract between each industry and the POTW that conditions the industry's receipt of sewer service upon meeting the POTW's requirements; or (2) an agreement between the POTW and the outlying jurisdiction where the industry is located. The agreement with the outlying jurisdiction should specify that the jurisdiction will enforce the POTW's requirements or permit the POTW itself to do so. This agreement should address the following:

- Ordinance or regulation
- Local discharge limit mechanism
- Pretreatment program administration
- Records transference
- Inspection and sampling authority
- Enforcement.

In a multijurisdictional situation, your program submission must include the pretreatment agreement(s) and the ordinance(s) from any outlying jurisdictions.

3.2 ATTORNEY'S STATEMENT

40 CFR 403.9(b)(1) requires a statement in the final submission from the POTW attorney, city solicitor, or another city official acting in a comparable capacity. The individual who signs this letter should be the person who is responsible for bringing an enforcement action in court. The statement must:

1. Identify the provision of the legal authority under section 403.8(f)(1) that provides a basis for each procedure under section 403.8(f)(2)

2. Identify the manner in which the POTW will implement the program requirements set forth in section 403.8, including the means by which pretreatment standards will be applied to individual IUs (e.g., by order, permit, ordinance, contract, etc.)

3. Identify how the POTW intends to ensure compliance with pretreatment standards and requirements and to enforce them in the event of noncompliance by IUs.

The attorney's letter must specifically refer to the basic statutory authority for the entire program, which is often a provision in State law authorizing your municipality to enact certain local ordinances or to enter into contracts. It must also cite the particular ordinance provision for each authority listed in 403.8(f)(1).

The attorney must specify the control mechanism to be employed in applying pretreatment standards to IUs. Items such as permits, contracts, and orders should be mentioned. A general description of the 403.8(f)(2) procedures and relevant control mechanisms should also be included. A detailed description is not necessary in the letter as long as such detail is contained elsewhere in the submission. The attorney's statement should refer to the portions of the submission describing the procedures and control mechanisms.

The letter must also identify how the POTW intends to ensure compliance. Again, it is not necessary for the attorney to include a detailed explanation of compliance procedures, but the enforcement procedures that will be followed should be generally described and reference made to the portion of the submission detailing the compliance procedures. An example attorney's statement is provided in Appendix K.

When enforcement is the responsibility of more than one jurisdiction, the statement must explain how the other jurisdictions fit into the program and how your POTW will ensure that other jurisdictions carry out their responsibilities (see Section 3.1.9, Multijurisdictional Issues). Typically, multijurisdictional arrangements are enforced through a joint powers agreement. In this case, the attorney's statement should specify remedies available to your POTW if the agreement is breached. Attorneys' letters are required for each jurisdiction if several jurisdictions are involved.

3.3 LEGAL AUTHORITY INFORMATION REQUIRED FOR THE PROGRAM SUBMISSION

The legal authority section of your final pretreatment program submission must include the following:

- A statement from the city solicitor, a city official acting in a comparable capacity, or the city's independent legal counsel, that the POTW has the authority to carry out the program [403.9(b)(1)].
- A copy of any statute, ordinance, regulation, contract, agreement, or other authority that will be relied on by the POTW to administer the program [403.9(b)(2)].
- A statement reflecting the endorsement of or approval by the local boards or bodies responsible for supervising and/or funding the program [403.9(b)(2)].
- Any additional documents required in multijurisdictional situations for administration of the program [403.9(b)(2)].

4. TECHNICAL INFORMATION

Technical information provides the basis for a significant portion of your pretreatment program. It enables you to quantify industrial pollutants within the treatment system, establish local effluent limits for IUs, and develop an effective compliance monitoring system. This chapter focuses on the technical information you will need to operate your program, to develop local effluent limits, and to include in the program submission. In addition, this chapter, along with Appendix L, provides you with a detailed methodology to establish local discharge limitations for your IUs as part of the pretreatment program.

In order to develop this technical information, your POTW will want to compile the following information:

- Descriptive background information about the POTW and its service area
- Existing POTW performance data for conventional, nonconventional, and priority pollutants (including historic data on plant problems)
- Data on the sampling and analysis performed at the treatment plant and at the industries
- Limitations placed on the POTW's effluent and sludge
- Methodology for determining local effluent limitations.

4.1 BACKGROUND INFORMATION

The purpose of including background information with your submission is to provide the reviewer with an understanding of your specific treatment plant, its service area, and the problems it may have encountered with industrial pollutants. This information should present an overall view of your POTW, including:

- The number of treatment plants, their locations, and service area. A map would be very useful, particularly if the system is large.
- The receiving streams for your POTW's discharge.

- A description of your treatment facilities and processes. It may be helpful to also include a schematic flow diagram of each plant.
- Design flow and average daily flow.
- Sludge production rate.
- Sludge disposal method.
- Percent industrial flow.
- Indication of whether storm drains contribute to your POTW's influent.
- A discussion of planned facility modifications or additions.

If there is more than one treatment plant, information should be gathered and submitted for each plant. This information can be brief, but it is important that it be thorough enough to enable the reviewer to become familiar with your POTW.

4.2 PLANT PERFORMANCE AND INDUSTRIAL DATA

It is also important for you to identify operating problems known or suspected to have been caused by industrial discharges at the treatment plant. This information will enable you to determine the pollutants for which effluent limits are needed. If your treatment plant has never experienced operating problems, it may still be helpful for you to look at the susceptibility of your plant to pollutants found in industrial discharges to the system (as described in Section 4.3).

A logical procedure to identify present or potential operating problems is to first review past and present operation and maintenance data for:

- Reductions in removal efficiency
- Degradation of the collection system facilities
- Emergencies such as sewer plugging, excessive corrosion, unusual odors, explosion hazards, explosions, or fires
- Violation of NPDES permit conditions
- Water quality degradation or fish kills at the POTW's effluent discharge location
- Sludge contamination.

Careful examination of the operating design and history of your POTW may provide evidence for the cause of these problems, whether from equipment failures, improper operation and maintenance, or industrial discharges. Your POTW's pretreatment program submission should indicate the number and frequency of any upsets, problems, or violations during a recent period (usually 18 months), their probable cause, and remedial actions taken.

Specific data, if available, that should be provided in your pretreatment program submission are:

- Summary of 12 to 18 months of influent and effluent conventional pollutant data (BOD, TSS, pH, temperature). If priority or nonconventional pollutant data are available, this should also be provided.
- Sludge pollutant analyses. Any sludge data that are available should be included. If the data are presented in liquid form (units in mg/l or ug/l), the percent solids content of the sludge at the time of analysis should also be included to enable calculation of the pollutant content of the dry sludge (in mg/kg). The results of any Extraction Procedure (EP) toxicity tests or other sludge analyses should also be provided.
- Priority pollutant analyses of any other locations sampled within the POTW collection system, treatment plant, or at industries.
- Any other data pertinent to the pretreatment program, such as operating data that demonstrate plant upsets or inhibition due to industrial contributions.

4.3 SAMPLING AND ANALYSIS TO DETERMINE FATE AND EFFECT

Sampling and analysis of the POTW treatment plant influent, effluent and sludge will be necessary to quantify the extent of pollutant pass-through, interference, inhibition, and sludge contamination, and to provide a basis for establishing local industrial discharge limitations. This sampling program should be designed to obtain quantitative information regarding the concentration, loads, and fluctuations of specific pollutants (particularly priority pollutants) identified from the IWS.

One method to determine the presence of toxic pollutants in the treatment system is to conduct an initial test of the influent, effluent, and sludge for the 126 priority pollutants, using 24-hour composite samples. Although these

analyses can be expensive (approximately $800-$1200 per sample according to estimates obtained in March 1983 from commercial laboratories), they provide important information to help confirm or deny the presence of significant amounts of toxics entering the POTW system. There are several methods which can be used to reduce the financial burden of such analyses. A common method is to limit the number of pollutants analyzed based on the results of the IWS (e.g., only those pollutants that are known or suspected to be discharged by IUs). The POTW may recover some of the cost for these analyses by establishing an industrial user charge system. Details on how to establish such a system are given in Chapter 7 of this manual.

The IWS data, existing treatment plant and industrial data, and the POTW treatment plant priority pollutant analysis will indicate which pollutants are of potential concern and which industries discharge these pollutants. You will then have the necessary data to determine the pollutants and industries on which to concentrate your subsequent sampling and analysis efforts. To further characterize the fate and effect of priority pollutants within the treatment plant, your sampling program may include additional components, such as:

- Sampling of significant industries to quantify industrial pollutant loading
- Sampling of nonindustrial interceptors within the collection system to determine the background concentration and loading from nonindustrial sources
- Sampling within the treatment plant itself to determine, via mass balance calculation, the fate of the specific pollutants within the treatment plant, and to determine the areas within the system which are most heavily affected by the pollutants in question
- Sampling and analysis of treatment plant sludge for priority pollutants when your POTW uses landspreading, unsecured landfills, or ocean dumping for disposal of sludge
- Sampling and analysis of sludge leachate when the POTW uses a sanitary landfill or landspreading
- Sampling and analysis of ash resulting from incineration of treatment plant sludge.

The above components are not specifically required for your program submission, but are suggested as a way to obtain the most complete information on pollutants of concern in your treatment system.

4.4 LIMITATIONS ON POTW EFFLUENT AND SLUDGE

This section addresses the various limitations that may be placed on the disposal of your POTW's effluent and sludge by Federal and State agencies. It is best for you to gather as much of this information as possible in order to develop local discharge limitations or standards to protect your treatment plant and receiving water, and to prevent sludge contamination.

4.4.1 Water Quality Limitations

Your NPDES permit places limits on the amount of conventional pollutants you may discharge to the receiving water. In a few cases, it may also include limits for toxic pollutants. To ascertain whether your POTW is discharging excessive amounts of toxic pollutants into the receiving stream, you may want to obtain information on your receiving stream, such as:

- Water quality standards
- Water quality criteria
- Background pollutant data.

A "water quality standard" represents an actual established limit or goal that must be met at all times throughout a given receiving water segment. A "water quality criterion" represents a recommended limit based on the best toxicity data currently available. In general, water quality criteria do not take local conditions into account, as do water quality standards. Therefore, where water quality standards exist for a pollutant, they should be used in lieu of water quality criteria (see Appendix L). Where no standards exist, consult the Federal water quality criteria. Water quality standards are enforceable, while water quality criteria are not.

State water quality standards can be obtained by contacting the State water quality control agency. In general, most States have established water

quality standards for conventional pollutants only. Few water quality standards have been developed for toxic pollutants. For pollutants where no State water quality standards or criteria exist, the Federal water quality criteria should be obtained. These water quality criteria are published in the following documents:

- Federal Register: EPA Water Quality Criteria Documents, November 28, 1980, Part V, Availability; this document is out of print but is summarized in Appendix L.

- Quality Criteria for Water: an EPA publication known as "The Redbook" and available from: National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161 (703-487-4650). The publication may also be available from Regional EPA Offices or local libraries.

The summary of the criteria from the Federal Register (November 28, 1980) in Appendix L should be consulted first because it updates the criteria from "The Redbook." For pollutants not addressed in this issue of the Federal Register, the EPA "Redbook" should be consulted.

4.4.2 Sludge Limitation

Certain information should be collected to: (1) determine the need for industrial discharge limits to prevent sludge contamination, and (2) establish these local limits. Such information includes:

- The method of sludge treatment and disposal for each plant. If the sludge is or will be disposed of by more than one method, each method should be described for each plant's sludge.

- Any limitations on the pollutant content of the sludge for the disposal methods reported above.

- Sludge analysis data, such as EP toxicity tests, pollutants analysis of wet or dry sludge, etc. If the sludge data are reported in liquid form (mg/l, not mg/g), you should be sure to include the percent solids content of the sludge sample so that the pollutant content of dry sludge can be calculated, if necessary. This is particularly important where sludge is to be spread on land.

If your sludge is or will be disposed by land application or will be sold or given away for use as fertilizer or soil conditioner, the following additional information should be provided:

- A description of the area that will receive the sludge, including type of crops grown (if any), type of soil, soil analysis, cation exchange capacity, total area available, and general location.
- The current or expected sludge application rate and calculated rate of application of regulated pollutants contained within the sludge. Pollutant(s) which currently limit rate of sludge application should also be identified.

4.5 METHODOLOGY FOR DETERMINING LOCAL DISCHARGE LIMITATIONS

After you have described your treatment system, the characteristics of the pollutants associated with that system, and the restrictions placed on these pollutants, the next step is to determine what local discharge limits need to be established. Table 4.1 is an example worksheet designed to assist you in this process by identifying those industrial discharges that:

- Contain priority pollutants
- Interfere with or inhibit the operation of treatment facilities
- Pass through the treatment system and adversely affect the quality of the receiving stream
- Render POTW sludge unfit for land application or landfill disposal
- Create a hazard for workers in the treatment facility.

Based on the results of the IWS, the data developed in the previous sections, and the references listed, you can complete the worksheet as instructed. List the significant IUs served by your treatment system in the first column of the table. Check the characteristics of their discharged waste against the items listed if their discharge is known or suspected to have caused any of these problems at the POTW. If any of the columns are marked "yes," then local discharge limitations will be needed.

TABLE 4.1

DETERMINING NEED FOR LOCAL LIMITATIONS

Total number of Industrial Users:	139
Number of Industrial Users discharging only compatible pollutants (pollutants for which the POTW was designed to remove, i.e., restaurants, hotels, theaters, offices, some food processing industries):	104 (subtract)
Number of Significant Industrial Users:	25

	Name of Significant IU	What Priority Pollutant Does the Waste Contain (List)	POTW Interference:	Answer "yes" or "no" if the Pollutants in the IU Wastestream Create Any of These Problems: Adverse effects on POTW Receiving Stream?	POTW Sludge Unfit For Land?	Hazards For POTW Workers?
		Discharge info not yet available				
		Potential for: CCl_4, Phenol, TCE,				
1.	Allen Co.	Metals				
2.	Boyd & Sons	Al, Cr, CN, Cu, Ni, Zn	None reported	No	Yes	No
3.	D&D Leather, Inc.	Cr	Slug load of Sulfides 6/81	No	Yes	Yes
4.						
5.						

If there are no IUs remaining after the subtractions at the top of Table 4.1, you may only need to establish minimum limits to protect the operating integrity of your treatment plant. Stricter local limits will have to be established for any industries that contribute to problems in the treatment system or to water quality standards violations. In the event that a categorical industry without a promulgated discharge standard contributes to a problem, local discharge limits should be established as needed to protect the POTW. Upon promulgation of the respective categorical standard, the more stringent of the two discharge limits (local or Federal) will apply. The text of your pretreatment program submission should explain the basis for deciding what local discharge limitations are required. The worksheet can be used as part of this explanation. For example, the sample information presented in Table 4.1 illustrates the potential need for a local discharge limitation on chromium and sulfides.

4.5.1 Types of Standards

As discussed in Chapter 1, prohibited discharge standards and categorical pretreatment standards must be established as part of the pretreatment program. Prohibited discharge standards and categorical pretreatment standards must be imposed on IUs by all POTWs. However, local effluent limits are also necessary in several situations. They may be needed for industrial categories where an interference or upset problem exists and categorical standards have not been established or are not likely to be established. Local limits can also be established to protect the operational integrity of the POTW, even if an upset or interference problem does not exist. In addition, local limits should be developed if existing categorical standards are not adequate to protect POTW operations and facilities from any adverse impact associated with industrial contributions.

Not all pollutants discharged to your treatment system can be controlled or restricted. You will probably be able to control discharges from all IUs and, to a limited extent, some commercial users. However, domestic users, most commercial users, stormwater discharges to POTWs with combined sewer systems, and any inflow/infiltration are, for all practical purposes, beyond your control. Therefore, you may need to concentrate on controlling industrial discharges when establishing local limits.

4.5.2 General Procedure for Setting Local Limits

As stated above, local limits should be directed at correcting or preventing problems at your POTW. In doing so, each toxic pollutant should be considered separately since each pollutant can have a different impact on the treatment system. The development of local discharge limits involves two major steps: (1) the establishment of maximum allowable pollutant loads to the treatment plant, and (2) the allocation of the maximum allowable load among all existing and future IUs. The following sections provide a brief overview of a general procedure for setting local effluent limits. A more detailed explanation can be found in Appendix L.

4.5.2.1 Determining Allowable Loadings to the Plant

The following steps can be used to set a maximum allowable loading to your plant:

- Determine the influent mass loading (multiply concentration and flow rate with an appropriate conversion factor)
- Determine mass balance of each unit process including sludge handling processes (follow the route of pollutant through the treatment process)
- Determine percent removal of the pollutant at each unit process and the cumulative removal efficiencies at all previous treatment steps combined
- Establish the pollutant's critical or threshold concentration acceptable to each unit process, the receiving stream, and sludge disposal
- Back calculate the maximum acceptable influent loading in relation to each unit process, using the in-plant back-calculating formula described below:

$$Lp = \frac{Li}{(1-Ep)}$$

where: Lp = Desired Influent Concentration

Li = Criteria Concentration at Unit Operation

Ep = Reduction in Upstream Processes

- Select the lowest limiting concentration as the acceptable maximum influent concentration (maximum allowable mass loading).

4.5.2.2 Allocation of Industrial Pollutant Loading

Before allocating the pollutant loading necessary to achieve the allowable influent concentration, a number of factors need to be considered. The first group of factors relating to system or plant conditions includes the amount of toxic pollutants already present in the water supply, the reduction in the levels of certain pollutants in the collection system due to biodegradation and volatilization, and the possibility of spills of raw materials at certain industrial facilities. Allowances have to be made for all these events when developing the exact pollutant reduction required.

Other allowances that also need to be considered during allocations are service expansion and wastewater dilution. Service expansion can include domestic contribution where future population growth could cause overloads of compatible pollutants, and future industrial contribution. If land has been zoned for industrial parks, POTWs must allocate a certain portion of the allowable influent loading to this planned expansion. Dilution by domestic wastewater, stormwater contribution in combined sewer systems, and infiltration/inflow contributions may cause pollutant concentrations to drop below the allowable influent concentration. However, the amount or mass of pollutant in the wastewater remains the same and will still affect sludge streams if anaerobic digestion or sludge disposal is the controlling unit process for local limitations development.

With full consideration of the above factors, allocation of discharge limits to IUs can be calculated using categorical standards, proportion, single concentration (or mass), or technology-based limitations. Generally, the most stringent limit calculated from these methods is selected as the discharge limit. Specific procedures for allocation of industrial discharge limits are discussed in Appendix L.

4.6 TECHNICAL INFORMATION FOR THE PROGRAM SUBMISSION

To assist the Approval Authority in reviewing your program, the technical development aspects should be described by including the following information in your submission:

- Background information on your POTW and its service area
- NPDES permit limitations
- Description of prior instances of interference with POTW operations attributable to industrial contributions, including:
  - Lessening of treatment system's removal efficiency
  - Degradation of the collection system
  - Emergency conditions such as sewer plugging, unusual odors, explosion hazards, fires, etc.
  - Instances of POTW NPDES permit violations known or suspected to have been caused by industrial waste interference.
- Type of sludge disposal practices used at the treatment plant and what effect, if any, industrial pollutants have on this sludge disposal method, including:
  - Description of current sludge disposal practices
  - Description of anticipated sludge disposal practices
  - Sludge pollutant limits, other than conventionals, limited by Federal, State, or local regulations.
- Description of the nature and extent of your POTW sampling program, including:
  - Sampling of nonindustrial interceptors within the collection system to determine background concentrations from nonindustrial sources
  - Sampling within the treatment plant itself of the influent, effluent, and sludge to determine, via mass balance calculation, the fate of the specific pollutants within the treatment system
  - Sampling of industrial users.

  Data from this sampling program should be included in your submission.
- A discussion of the methodology used for developing specific effluent limitations for industries, and the actual local effluent limits established.

5. DESIGN OF MONITORING PROGRAM

The overall success of your pretreatment program depends on a comprehensive and properly designed local monitoring program. It is through your monitoring activities that compliance with ordinance requirements is determined, user charges confirmed, and data generated for annual pretreatment program reports and other reports required by EPA or the States. A monitoring program also helps you to identify the IUs responsible for discharging pollutants which are potentially harmful to the treatment plant and/or collection system. In addition, the design and sophistication of a POTW monitoring program is a major factor in determining the labor and resources needed to implement the local pretreatment program. For all of these reasons, it is very important to structure this aspect of your program carefully.

5.1 TYPES OF MONITORING

Four types of monitoring can be used in your pretreatment program: scheduled, unscheduled, demand, and industrial self-monitoring. An effective POTW monitoring program incorporates all four types of monitoring. A discussion of each type of monitoring follows.

5.1.1 Scheduled Monitoring

Scheduled monitoring involves the systematic sampling and comprehensive inspection of significant industrial contributors to the POTW system in accordance with a predetermined schedule. In determining a monitoring schedule, the following considerations should be included:

- A monitoring visit should be scheduled at least once per year for each significant IU, or more often if resources allow.
- Provisions should be made with the IU for on-site inspection of plant operations to ensure that pretreatment facilities are being operated properly and that no intentional dilution of wastewater is occurring.
- Composite samples should be collected and flow rate measurements performed during the sampling period. Grab samples may be used if representativeness is ensured (i.e., the results can be used for compliance purposes).

5.1.2 Unscheduled Monitoring

In addition to scheduled monitoring, the POTW should institute a less formal type of compliance monitoring designed to provide an unannounced check of industrial discharges to the POTW system. Unscheduled monitoring is used to spotcheck randomly all sources within the collection system and is a requirement of the Federal pretreatment regulations. Unannounced visits and sampling are useful in verifying compliance, particularly for industries that can easily and quickly alter their processes or operations to obtain more favorable results. Essential elements of unscheduled monitoring include:

- Monitoring performed on an unannounced basis, with the industry at normal operation
- One unscheduled monitoring event per year, at a minimum, for each significant IU
- A confidential schedule so that industry is not aware of when the monitoring will occur; an IU should be notified immediately before a monitoring event only when the sampling point is within the industry's property
- Use of grab samples and flow measurements, when possible
- Inspection of plant operations and pretreatment activities may be optional.

5.1.3 Demand Monitoring or Investigative Monitoring

Demand monitoring is conducted in response to a known or suspected violation discovered in a self-monitoring report, routine sampling trip, or by public complaint. Additionally, any discharge of prohibited materials can prompt demand monitoring. Demand monitoring means that when a violation is found, sampling is initiated immediately. Specific occurrences which may prompt demand monitoring at an industry are:

- Contributions of explosive or corrosive materials or other prohibited discharges to the sewer
- Operating difficulties in the wastewater treatment system
- Violation of the POTW's permit requirements

- Violation of pretreatment regulations by an IU as indicated by IU self-monitoring or POTW monitoring of the IU.

5.1.4 Industrial Self-Monitoring

It may not be possible or advisable for your POTW to perform all of the monitoring desired to ensure that the IU is complying with pretreatment requirements. You have the option of requiring each significant IU to do its own sampling and analysis, usually termed self-monitoring, and to have the results of this self-monitoring sent to the POTW. Already under Federal pretreatment regulations, all categorical industries must self-monitor at least twice per year. You should be aware that industrial self-monitoring alone cannot be considered adequate to comply with pretreatment program requirements. It is most beneficial for the POTW to perform scheduled and unscheduled monitoring in order to verify monitoring data reported by IUs. However, the incorporation of self-monitoring as an integral part of the overall monitoring program is encouraged, especially for small POTWs with limited resources.

5.2 DETERMINATION OF MONITORING FREQUENCY

The most important questions to be answered in designing a monitoring program are which IUs must be monitored, how often they should be monitored and for what pollutants. It is suggested that all significant IUs affected by Federal, State, and local pretreatment standards be visited and monitored by the POTW at least two times each year: one scheduled visit and one unscheduled visit. You may decide, however, to conduct additional monitoring based on such factors as:

- Volume of the industrial discharge
- Type and concentrations of pollutants in the discharge
- Adequacy of treatment and expected variability of discharge levels
- Industrial user has been known or suspected to cause POTW upsets or operation and maintenance problems
- Past history of noncompliance problems with the industry

- Type of resources (labor and equipment) available to the POTW.

However, when you determine a monitoring schedule, you should also consider the self-monitoring requirements of industries regulated by categorical standards.

The discharge volume from an industry can be used as one possible basis for establishing minimum frequencies. An example of such a schedule is presented below.

EXAMPLE MONITORING SCHEDULE

Industry Flow (average gallons per day)	Monitoring Frequency
0 - 10,000	Once every six months
10,001 - 25,000	Once every three months
25,001 - 50,000	Once every two months
50,001 - 100,000	Once a month
greater than 100,000	Once every two weeks

These monitoring frequencies may be a combination of POTW scheduled and unscheduled monitoring and industrial self-monitoring. Another monitoring schedule is based on the expected variability in types and amounts of pollutants discharged by industry.

The POTW may use either of these or similar schedules to determine minimum monitoring frequency for its IUs. Where appropriate, more frequent schedules may be required of significant IUs. Some factors that can play a role in the scheduling of monitoring activities at industrial facilities are:

- Seasonal production -- Often, industries may produce different products at different times of the year, or may manufacture only during a particular season of the year. All monitoring activities should be scheduled during these times of production.

- Daily production -- Some industries may run particular processes only at certain times of the day or certain days of the week. POTWs should

plan to monitor during those times of the day or on those days of the week.

Once you have determined the frequency at which the POTW will conduct monitoring, when it will monitor, and the requirements of its IUs for self-monitoring, you should consider a management system for collecting, analyzing, and maintaining all necessary results and information. Such a system will involve a form or format for submitting and recording self-monitoring reports which tracks both POTW monitoring and industrial self-monitoring frequencies to ensure that all monitoring is done on schedule, and to identify instances of noncompliance.

5.3 FIELD MONITORING STRATEGY

Field monitoring can be divided into two aspects: (1) the industrial inspection and (2) the sample collection. The industrial site should be inspected before samples are collected at the industry. Different personnel are often involved in these two aspects of field monitoring. As a result, sampling personnel may not always be very familiar with the IU. To remedy this situation, the sampling team should review current inspection reports in order to prepare appropriate sampling equipment, easily locate sampling points, calibrate necessary instruments, and allot a reasonable amount of time to perform the sampling.

5.3.1 Industrial Inspections

Before a POTW monitors an industry for the first time, the industry should be notified and arrangements made for a tour of the facility to familiarize POTW personnel with its operation. This tour will provide a better understanding of specific industrial processes and their wastestreams. A plant inspection report should be prepared during or immediately after the initial visit. This report should encompass the following:

- A sketch of the location of all wastewater effluent lines connecting to the publicly-owned sewer system. The sketch should also include the layout of major plant features. This sketch can be compared to other sketches or plans submitted to the POTW as part of the IWS.

- A description of major product lines and processes within the plant.
- A detailed description and appropriate sketches of existing pretreatment facilities, including operating data, if available.
- A list of pollutants which are or may be discharged into the IU wastestream, with emphasis on materials limited or prohibited by the POTW.
- Identification of appropriate sampling location(s).
- Identification of specific hazards, and the appropriate safety procedures to ensure POTW personnel safety during onsite monitoring activities at the industry.

Besides producing information necessary for future sampling, periodic industrial inspections offer an opportunity for POTW personnel to obtain additional data relevant to the pretreatment program. This information may include:

- Changes in industrial processes affecting the quality of the industrial discharges and subsequent discharge permit limitations
- Waste residuals handling/disposal practices
- Spill control practices or plans
- Inventory of raw materials/chemicals stored on-site.

To ensure that all necessary information will be collected during an industrial inspection, it is a good idea for you to develop a report form or checklist. This report form/checklist should include all of the information mentioned above. The information collected during an industrial inspection will serve to validate and update information collected in the IWS. At the end of an industrial inspection, all information obtained should be entered and properly documented on the report forms. It is important that these reports be accurate and concise because they are the basis for future monitoring programs, changes in discharge permit conditions, and possible litigation.

5.3.2 Sample Collection and Handling

The most important on-site activities are, of course, measuring the flow and collecting samples. To ensure a valid result, representative measurements and samples should be taken. Flow measurements and sampling can be conducted either manually or through the use of automatic devices. Three types of sampling may be utilized:

- Grab samples, in which a single volume of wastewater is obtained and analyzed. This type of sample will not always provide an accurate measure of wastewater characteristics, especially when the flow or pollutants are heterogeneous or vary with time. However, it is easy to perform and takes little time.

- Simple composite samples are a timed sequential collection of equal volume grab samples combined in a single reservoir. This type of sample can give a partial evaluation of the variability of wastewater composition with time. It does not provide any measure of the total pounds of pollutant discharged, since pollutant loading is a flow-related value.

- Flow-proportioned composite samples are obtained by collecting incremental samples with volumes proportional to flow. This type of sample, when analyzed and compared to total flow, provides the most accurate measure of wastewater quality and pollutant loading. Special sampling equipment and/or significant manpower resources are required.

Because of the potential for significant errors associated with sampling, it is essential that extreme care be exercised in selecting sampling devices and procedures. A good reference for sampling procedures is the EPA document, NPDES Compliance Sampling Inspection Manual (PB81-153215), available through the NTIS. The following are some general points to be considered in collecting industrial samples:

- Samples should be collected in a location that is easily accessible and provides a well-mixed wastestream. Repetitive samples should always be taken in the same location. Sampling points should be located where no discharge other than the discharge from the IU (or process) being monitored is present.

- Composite samples should be collected during the industry's regular working hours, if possible. Ideally, flow-proportioned samples should be taken. At a minimum, the composites should consist of equal-volume samples collected at two-hour intervals.

- All samples must be properly preserved from the time they are collected until they are analyzed. It is important to use the right container for sample storage (i.e., do not use a metal container to collect or store a sample that will later be analyzed for metals). Appendix M contains sample preservation protocols from EPA guidelines.

- Accurate records should be maintained, indicating the time, date, location, type of sample, method of collection and preservation, name of person who collected the sample, and any pertinent comments. These procedures are commonly called chain-of-custody procedures.

- The industrial user should be encouraged to split samples with the POTW and have the samples analyzed by a qualified laboratory of its choice. This laboratory should use the same analytical procedures as the POTW's laboratory. If the results of the two analyses differ, the need for further sampling and analysis is indicated.

Once an accurate sample has been obtained, several steps should be taken to assure that the validity and objectivity of the monitoring operations are maintained. The sample should be properly preserved and promptly delivered to the laboratory to prevent sample degradation. Sample preservation techniques and holding times are included in Appendix M and are also outlined in various analytical handbooks, such as the EPA Manual of Methods for Chemical Analysis of Water and Wastes (PB259973), available through NTIS, and Standard Methods for the Examination of Water and Wastewater (15th Edition, 1980), published by the American Public Health Association.

A POTW will often monitor an industrial wastestream for several pollutant parameters, sometimes requiring different preservatives and/or storage conditions for each. Therefore, it may be necessary to take a relatively large volume of sample so that adequate amounts are available for the various laboratory analyses. The large sample should be divided for appropriate pollutant preservation as soon as possible. In addition to ensuring an adequate volume for laboratory analysis and sample preservation, sufficient sample size should be maintained so that a portion of the sample can be offered to the IU, as mentioned above. This option should be provided so that an independent check of the POTW's analytical results can be conducted by the IU, if desired.

5.4 LABORATORY CONSIDERATIONS IN MONITORING

Once the samples are collected, you need to analyze them accurately. Analytical results should be accurate and reproducible to ensure that monitoring activities will provide the quality of information necessary for a successful industrial pollutant control program. Precise and well-recognized techniques have been established for the analysis of conventional and heavy metal parameters in wastewaters. Three often-referenced manuals that provide methods for analysis of these parameters are the Chemical Methods Manual and Standard Methods (both mentioned earlier) as well as Annual Book of Standards, Part 31 (Water, Atmospheric Analysis), 1975, published by the American Society for Testing and Materials. Each of these documents provides a synopsis of the analytical method for a parameter, information on interfering substances, and step-by-step instructions on how to carry out the analysis. Also included is information on the calculation of results, the precision and accuracy of the analytical method, and techniques for chemically stabilizing and preserving samples.

EPA has recently proposed procedures for the analysis of toxic organic chemicals. These procedures were developed specifically for compliance monitoring under the Clean Water Act and are detailed in "Guidelines Establishing Test Procedures for the Analysis of Pollutants: Proposed Regulations" (40 CFR 136). Some of these methods can also be found in the Supplement to the 1981 edition of Standard Methods. Both sources include quality control techniques, glassware requirements, and sample preservation procedures for toxic organic pollutants. All analytical laboratories should have copies of the publications mentioned above. These publications supply the information that a trained laboratory technician needs to perform nearly all analyses required for a pretreatment monitoring program.

Although not as great as the error associated with poor sampling techniques, the potential for error occurring during analysis of wastewater samples can have a great impact on the acceptability of monitoring information. Without the aid of independent checks and general quality control, your laboratory technician may report erroneous results without being aware that a

problem exists. Analytical quality control assistance is available in several forms from EPA. A document entitled Handbook for Analytical Quality Control in Water and Wastewater Laboratories (PB213884) has been published by the EPA Technology Transfer Program and is available through NTIS. In this handbook, specific information is provided that can guide the laboratory technician or chemist toward sound and reliable techniques and procedures.

Many of the considerations discussed above are generally applicable to large POTWs where laboratories exist to handle industrial wastewater analysis or where such facilities can be developed. However, if your POTW is not equipped with a laboratory capable of analysis of all IU pollutants, your analytical work will probably be performed by commercial laboratories. To ensure the quality of the commercial service, a POTW should periodically submit samples spiked with known amounts of pollutants to check the laboratory's accuracy. Identical samples can also be sent to two or more commercial laboratories and these analyses compared to determine the reliability and accuracy of laboratory results.

5.5 CHAIN-OF-CUSTODY PROCEDURES

Once the appropriate sample is obtained and stabilized, it is essential that POTW sampling personnel properly document the methods used to collect the sample, as well as the chain of possession of the sample from collection to analysis. Chain-of-custody procedures are a critical aspect in monitoring IUs. Since it is impossible to predict which violations will require legal action, it should be assumed that all data generated from sampling will be used in court. If a case ultimately goes to trial, the integrity of the data must be established. The sampling results will only be admissible in court if POTW personnel can prove that a sample has been properly collected, preserved, and analyzed, and has not been tampered with or mishandled.

Some of the items that you will need to consider, at a minimum, to address adequately chain-of-custody concerns are:

- Name of person collecting the sample
- Date and time of sample collection
- Location of sample collection
- Type of sample collected (i.e., grab, composite)
- Preservatives used for each sample type
- Names and signatures of any persons handling the samples in the field and laboratory.

It is often convenient and efficient for a POTW to develop a chain-of-custody form that can be used by its sampling team. Table 5.1 is an example of such a form. This form should accompany the sample at all times. You may also find that it is in your best interest to document properly the protocols followed during the sampling and analysis of industrial wastewaters. Adequate documentation is particularly important in the case of priority pollutant sampling where the sampling and analysis techniques are not as well recognized as those for conventional pollutants.

5.6 ADMINISTRATION

Good recordkeeping is an important part of laboratory administration. To ensure proper recording and handling of data, you can consider implementing the following procedures:

- Development of a standard form for collecting data in the field
- Recording of data chronologically (for example, in a bound notebook with numbered pages) to ensure continuity and proper sequence. An example of a form to record monitoring results is found in Table 5.2.
- Completion of forms in duplicate and separate storage of copies in case a copy is lost or destroyed.

When interpreting data, any unusual circumstance at the IU or in the laboratory should be considered so that extraneous results can be eliminated. Proper recordkeeping will allow personnel responsible for technical review to

TABLE 5.1

SAMPLING RECORD

Person Sampling: Peter Smith

Date: 5/3-4/83 Time: 7:00 am - 1:00 am am/pm

Facility Sampled: Boyd & Sons

Facility Location: 3 Boyd Place

Seatown

Sampling Location: Process water discharge after treatment and before mixing with domestic sewage.

Sample Type: Grab ( ) Composite (X)

Observation/Comments: Samples taken once per hour during hours of plant operation 7:00 am through 1:00 am. (19 samples flow composited) Visit unannounced.

Sample Bottle I.D. (Marking) Bottles 101 through 119

Samples split with facility? Yes (X) No ( )

Name of Facility Representative: Larry Jenkins

Title of Facility Representative: Plant Manager

TIME/DATE	SAMPLE RECEIVED BY	SIGNATURE	AFFILIATION/ TITLE	COMMENTS
1:00 am 5/4/83	Larry Jenkins	Larry Jenkins	Boyd & Sons, Mgr.	Split Sample
1:00 am 5/4/83	Peter Smith	Peter Smith	Seatown DPW	
1:00 am 5/4/83	Mike Brown	Mike Brown	Seatwon POTW Lab	

TABLE 5.2

MONITORING RESULTS REPORT FORM

Facility Name:

Permit No.:

Sampling Code: S = Scheduled
U = Unscheduled
FC_x = Flow Proportion Composite (x = hours)
D = Demand
M = Self Monitoring
G = Grab Sample
C_x = Composite (x = hours)

Permit Limits*		Parameter	$CN_{(Tot)}$	Cu	Ni	$Cr_{(Tot)}$	Zn	Pb	Cd	TSS
		Value mg/l	1.9	4.5	4.1	7.0	4.2	.6	1.2	10.5
Date	Sample Code									
		Parameter	$CN_{(Tot)}$	Cu	Ni	Cr	Zn	Pb	Cd	TSS
5/8/83	U FC_{18}	Value	.2	.2	.07	.5	.05	.05	.4	4.5
6/10/83	U G	Parameter						Pb		TSS
		Value						.2		6
		Parameter								
		Value								
		Parameter								
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		Parameter								
		Value								

* Permit limits for 24 hr. flow composite

evaluate the significance of any data variations based on documented information about sampling conditions.

5.7 COMPLIANCE MONITORING INFORMATION FOR THE PROGRAM SUBMISSION

In order for the POTW to demonstrate the adequacy of its compliance monitoring program, your submission should include the following:

- A description of your monitoring program, including a discussion of procedures for scheduled, unscheduled, and demand monitoring as well as:
  - A list of all industries included in the monitoring program
  - The minimum sampling frequency for each major industrial contributor, the pollutants to be sampled, and the type of sampling to be performed.
- A discussion of the chain-of-custody procedures that will be followed during sampling and analysis.

6. PROGRAM IMPLEMENTATION PROCEDURES

Section 403.8(f)(2) of the General Pretreatment Regulations describes the procedures needed for an effective ongoing pretreatment program. Specifically, your POTW must have procedures to:

- Identify and locate all possible IUs that might be subject to the pretreatment program
- Obtain information describing the character and volume of wastes discharged by IUs
- Notify industrial dischargers of any applicable pretreatment standards or other applicable State or Federal standards or requirements
- Review self-monitoring reports and other notices submitted by IUs
- Randomly sample and analyze the effluent from IUs
- Investigate instances of noncompliance with pretreatment standards and requirements
- Comply with public participation requirements.

The procedures adopted by your POTW should be well thought out and easy to understand for all IUs, the public, and POTW staff members. Finally, the procedures should be flexible enough to allow reaction to variable operating situations.

The first two procedures listed above are discussed in detail in Chapter 2, Industrial Waste Survey. Sampling and analysis are discussed in Chapter 5, Design of Monitoring Program. This chapter will focus on updating the IWS and on the remaining four procedural requirements.

6.1 UPDATE INDUSTRIAL WASTE SURVEY

To adequately implement your pretreatment program, you should update information on a regular basis. Up-to-date information is essential not only for determining the nature and quantity of the waste entering your system, but also for scheduling pretreatment activities and allocating resources to meet

changing program needs. The POTW needs to develop procedures for identifying and gathering information on new industries moving into its service area and for updating its existing user information base. There are various mechanisms through which new IUs can be identified, including:

- A requirement that new industries fill out applications for sewer use when they apply for business licenses
- Communication with other city departments (water, utilities, health, and building departments) concerning new industries in the POTW service area
- Continual review of business license records and/or other standard listings of industrial firms, such as Chamber of Commerce rosters or the telephone directory.

In addition, the IWS should be updated on a continual basis. Several updating procedures are available, such as:

- A permit system which requires notification of changes in industrial processes, wastewater discharges, or industry ownership
- Ongoing POTW inspection and monitoring activities
- Periodic expiration of permits and subsequent reapplication by permit holders
- Periodic mailing of an IWS questionnaire to the industry accompanied by a request to update the information.

6.2 NOTIFY INDUSTRIAL USERS OF APPLICABLE STANDARDS AND REQUIREMENTS

Your POTW is responsible for being up-to-date on all Federal pretreatment standards and applicable requirements under the Clean Water Act and Resource Conservation and Recovery Act. Such standards and requirements include:

- Federal categorical standards
- State standards
- Local standards and limitations
- Other pertinent requirements (e.g., user charges).

The POTW is also responsible for notifying any IU that may be affected by existing or newly promulgated standards and requirements.

Various procedures are available to your POTW to obtain current information on the status of national categorical standards and other applicable standards and regulations. One procedure is to assign a staff member either to review the Federal Register notices or to contact the POTW or city attorney for this information. Also, the POTW may obtain the information from the State Pretreatment Coordinator, if the State provides such a service. Periodic requests or telephone calls to your State or Regional EPA officials may be the most appropriate technique for your POTW.

Your POTW may use any of the following mechanisms to notify IUs of pertinent standards and regulatory requirements:

- General mailing list
- Individual letters to IUs
- Permit/contract conditions
- Permit/contract modification
- Published notices in newspapers, circulars, etc.

If your POTW chooses to notify its IUs by mail, it is usually a good idea to require a signed acknowledgement of receipt to ensure that the industry has been notified. Newspaper notices are normally not a good approach, although this procedure may be adequate if the notices appear in the same section on a fixed schedule (e.g., once a week) and if IUs are informed of the location and time of publication. Permit and contract amendments will also ensure IU notification, since acknowledgement is assured by a signature of a company official.

6.3 REVIEW SELF-MONITORING REPORTS

Self-monitoring reports form the basis of the POTW's compliance program by providing information on an industry's effluent and its compliance with pretreatment standards, limitations, and other requirements. Your POTW needs

to develop effective procedures for receiving, analyzing, and storing self-monitoring reports, compliance schedule reports, and other reports/notices submitted by IUs. These procedures are especially important if industries in your pretreatment program are subject to reporting requirements imposed by national categorical standards. It is also often a good idea to require regular reports from your significant noncategorical industries.

The POTW may find the basic procedures listed below useful in reviewing industrial reports.

- A master list or log of reports expected during a specified time frame (monthly is sufficient).
- A procedure to enter date of receipt of each report (usually on the master list or log).
- A procedure to screen and compare reported values and compliance information with discharge standards and compliance schedules.
- A procedure (if the screening is done by a non-technical person) to refer problem submissions to a technical specialist for more thorough evaluation.
- A filing system to ensure that the data are retrievable and maintained for an appropriate period of time (three years or longer recommended).
- A system to cross-reference permit, contract, and POTW monitoring files, if applicable.

A process flow diagram of a typical review process is shown in Figure 6.1. It indicates how both self-monitoring reports and compliance schedule reports are received from IUs and entered into a master log, then compared with the user's limits or schedule, and finally referred for noncompliance investigation when necessary. If your IUs meet their effluent limits and compliance schedules, their reports should be placed in the POTW's files for future reference.

An integral part of any report review system is the management of industrial data. There are many ways to design your POTW's data management program. A good management data system should ensure the ability to handle properly the expected volume of reports received by the POTW. If a POTW has

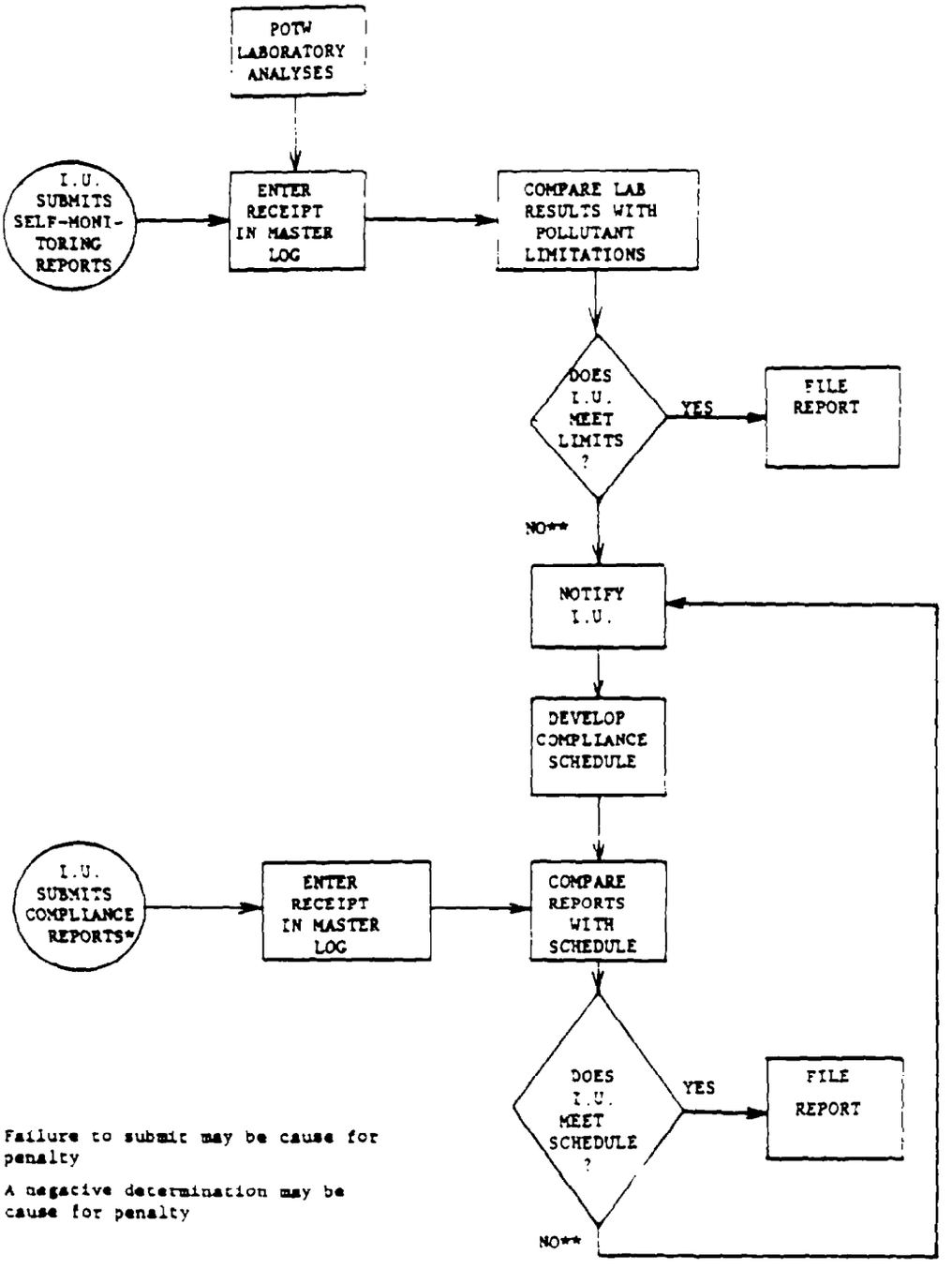


FIGURE 6.1

REVIEW PROCESS FOR INDUSTRIAL SELF-MONITORING REPORTS

many IUs and several treatment plants, a more formal system may be needed, perhaps requiring a computerized data system. In this type of computerized system, you would form a data base for each IU, building on the information obtained from the IWS. The system should facilitate a comparison between reported discharge values and discharge standards and limitations contained in permits, ordinances, or contracts.

6.4 INVESTIGATE NONCOMPLIANCE INCIDENTS

It is likely that instances of IU noncompliance with pretreatment requirements will occur. You should be able to detect these violations through various means including:

- Review of industrial self-monitoring reports
- Sampling and inspection activities at an industry
- Sampling of POTW influent and/or effluent
- Evaluation of treatment plant upsets.

Your program submission must document the procedures that the POTW will follow to investigate noncompliance events. These procedures should be capable of handling three types of situations:

- An emergency situation when the POTW moves immediately to halt an industrial discharge that reasonably appears to present imminent endangerment to health or welfare of persons.
- A non-emergency situation when the POTW desires, after the affected IU is notified and given an opportunity to respond, to halt or prevent a discharge that presents or may present an endangerment to the environment or threatens to interfere with the POTW's operation.
- A situation in which an IU fails to comply with other pretreatment requirements, such as timely submission of reports, achievement of compliance schedule milestones, maintenance of sampling and pretreatment facilities, and maintenance of records.

Your POTW should perform the following procedures to investigate instances of noncompliance:

- Establish criteria for classifying situations as emergencies

- Notify IUs of noncompliance incidents
- Provide an opportunity for industry to respond to violation notification
- Take action to correct violation
- Verify that the violation has been corrected
- Resort to legal recourse to obtain IU compliance and/or allow industry to challenge POTW's violation determination
- Perform quick-response sampling, analysis, and inspection in the event of emergency conditions such as fire, explosion, corrosive action, acute upset, and imminent danger to health and safety. For these situations, your POTW will always want to keep an extra set of sampling equipment clean and ready at all times.
- Gather data so that it is admissible in court proceedings or other enforcement actions.

Informal notice of IU noncompliance can be accomplished through telephone calls, letters, telegrams, meetings, or onsite visits. It is advisable to require the IU to acknowledge receipt of any notices. You can use more formal methods, cease and desist orders, injunctions, citations, or subpoenas. IUs can respond through such means as letters, telephone calls, meetings, or show-cause hearings.

To correct the violation, an IU has several options. Process changes, installation of new treatment or pretreatment technology, improved operating practices, and repair of faulty equipment are some of the suggested corrective actions industry may wish to use. The time frame for correcting such violations that your POTW establishes should be flexible enough to cover both emergency and non-emergency situations. Under emergency conditions, the POTW may need to terminate immediately the discharge until other corrective measures are in place. Corrective action can be verified through increased self-monitoring requirements, follow-up monitoring and inspection by the POTW, and certification by the IU that the violation has been corrected. While only a certification may be needed for less serious violations, your POTW should verify corrective actions first-hand in serious cases.

Chain-of-custody and quality assurance procedures are important aspects of noncompliance investigation for the POTW. Because it is impossible to predict which actions will require legal proceedings, and because the integrity of the data must be established if the case ultimately goes to court, you should assume that all data collected during an investigation will be used in court. Section 5.5 details the necessary components of proper chain-of-custody procedures.

Procedures for noncompliance investigations may be detailed in your sewer ordinance. This is acceptable for your program submission as long as the appropriate section of the ordinance is cited. However, it is clearer to the reviewer if these noncompliance procedures are summarized in the procedures section of the submission.

6.5 CONDUCT PUBLIC PARTICIPATION ACTIVITIES

Public participation is essential in maintaining the credibility of your pretreatment program, in working effectively with industries, and in educating the entire community on the objectives and benefits of the program. Although not a requirement of the pretreatment regulations, it is a good idea for your POTW to hold public meetings during the development and implementation of your program. These meetings can provide a formal channel for public input on the pretreatment program, help to establish a good relationship with local industries, and involve environmental groups in a constructive manner. You might also consider a less formal outreach program to inform and involve local citizens, consisting of, for example, flyers describing the program or promotional spots highlighting the program's benefits on local radio or television stations or in the local newspaper.

Your POTW is required by Federal regulation to keep the public informed of all cases of significant violation. To accomplish this, the POTW must publish, at least annually in the area's largest daily newspaper, the names of IUs significantly violating pretreatment standards during the previous 12 months. A significant violation meets one of the following conditions:

- Results in the exercise of emergency authority

- Remains uncorrected 45 days after notice of noncompliance is given
- Involves failure to report accurately.

A POTW must also give public notice of the development and revision of local limits through such means as a newspaper notice or letters sent to interested parties. The POTW must also provide opportunity either for public comment (including public hearings) or for letters addressed to the Public Works Director (or equivalent official).

Public access to non-confidential information contained in the documents and records developed in the course of the program is a requirement often overlooked. Your submittal should identify how public access to this information will be provided. The location or office where interested people can go to read or copy documents, permits (if a permit system is used), and monitoring records or violations should be specified in the submission. Your local library, city/town hall, public works office, or POTW are acceptable locations. The hours of operation should include convenient times for the public at large. These provisions should also allow the POTW to restrict access to confidential information about IUs.

6.6 IMPLEMENTATION PROCEDURES FOR THE PROGRAM SUBMISSION

The following procedures should be explained in the program submission to demonstrate the POTW's ability to administer properly the pretreatment program:

- How the IWS will be updated
- How the POTW will keep abreast of all applicable pretreatment regulations and notify IUs of the requirements they will have to meet as participants in the pretreatment program
- How self-monitoring reports will be received, reviewed, and managed
- How the POTW will investigate violations of pretreatment regulations or requirements
- How the POTW will undertake public participation activities.

7. PROGRAM ORGANIZATION, COSTS, AND REVENUE SOURCES

The ability to develop and implement a successful pretreatment program depends on a number of factors. The importance of legal authority, sound technical information, and proper procedures has already been discussed. This chapter focuses on needed resources and the organization to apply them efficiently and effectively. Section 403.8(f)(3) requires that your POTW has "sufficient" resources and qualified personnel to implement program authorities and procedures. To implement properly a pretreatment program, your POTW must have:

- A workable organization to integrate elements of the program
- A staff of appropriate size and training to carry out program requirements
- The necessary equipment and supplies to fulfill monitoring and other program needs
- Adequate funds to support the program.

The above elements are closely interrelated and will be based primarily on such considerations as the number and type of IUs to be monitored, the frequency and type of monitoring, and compliance procedures to be followed. All of the above elements should be present to enable your program to be successful.

7.1 ORGANIZATION AND STAFFING

Organization and staffing requirements will vary according to the complexity and comprehensiveness of your local program. Whether the staff is large or small, it should be organized in a way that facilitates the successful execution of program responsibilities. The adequacy of the program's organization and staffing is based not only on whether essential functions are covered, but also on whether the level-of-effort and type of staff proposed are appropriate to implement the requirements of the program.

7.1.1 Organization Chart

The organizational structure of your pretreatment program should be designed to accomplish your goals. The key is to tailor the structure to your specific situation so that it is practical and workable. In the submission, you must include an organization chart which explains how the pretreatment program is organized. The titles, brief job descriptions, and level-of-effort for employees responsible for the following activities may be included on the organization chart:

- Sampling and inspection
- Laboratory analysis
- Technical assistance
- Legal assistance
- Program administration.

An example organization chart is shown in Figure 7.1. This type of chart can be adapted for your pretreatment program submission.

7.1.2 Considerations in Staffing and Organizing the Pretreatment Program

You will need to consider the following items in staffing and organizing your pretreatment program:

- Clear and appropriate lines of authority
- Coordination with other departments
- Identification of staff responsibilities
- Qualifications of staff
- Staffing levels related to required work effort.

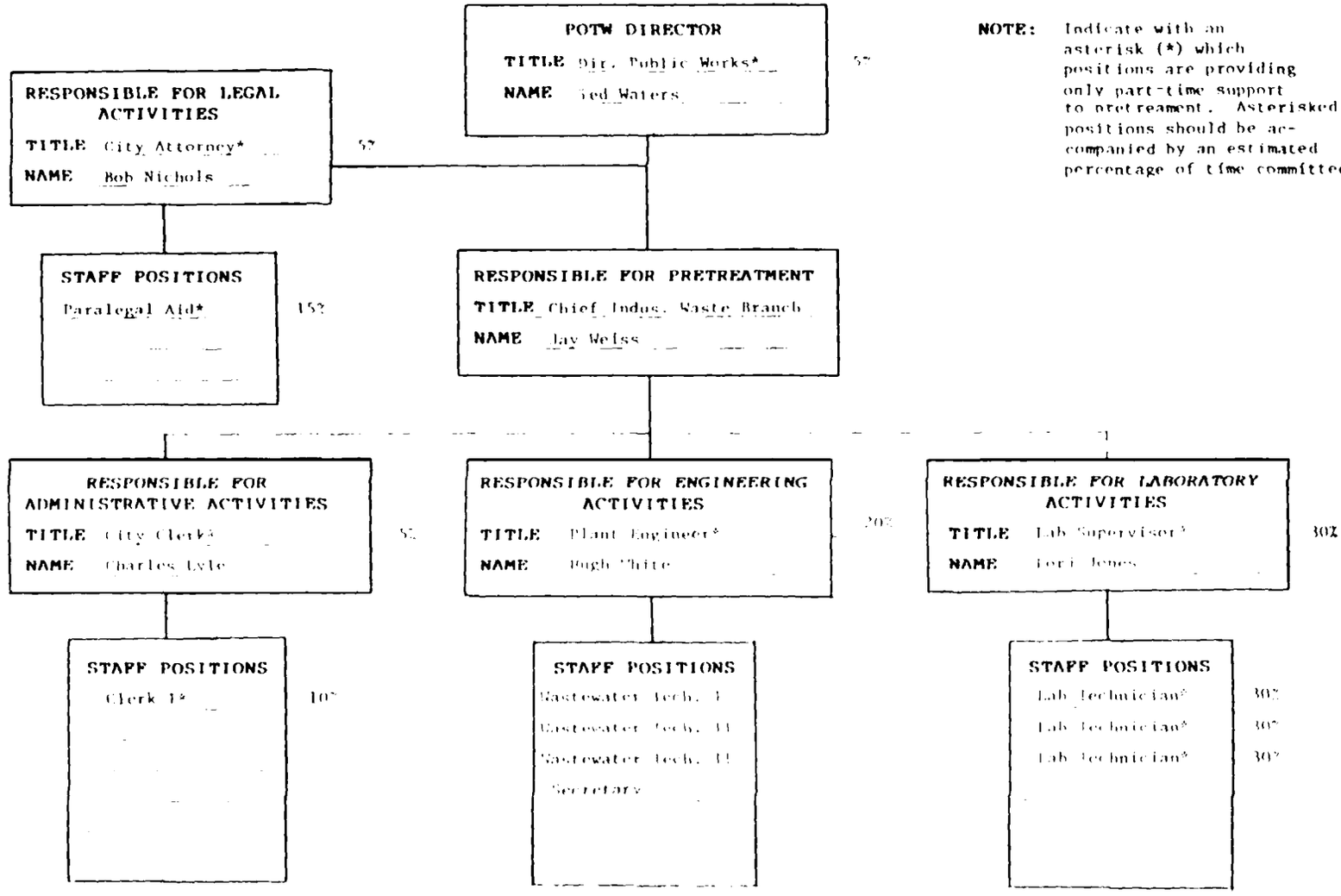
Each of these aspects is discussed below.

7.1.2.1 Lines of Authority

Your pretreatment program should be clearly and appropriately structured. The following suggestions for designing your organization will contribute to an effective pretreatment program:

- Designate clearly all authorities and responsibilities

FIGURE 7.1 WORKSHEET FOR DEVELOPING AN ORGANIZATION PLAN



- Avoid unwieldy, fragmented structures
- Ensure that supervisors do not have direct responsibility for too many employees, usually no more than six or eight staff members
- Ensure that the pretreatment program is effectively integrated with other POTW activities.

7.1.2.2 Coordination with Other Departments

It is important to promote interaction between groups within the pretreatment program and other POTW departments in order to facilitate the program's smooth operation. You may find it useful as you prepare the program to develop a flow chart for routine program operations. For example, the chart would show who receives and reviews self-monitoring reports, what happens when the reports are acceptable, and what happens when they indicate violations. This chart could show the interaction between an engineer reviewing the reports, the pretreatment program administrator notifying an industry of noncompliance, and the POTW legal staff taking enforcement action against a violating industry.

7.1.2.3 Identification of Staff Responsibilities

You should also explain the duties and responsibilities of each staff member or department depicted in the organization chart in your submission. The following functional areas should be addressed in your submission:

- Technical assistance. A staff member or department should be assigned the responsibility of evaluating data that IUs supply on their IWS forms, self-monitoring reports, and compliance schedule reports. This person or department also should have responsibility for reviewing results of POTW monitoring and sample analyses and for industrial inspections.
- Industrial monitoring. The submission should designate a staff member or department with responsibility for staffing and supervising field monitoring personnel. It should also specify the number and qualifications of personnel who will be assigned to the field monitoring crew(s).
- Laboratory analysis. As indicated earlier, a POTW may either perform its own sample analyses or contract with a commercial laboratory for analytical services. If the work is to be done in-house, laboratory support staff must be identified.

- Legal assistance. The person(s) providing legal assistance to the municipality will interpret regulations and other legal documents that affect pretreatment program operations and prepare contracts or other agreements. This person also will initiate formal legal actions against violators, including injunctive relief when necessary.

- Administration. The program administrator and administrative staff should have responsibility for data management, communication with IUs, program finances and accounting, personnel, and the public participation program.

A small POTW may have the same person performing the duties associated with one or more of these five general work areas, while a large POTW may have several people assigned to each functional group. In addition, a large POTW may wish to separate functions that are grouped together under administration. Responsibility for some of the work areas may be assigned to contractors or other local agencies, but all areas of work and corresponding staff should be identified in the submission.

7.1.2.4 Staff Qualifications

Your program submission should also describe the qualifications of persons that currently fill or will be hired to fill key positions in the work areas identified above. Education and experience should be appropriate for the tasks that the person will be expected to perform. The pretreatment program is likely to require support from personnel with experience in engineering (environmental, civil, sanitary, or chemical), chemistry, public administration, accounting and finance, and law.

7.1.2.5 Staffing Levels

In general, the size of your treatment system and the number of IUs regulated under your program will dictate the level of effort required to operate the pretreatment program. Small POTWs with few IUs may be able to implement a pretreatment program satisfactorily using only one or two person-years of effort. Large POTWs with many IUs will need a much larger pretreatment staff, depending on the number of samples and measurements to be obtained, the frequency of monitoring, and the number and complexity of analyses to be performed. POTW staff requirements will also depend on the amount of work to be performed by outside personnel (e.g., contract support).

You should develop and include in the submission a quantitative estimate of the level of effort, including outside support, for each staff position and/or function. Such estimates should be in the form of labor hours per year, person-years, or percent involvement of a person in pretreatment program activities. Table 7.1 indicates some of the factors affecting level-of-effort requirements for your pretreatment program. Generalized estimates of personnel requirements as a function of POTW size and number of industrial users are shown in Table 7.2. They are based on experience with successful programs. More refined and detailed personnel estimates for program development and program operation for a POTW with 10 industrial users and a flow of 5 mgd are shown in Table 7.3. Although these figures should not be treated as rigid requirements, they can be used to gauge the adequacy of staffing levels for individual functions.

7.2 PROGRAM COSTS AND FUNDING MECHANISMS

Your submission must include an estimate of the operating costs of your pretreatment program. It must then demonstrate that your POTW has sufficient revenues to recover those costs. You can demonstrate that the POTW has developed a mechanism to fund the program either by describing the cost recovery method proposed, or, if the program costs are to be covered by general revenues, by including the budget request which specifically delineates the estimated cost of pretreatment. Funding mechanisms are discussed in detail in Section 7.2.2.

7.2.1 Estimating Program Costs

It is essential that your POTW accurately estimates program operating costs in order to ensure proper implementation of the program. It is also important that the local officials endorsing your pretreatment program be aware of the costs required to operate the program. Costs should be estimated for the following program elements:

- Procurement, operation, and maintenance of necessary sampling and analytical equipment
- Sampling and monitoring of IUs and POTW system

TABLE 7.1

FACTORS AFFECTING POTW LEVELS OF EFFORT FOR
PRETREATMENT PROGRAM OPERATING TASKS

Activities	Factors
Sampling and Inspection	-Total number of IUs -Frequency of sampling
Laboratory Analysis	-Number of samples -Type of analysis -Pollutants analyzed (i.e., toxics, conventionals, metals, etc.)
Technical Assistance (including permitting process and report review)	-Treatment plant capabilities -POTW influent and effluent characteristics -Total number of IUs -Number of IUs with pretreatment
Legal Assistance	-Number and seriousness of violations -Availability of in-house counsel -Burden of proof created by ordinance
Financial/ Administrative	-Total number of IUs -Frequency of monitoring -Size of service area

TABLE 7.2

POTW PRETREATMENT PROGRAM
PERSONNEL REQUIREMENT RANGES

Ranges presented in this table are estimates based on anticipated averages for typical programs. Individual program personnel requirements may vary significantly from the ranges shown here.

POTW Flow Range (MGD)	Relative Number of Indirect Dischargers	Range of Personnel Requirements for Pretreatment Program
5	small	1-3
	large	2-5
5-25	small	2-4
	large	4-8
25-50	small	4-6
	large	8-10
50	small	6-8
	large	10-15
100	large	15-50*

*Special cases, such as large metropolitan systems, require more in-depth review.

Source: Local Pretreatment Program Requirements and Guidance. Environmental Technology Consultants, Inc.: September 1979.

TABLE 7.3

ESTIMATED POTW PERSONNEL REQUIREMENTS FOR A POTW PRETREATMENT PROGRAM BY PROGRAM ACTIVITY

Estimates presented in this table are based on anticipated averages for typical programs. Individual program personnel requirements may vary significantly from the estimates shown here.

POTW AVERAGE DESIGN FLOW: 5 MGD
NUMBER OF INDUSTRIAL USERS IN PROGRAM: 10

	Program Activity	Frequency of Activity per POTW or IU	Number of Activities	Workdays per Activity	Total Workdays
	Program Development				
1.	Develop Pretreatment Program	once	1	15-25	25
2.	Conduct Industrial Waste Survey	once[1]	1	15-25	25
3.	Determine POTW Removal Allowance	once[2]	1	10-20	20
4.	Review IU Pretreatment Facility Proposal	once	10	0.5-2	20
		TOTAL WORKDAYS = 90			
		90 ÷ 220 WORKDAYS/PERSON/YEAR = .41 Person-years			
	Program Operation				
1.	Review IU Compliance Schedule Reports	3/year	30	0.5-1	30
2.	Review IU Final Compliance Schedule Report	once	10	0.5-2	20
3.	Review IU Self-Monitoring Report	2/year	20	0.1-0.5	10
4.	Sample IU (spot-check)	1/year	10	2-4	40
5.	Investigate IU Non-compliance	----	5	1-5	25

TABLE 7.3 (Continued)

ESTIMATED POTW PERSONNEL REQUIREMENTS FOR A POTW PRETREATMENT PROGRAM BY PROGRAM ACTIVITY

Program Activity	Frequency of Activity per POTW or IU	Number of Activities	Workdays per Activity	Total Workdays
6. Administrative Enforcement Action	----	3	3-10	30
7. Legal Enforcement Actions	----	1	15-20	20
8. Comply with Public Notice Requirements	1/year	1	1-3	3
9. Sample POTW Influent, Effluent, and Sludge	1/year	1	5-10	10
10. Prepare Self-Monitoring Report for Approval Authority	2/year	2	5-10	20
11. Laboratory Analysis of Required Sampling	1/year	13	1-2	26
			TOTAL WORKDAYS = 234	
			234 ÷ 220 WORKDAYS/PERSON/YEAR = 1.06 Person-years	

[1] IWS is periodically updated during program implementation procedures

[2] Annual monitoring and reporting by the POTW is required during program implementation to maintain any removal credit allowance.

Source: Local Pretreatment Program Requirements and Guidance. Environmental Technology Consultants, Inc.: September 1979.

- Laboratory analysis (both in-house and contract services)
- Technical assistance
- Legal assistance
- Program administration.

Costs for each element should reflect employee salaries, contractor services, debt payments, supplies, and indirect costs.

7.2.1.1 Procurement, Operation, and Maintenance of Sampling and Analytical Equipment

You should decide how you intend to procure the equipment needed to perform required sampling and analyses. Equipment may be purchased or leased, or a contractor may be hired to perform sampling and analytical tasks. The most cost-effective option will be determined by the size of your POTW, the number of industries covered, and the frequency and type of monitoring necessary for each. Smaller municipalities may choose to purchase equipment for sampling and conventional pollutant analysis, and to rely on a commercial laboratory for metals and toxic organics analyses. A larger municipality may choose to purchase all the equipment necessary to have a complete in-house analytical capability. Table 7.4 shows typical equipment needed to sample and analyze toxic pollutants. Table 7.5 shows average fees charged for analysis by commercial laboratories. Note that the figures in Table 7.5 are estimates and are intended for guidance only. Actual costs may vary somewhat from these estimates.

7.2.1.2 Sampling and Monitoring/Laboratory Analysis

If sampling is to be performed by the POTW, the level of effort required will depend on the number and type of IUs in the pretreatment program, the type of monitoring to be conducted (how much will be industrial self-monitoring vs. POTW compliance monitoring), and the revenues available for the POTW monitoring program. Some generalized estimates follow.

- A POTW with few industries (up to 30 IUs) may need only one field inspector and an assistant.

TABLE 7.4

TYPICAL EQUIPMENT FOR A TWO-PERSON FIELD SAMPLING CREW

- Van with two-way radio
- Gas Detector
- 2 self-contained breathing units
- 4 portable samplers with bottles
- Grab sample collection and storage containers
- 1 portable pH meter
- 2 flow meters
- Flumes and weirs
- Coolers and reagents for sample preservation
- Safety equipment
- Miscellaneous tools and equipment

LABORATORY EQUIPMENT FOR SAMPLE ANALYSIS

- Atomic absorption spectrometer (AA)
- Supplies for AA
- Gas chromatograph/ mass spectrometer (GC/MS)
- Accessories and glassware for GC/MS
- Reagents and other chemicals

Source: Odeal, Erwin J. "Economics of Local Pretreatment Program Administration." Proceedings: National Pretreatment Symposium. Duluth, Minnesota: August 22-24, 1979.

TABLE 7.5

TYPICAL COMMERCIAL LABORATORY COSTS[1]

Parameter	Price per Analysis
Conventional Analysis	
Acidity/alkalinity	$ 9
BOD_5	20
COD	20
Chloride	15
Nitrogen (total)	20
Oil & grease	20
Suspended solids	8
Toxics Analysis	
Metals (typical)	$10 - 18/metal
Organics by GC	60/compound
NPDES Analysis (scans)	
Base neutrals	$350
Acid extracts	200
Pesticide/PCBs	225
13 metals	300
Total 126 Compounds	800-1200[2]

[1] Based on 1983 estimated costs from commercial laboratories

[2] Includes $300 for asbestos

- A medium-sized POTW may require the full-time efforts of two two-person sampling teams.

- A large POTW (more than 150 IUs) may require the full-time commitment of at least three two-person field teams.

If sample analysis will be performed in-house, you will also need laboratory support staff. The level of laboratory staff effort and training required will depend on the scope of your sampling and analysis program. Resources will also be needed to maintain and operate the sampling equipment. Debt or lease payments for equipment must also be included in program cost estimates.

7.2.1.3 Technical Assistance

Your pretreatment program also needs technical personnel. A small municipality can meet this requirement if its plant or pretreatment program manager has a strong engineering or wastewater background. Alternatively, an outside consultant can be retained for technical support as needed. A medium-sized municipality may require the part-time efforts of a senior technical specialist and small support staff. Large municipalities are likely to need one or more full-time senior technical specialists and support staff.

7.2.1.4 Legal Assistance

Legal assistance will be required to take legal (as opposed to administrative) enforcement actions, to interpret requirements of new or revised local, State, and Federal regulations, and to prepare ordinances and contracts. Small municipalities will usually be able to rely on the city attorney or outside counsel on an as-needed basis. Medium-sized municipalities can designate a portion of the city attorney's time for pretreatment activities. Large municipalities may require the full-time efforts of one or more attorneys to support their pretreatment programs.

7.2.1.5 Program Administration

Administration of a pretreatment program may require a significant amount of time for data management and recordkeeping and for the preparation, review and submission of pretreatment reports. Public participation activities are

also part of program administration. In a small municipality, the POTW superintendent or other municipal employee, such as the Director of Public Works, usually will be responsible for administering the program with part-time clerical support. Larger municipalities are likely to require a full-time program manager and clerical staff.

As is apparent from the above discussion, labor is the single largest cost element in the continued operation of your program. Table 7.6 provides a worksheet for computing total annual operating expenditures. The numbers used in Table 7.6 are not estimates of actual program costs, but serve only to illustrate the calculations involved in estimating annual operating expenditures.

7.2.2 Financing Sources and Cost Recovery Systems

After you have estimated your pretreatment program operation costs, you must design a financing plan to obtain funds to cover the program's development costs (including additional equipment necessary for implementation) and its annual operating costs. The financing plan should also ensure continued support of the program. Financing options for program development and revenue sources for program operation are outlined in the sections that follow.

7.2.2.1 Sources of Revenue For Program Development and For Obtaining Necessary Program Equipment

The Federal Construction Grants Program, municipal bonds, surplus or reserved funds, and leasing arrangements can be used to finance the development of your pretreatment program or the purchase of equipment needed for the program. Table 7.7 describes these four funding options and provides information to help you determine which option is appropriate for your municipality. Each of these methods is summarized briefly below.

The Construction Grants Program can provide Federal funds for 75 percent of eligible pretreatment program development costs; the remaining 25 percent is funded by your municipality, either through bonds, surplus funds, or user charges (all of these financing options are described later in this chapter).

TABLE 7.6

WORKSHEET FOR CALCULATING
ANNUAL OPERATING COSTS

I. Direct Labor:	Labor hours	Average Hourly Rate	Annual Program Cost
Management	2290	12.00	$ 27,500
Legal	160	15.63	$ 2,500
Engineering	416	14.42	$ 6,000
Laboratory	1872	11.58	$ 20,700
Field inspection/sampling	6240	7.69	$ 48,000
Clerical	1248	9.17	$ 11,450
		Subtotal	$ 116,150

II. Other Direct Costs	Amount
Vehicle operation	$5,000
Laboratory equipment/supplies	8,000
Sampling and laboratory equipment operating & maintenance	1,200
Miscellaneous	
- commercial laboratory	
- contractor services	
- debt service repayment	
	Subtotal $ 14,200

III. Indirect Costs (May include overhead and general and administrative expenses)	42% of direct labor cost	$ 48,783
	Subtotal	$ 48,783

TOTAL ANNUAL OPERATING EXPENDITURES $ 179,133

TABLE 7.7

PRETREATMENT PROGRAM FINANCING OPTIONS

Funding Mechanism	Description	Procedures Required	Considerations Affecting Use
I. Construction Grants	Federal government will pay up to 75 percent of program development costs.	Prepare plan of study and submit to State and EPA.	Availability of Federal funds major factor.
II. Municipal Bonds			
A. General Obligation Bond	Payment guaranteed by general taxing power of community.	Voter referendum and underwriting procedures.	Debt limitations often restrict repayment through general public funds. Complicates application of user charges.
B. Revenue Bond	Payment guaranteed by revenues generated from POTW.	Underwriting and issuing procedures.	Independence of issuance afforded since voter referendum not required. Appropriate for payment through user charges.
C. Small Denomination Bond	Smaller face values than traditional bonds. Sold directly to public.	Municipality must: • Set interest rate • Obtain rating for bond • Design bond (denomination, method of interest payments, form of ownership, and maturity).	Direct sale to public may result in lower interest rates. Appropriate for modest sized investments. Smaller values more accessible to markets. Municipality has greater underwriting responsibilities since underwriter not involved.

TABLE 7.7 (Continued)

PRETREATMENT PROGRAM FINANCING OPTIONS

Funding Mechanism	Description	Procedures Required	Considerations Affecting Use
III. Surplus or Reserve Revenues	Excess revenues generated from operations; may be planned or incidental.	Detailed financial analysis required to plan appropriate amount of reserves to generate.	Avoids surge in user fees. Appropriate for operating contingencies and equipment replacement.
IV. Leasing	Rental of equipment for use. Lease-purchase agreements possible.	Minimal procedures involved, will vary depending on agreement.	Financial obligation on annual basis only. Less influenced by long-term leverage budget restrictions. Suitable for modest capital requirements. Possibility of greater overall expense.

Pretreatment costs fundable under the Construction Grants Program include:

- Industrial waste survey
- Legal authority review
- Evaluation and selection of appropriate revenue source
- Technical information determination
- Design of monitoring program
- Public participation meetings.

The purchase of POTW monitoring and analysis equipment may also be eligible for Federal assistance; the determination of allowable costs is spelled out in Appendix A of 40 CFR 35, Subpart I.

The first step in obtaining Federal funds for pretreatment program development is to prepare a "plan of study." This plan consists of a general description of the POTW and community, an explanation of planned development activities, a schedule for conducting these activities, and an estimate of the level of effort to accomplish these activities. The plan of study is submitted to both your state water pollution control agency and the Regional EPA office for their review.

It must be emphasized that only program development costs are grant-eligible. Once your program is operating, the actual costs of maintaining it are your responsibility. If you receive a construction grant, the Clean Water Act requires that you establish and maintain a user charge system. The next section of this chapter discusses various user charge systems.

Municipal bonds are another possible revenue source. Three types of municipal bonds are available: (1) general obligation bonds, (2) revenue bonds, and (3) small denomination bonds. General obligation bonds generally require a voter referendum and are secured by the taxing power of the community. Revenue bonds are commonly used by municipalities to finance projects such as the expansion of sewage treatment plants and are appropriate for projects that have revenue-earning potential from user charges. Revenue bonds may be preferred to general obligation bonds because an election is not

required to issue revenue bonds. These bonds do pose disadvantages, however, because they are typically issued in denominations of over $1 million for long periods of time, and your pretreatment program financing needs may be significantly less. Therefore, it may not be appropriate to issue a revenue bond solely for recovering pretreatment costs. Instead, you might consider including pretreatment program costs within a bond designed to finance treatment plant expansion or new sewer system development.

Another alternative to revenue bonds is a relatively new type of bond--the small denomination or mini-bond. This type of bond may be advantageous for financing pretreatment since it can be issued in amounts less than $1 million. It is sold to investors in small denominations and is accessible to local citizens. In addition, there is no need for underwriting, which often presents a complication. Mini-bonds are generally secured by the POTW's own revenues, not the municipality's revenues. Thus, the POTW can fund its pretreatment program without being limited by the municipality's financial situation. If your municipality is interested in issuing bonds to fund the purchase of equipment, your municipal treasurer, department of finance, or other appropriate office can provide more information, and will probably have a key role in the decision-making process.

Surplus or reserved funds may also be used to finance the purchase or replacement of needed equipment. Surplus revenues result from either a planned activity, such as generating additional revenue from user fees, or from an unexpected reduction in operating expenditures. These revenues are important to your POTW because they serve as a buffer to cover a variety of unanticipated or "non-routine" costs. Keep in mind that a revenue surplus may be viewed by users of a facility as overcharging for services by the POTW. However, it is good planning to accumulate some surplus to cover unforeseen costs.

Equipment leasing is a third alternative for obtaining necessary equipment. Equipment can be obtained through a straight-operating lease or through a lease-purchase agreement under which your POTW will eventually own the equipment. Leasing may be a suitable alternative for your POTW because leases

are not subject to legally established debt limits. Leases are appropriate for financing capital needs which are too small to be considered for bond financing and yet too large to be funded from current revenues.

7.2.2.2 Sources of Revenue For Recovering Operating Costs

Several sources of revenue, including general municipal taxes (i.e., ad valorem taxes), special assessments and fees, and user charges can be used to recover the operating costs of your pretreatment program. In choosing the cost recovery method most suitable for your municipality, it may be desirable that the majority of the pretreatment program's cost be paid by the POTW's industrial users.

The ad valorem tax can be used to recover equitably the cost of pretreatment by adjusting the tax rate with certain surcharges and rebates to ensure that each industry's charge represents its respective share of the costs. Special assessments, hook-up fees, and septic tank disposal fees can also be applied to collect revenue from industrial users to offset the program's cost.

The most equitable method for recovering pretreatment costs is a user charge system. User charge systems are widely used for recovering wastewater treatment costs and providing a method for proportionally allocating and recovering a project's costs among the POTW system users. If your POTW already has an established user charge system, the system may be modified to recover the additional cost of program implementation. Such a system can also be developed specifically to fund the pretreatment program.

Developing a user charge system for your pretreatment program requires the following general steps:

- Estimate program costs
- Design a cost allocation scheme
- Allocate the costs proportionately across the user groups designated in the cost allocation scheme
- Calculate the user charge.

The cost allocation scheme you develop will be dependent on the situation in your municipality. However, it is important to re-emphasize that before you can accurately estimate program costs, you must develop a detailed monitoring schedule specifying industrial users to be monitored, parameters to be monitored, and monitoring frequency. A projected monitoring schedule is essential for estimating cost since monitoring expenses represent a very large portion of total program operating costs. Several cost allocation schemes and example user charge models with their advantages and disadvantages are discussed in the following sections.

In all cases, the function of the cost allocation scheme is to allocate costs to appropriate categories of users of the POTW system based on specific criteria. Criteria for cost allocation include such things as number and type of sampling and analysis events performed, and amount and type of pollutant discharged. In this way, users will be charged based on their relative impact on pretreatment program costs.

The following examples explain a few of the allocation schemes employed by municipalities, and illustrate the mechanics and design of particular user charge systems. The descriptions of each system are general and serve only to explain basic concepts. You must tailor the user charge system for your municipality to your specific situation. The three user charge systems described below (the service charge, industry surcharge, and pollutant strength charge) are all particularly well suited to pretreatment cost recovery, although there are numerous other systems which can also be considered. The three models are summarized in Table 7.8.

Service Charge

In a service charge system, industries are charged based on the amount of sampling and analysis performed by the POTW for the particular IU (or group of IUs). It employs a cost allocation scheme in which industries are grouped by the type of sampling and analysis required. The service charge provides an equitable way to recover pretreatment costs because monitoring costs are a significant portion of overall pretreatment program implementation costs.

TABLE 7.8

COST RECOVERY OPTIONS

Funding Mechanism	Description	Procedures Required	Consideration Affecting Use
A. Service Charge	Pretreatment charges based on service used (i.e., monitoring activities).	Need to determine monitoring schedule in order to decide charge rate. End-of-year accounting adjustments required so that charges actually represent expenditures. Continuous record-keeping of individual industry activities.	Projections to calculate charge rate can be complex. Probably most equitable method since service charges closely represent program.
B. Industry Surcharge	Existing user charge by pretreatment factor.	Must determine pretreatment factor based on industry classes and related monitoring activities.	Ease of applying existing charge system. Inequities may result because of averaging effect.
C. Pollutant Strength Charge	Pretreatment charges based on amount of pollutant discharged.	Monitoring data must be coordinated with charge system. Need to determine total amount of pollutants discharged and which pollutants are to be used to assess charges.	Provides positive incentive for industries to reduce pollutant discharges.

The service charge calculations are shown in Table 7.9 and are described below. The industries are divided into groups based on those requiring high cost (i.e., labor or equipment intensive), or low-cost (i.e., grab) sampling procedures, and the types of analyses required (metals, organics, or conventional pollutants). The total program costs are then distributed proportionally to these groups, based on the number of industries which fall into each group and their contribution to the total costs. The total costs for each group is divided next by the frequency of sampling and analysis for that group to obtain the service charge for each individual sampling and analysis event. The total charge for each industry is calculated by multiplying the number of events by the appropriate service charge. For example, using the information from Table 7.9, the charge for an industry requiring two high-level sampling events and metals analysis would be two times (916 + 280) or $2,392/year.

The basic service charge model is:

$$UC_I = S_C S_I + A_C A_I$$

where:

UC_I = Pretreatment monitoring charge for a particular industry
S_C = Cost per sampling activity
S_I = Number of sampling activities for a particular industry
A_C = Cost for laboratory analysis
A_I = Number of analyses required for a particular industry.

Note that these charges are applied in addition to existing user charges. You may distribute the estimated annual service charge for each industry on a monthly basis or may charge the industry for each site visit. The difference between actual and estimated POTW costs should be corrected by charge adjustments at the end of the year.

The service charge is easily implemented since monitoring is a major pretreatment cost and is conducted as a normal, routine implementation function. In a city with few industries, the service charge can be very simple to calculate. If monitoring is contracted out to a commercial firm, the costs may be charged directly to the industry. Conversely, in a city with many

TABLE 7.9 RATE CALCULATION WORKSHEET FOR SERVICE MODEL

Cost Items	Total Cost	Sampling				Analysis			
		High Cost		Low Cost		Conventional		Metals		Toxic Organics	
	$	%	$	%	$	%	$	%	$	%	$
A. Operating Costs											
1. Labor											
Administration/management	30,000		12,600		5,400		6,000		3,000		3,000
Industrial monitoring	48,000		33,600		14,400						
Laboratory analysis	20,700						11,400		9,300		
2. Other Direct Costs	14,200		3,100		1,100		5,500		3,500		1,000
3. Overhead	(42% of Labor)		19,404		8,316		7,308		5,166		1,260
B. Total Annual Cost			68,704		29,216		30,208		20,966		5,260
C. Summary											
Total Annual Cost ÷ Frequency per Year = Service Charge/Sampling or Analysis Event			$916/event*						$280/event*		

*Assuming a total of 75 sampling/analysis events

industries, sampling and analysis equipment may be purchased and these costs, along with labor and O&M, allocated and recovered as in the example service charge model. In developing this type of charge system, you should give special attention to monitoring projections and the sampling and analysis schedules determined for each IU.

Industry Surcharge

With industry class surcharges, a pretreatment surcharge is incorporated into the industry's sewer use charge. Each class (or group) of industries is charged proportionally based on their relative impact on the pretreatment program costs. This is accomplished by calculating a surcharge factor which is applied to the IU's base sewer use charge. Table 7.10 illustrates the process.

In the example, the total pretreatment costs attributable to metal platers is divided by the total sewer use charge for metal-plating IUs to generate a pretreatment surcharge factor. The base sewer use charge for each metal-plating facility is then increased by this factor. Using the information on Table 7.10 and assuming that the base sewer use charge for a metal-plating facility is $1,000 per year and that there are 60 platers in the service area, the pretreatment surcharge would be $529 per year. The total annual sewer use charge would be $1,529. In most cases, the industry surcharge system is easy to develop and implement because it is based on an existing user charge system and is simply an increase in sewer charges.

The formula for calculating the industry surcharge for pretreatment is as follows:

$$UC_I^* = UC_I\ (1 + P_I)$$

where:

UC_I^* = Sewer and pretreatment charge for a given industry
UC_I = Sewer charge for a given industry
P_I = Pretreatment factor for industry class.

TABLE 7.10 RATE CALCULATION WORKSHEET FOR INDUSTRY SURCHARGE MODEL

Cost Items	Total Cost $	Pulp & Paper[1]	Food Products[1]	Laundries[1]	Metal Plating[1]	Pharmaceutical[1]
A. Operating Costs						
1. Labor						
Administration	$30,000				$2,500	
Industrial monitoring	48,000				12,200	
Laboratory analysis	20,700				5,200	
2. Other Direct Costs	14,200				3,500	
3. Overhead (42% of Labor)	41,454				8,358	
B. Total Annual Cost					31,758	
C. Summary					31,758 ÷ 60,000 = .529*	

Total annual pretreatment costs for an industrial group ÷ Total annual sewer revenue generated by that industrial group = Pretreatment factor for each industry class.

*P_I for metal plating is .529
This calculation assumes that the total annual sewer use charge to metal platers is $60,000.

[1]Allocation is assisted by calculating total number of sampling/analysis activities required per year.

It should be noted that the example sewer charge (UC_I) is derived from an averaging process and that inequitable charges may result. For example, if within an industry group, costs are allocated based on a few industries and their monitoring requirements vary widely, the resulting pretreatment factor may overcharge small users and undercharge large users. To correct this problem, POTW costs and pretreatment factors can be assigned to individual firms, and charges levied on a per-firm basis.

Pollutant Strength Charge

Pollutant strength charges distribute pretreatment program costs based on the types and/or amounts of pollutants discharged (e.g., conventionals, metals, toxic organics) by an IU. Costs are assigned to pollutant groups by determining the number of industries and the costs of monitoring activities for each pollutant or pollutant group. While it is possible to develop and implement this type of charge system for any pollutant type or group, it is usually a realistic and meaningful charge system for conventional pollutants only. Overall treatment costs for facilities are typically recovered using this type of system based on conventional pollutants. The example calculation will, therefore, address only conventional pollutants.

The pollutant strength charge for each group is calculated by dividing the total costs associated with the conventional pollutants by the amount of each pollutant group discharged. The pollutant strength charge model is:

$$UC_I = V_C(V_I) + B_C(B_I) + S_C(S_I)$$

where:

UC_I = Pollutant strength charge for a given industry
V_C = Charge rate per gallon of wastewater discharged
V_I = Amount of wastewater discharged
B_C = Charge rate per pound of BOD discharged
B_I = Amount of BOD discharged
S_C = Charge rate per pound of TSS discharged
S_I = Amount of TSS discharged.

Table 7.11 illustrates how the pollutant strength charge was calculated for a particular industry.

Since individual charges are based on the amount of a given pollutant discharged, industries are given a positive economic incentive to reduce their waste discharges. This incentive is the system's major benefit. In addition, if specific industrial wastes cause an increase in operational costs at a treatment plant, pollutant charges enable the municipality to recover any incremental costs that result. The drawback to this charge system is that fairly accurate IU flow measurements must be obtained. In the absence of accurate flow measurements, IU water usage data may be substituted. If the pollutants discharged by industry or group of industries are contributing to operational problems or NPDES violations, a maximum limit should be set for the pollutants. The surcharge would then be applied to the portion of the pollutant loading that exceeds typical domestic waste strength up to the maximum allowable limit.

As the discussion of these charge models suggests, you can consider a wide range of options before implementing a user charge to recover pretreatment program costs. Issues of equity, ease of administration and implementation, and coordination with existing user charge systems will determine the appropriate charge system to be used.

7.3 INFORMATION ON RESOURCES REQUIRED FOR THE PROGRAM SUBMISSION

To demonstrate adequate organization and staffing, your final program submission must include the following:

- A description of the POTW organization, including the most current POTW organizational chart as well as an identification of the functional departments that will carry out the program [403.9(b)(3)]
- Identification of any agency, city, service district, or entity other than the POTW involved in the pretreatment program (e.g., in a multijurisdictional submission), along with its responsibilities and a description of coordination of procedures with the POTW [403.9(b)(3)].

TABLE 7.11

RATE CALCULATION WORKSHEET FOR POLLUTANT STRENGTH MODEL

	Total Cost	Wastewater Volume		BOD		TSS	
	$	$	%	$	%	$	%
A. Operating Costs							
1. Labor							
Administration	30,000	7,500		11,250		11,250	
Industrial monitoring	48,000	12,000		18,000		18,000	
Laboratory analysis	20,700	5,175		7,763		7,763	
2. Other Direct Costs	14,200	3,550		5,325		5,325	
3. Overhead	33,054	8,264		12,395		12,395	
B. Total Pretreatment Costs		36,489		54,733		54,733	
C. Summary							
Costs by pollutant group ÷ amount of pollutant group discharged per year = Charge rate per unit for each pollutant group		36,489 / 900 million gallons/year = $40.5/million gallons		54,733 / 1.5 million pounds/year = $.04/lb.		36,489 / 1.5 million pounds/year = $.04/lb.	

User Charge = $40.5 x 150 + .04 x 35,000 + .04 x 35,000 = $8,875.

(Assumes the industry discharges 150 million gallons of wastewater per year and 35,000 pounds of BOD and TSS each year.)

To meet the financial and resource requirements, your final pretreatment program submission must contain the following:

- An itemization of pretreatment program implementation costs, either projected for the first year of program operation or the actual costs for the most recent operating year if the pretreatment program was fully implemented in that year [403.9(b)(4)]. These costs should be itemized in the following areas:

  - Labor
  - Operating and maintenance costs
  - Overhead
  - Debt service and/or other annual equipment payments
  - Other applicable costs.

- A demonstration that the POTW has sufficient funds to operate the program, including an account of the revenue sources to be used to cover annual program costs. This account may be descriptive or may be an itemization of revenue source and amounts. It is a good idea to discuss your system for continuous revenue generation (e.g., user charges) [403.9(b)(4)].

The following items may be included to describe more fully the required elements of the program submission:

- A description of the duties of each staff position (or functional group) involved with the program, including an estimate of the level of effort anticipated for each position (or group). Such an estimate may be represented as labor hours per year or percent involvement in pretreatment activities.

- A list of the major equipment (e.g., vehicles, sampling/analysis apparatus) to be used in the program, including any commercial services or alternative capabilities required by the program.

8. APPROVAL AND IMPLEMENTATION

After following the steps outlined in the preceding chapters, you should have developed a workable pretreatment program for regulating industrial dischargers in your municipality. At the same time, you will have prepared all the documentation necessary for a final pretreatment program submission to the Approval Authority.

8.1 APPROVAL

Your local pretreatment program submission must be submitted to and approved by the Approval Authority, i.e., either the chief administrator of your State water pollution control agency, if the State has an NPDES permit program and an approved State pretreatment program, or the EPA Regional Administrator. At least three (3) copies of your program should be submitted to facilitate review, which is often done by several divisions of the agency. The submission package should contain a letter requesting approval of the program. Often, the Approval Authority will use the checklist shown in Appendix G to review your submission. It may be helpful to read these questions before submitting your program to make sure that all points are covered.

In cases where pretreatment programs are reviewed for approval by EPA, the State water pollution control agency is often given the opportunity to review and comment on the submission. In cases where programs are reviewed by a State with an approved program, the State may have somewhat different or more stringent requirements than EPA. You can determine who will review your program submission and whether there are any special requirements by contacting your State pretreatment office. A list of pretreatment contacts appears in Appendix A.

The permit compliance schedule (shown in Appendix E) requires that individual components of the program be developed and submitted on certain dates. These interim submissions may be reviewed and approved individually as discussed below. Public notices and hearings are required only for final submissions.

8.1.1 Approval Procedures for a Final Pretreatment Program

On receipt of your final pretreatment program submission, the Approval Authority must determine whether the submission contains all the information necessary for adequate review. If the submission does not meet the requirements identified in 40 CFR 403.9 and explained in this manual, then the Approval Authority will notify the POTW in writing. This notification should indicate what sections of your local program submission are inadequate, and suggest ways to modify it to comply with Federal (and State) requirements. You should make sure at this time that you are informed of all of the deficiencies or omissions so that you can prepare a revised submission.

If the final submission is complete, the Approval Authority will notify the POTW that the submission has been received and is under review. After determining that the submission is complete, the Approval Authority will issue a public notice regarding the request for approval. The public notice must be published in the largest daily newspaper within the jurisdiction served by your POTW. This notice is also circulated to 208 planning agencies, to Federal and State fish, shellfish, and wildlife resource agencies, and to any interested person or group.

With the public notice, the Approval Authority provides a period of 30 days or more during which interested persons may submit their written comments on the pretreatment program. This period also provides an opportunity for your POTW, any State or Federal agency, or any person or group to request a public hearing. The Approval Authority will hold a public hearing if the POTW requests one or if there is significant public interest. The Approval Authority will publish a notice of the hearing in the same newspaper that published the original notice. The pretreatment program submission must be reviewed within 90 days unless the public comment period is extended or a public hearing is held. The review period should not extend beyond 180 days from the date of public notice.

After the review period, your request for approval may be denied or approved based on the evaluation of the program and consideration of comments

from other agencies or the public. The Approval Authority will notify the POTW, and each person that requested notice, of the final determination. Notification of denial will include suggestions for modifying the program and may provide you with additional time to bring the program into compliance. Most POTWs are required by their NPDES permit to develop an approvable pretreatment program. If your program is not approved, it is important that you understand exactly what is needed to improve it so that you can use your resources effectively to revise the program and obtain approval.

If the program is approved, the Approval Authority will notify you at the end of its review. This notice usually takes the form of a letter explaining your obligations as Control Authority of the local pretreatment program. Implementation of the approved pretreatment program then becomes a condition of your NPDES permit. The Approval Authority will send a notice concerning approval or disapproval of your pretreatment program to people who commented on it or participated in a public hearing. Notice of this action will also be published in the local newspaper that published the original notice.

8.1.2 Special Cases

The General Pretreatment Regulations provide "special case" approval mechanisms other than the normal approval process for a POTW program submission. These cases are not described in detail, but are mentioned in case you wish to obtain more complete information from your Approval Authority.

8.1.2.1 Conditional Approval

A POTW may apply for conditional approval of the pretreatment program before you have obtained all of the funding and personnel needed to implement certain parts of the program. The POTW still must meet all of the requirements for an approvable pretreatment program. However, implementation of some program activities may be postponed, if the POTW's submission demonstrates that:

- Some aspects of the program do not need to be implemented immediately
- Adequate authorities and procedures are available for the activities that will be implemented right away

- Additional funding and personnel for the postponed activities will be available when needed.

The POTW's submission must describe how these resources will be acquired when they are needed. After receiving a request for conditional approval, the Approval Authority will set a date for the acquisition of needed funding and personnel. If the necessary resources are not acquired by this date, the conditional approval of the local pretreatment program may be modified or withdrawn. This provision is described in Section 403.9(c) of the General Pretreatment Regulations.

8.1.2.2 Removal Credits

POTWs may request authorization to revise discharge limitations specified in categorical pretreatment standards for IUs if their treatment plants achieve consistent removal of regulated pollutants. Removal, defined as reduction in the amount or alteration of the nature of a pollutant, by a treatment plant may be achieved because of design capabilities or may be incidental to its operation. If the removal is "consistent," discharge limits for categorical industries may be revised to reflect the plant's removal of pollutants. The intent of this provision is to give the POTW the ability to grant "credit" to IUs for removal achieved by the treatment plant.

The procedures and requirements that must be met to obtain this authorization are described in 40 CFR 403.7. EPA will also be preparing guidance on removal credits that will explain the subject further. An IU may request that you attempt to obtain removal credit authority from the Approval Authority. In addition, an IU may apply directly to the Approval Authority for other variances, such as fundamentally different factors variances (40 CFR 403.13) or net gross credits (403.15).

8.2 IMPLEMENTATION

When the program is approved, your POTW becomes the Control Authority for the local pretreatment program with responsibility for implementing the procedures described in the submission.

8.2.1 Ongoing Activities

As you implement the program, you will be responsible for actually performing the activities set up during program development. Many developmental activities, such as conducting the IWS, setting local effluent limits, or revising your ordinance, may not need to be repeated regularly. Other planned program activities, however, will be conducted on a regular basis. Some of these ongoing activities, described earlier in this manual, are summarized below:

- Monitoring IUs (Chapter 5). Your monitoring program includes sampling, inspection, self-monitoring, and reporting--in short, all surveillance activities needed to ensure continuing compliance by IUs with pretreatment standards and requirements.

- Administering the Program (Chapters 6 and 7). Program management and administration covers permitting industries, identifying new industries, evaluating self-monitoring reports, and planning staff and equipment requirements.

- Undertaking Compliance Activities (Chapter 6). Working with users, answering questions, and providing guidance on pretreatment equipment are important activities to achieve compliance by IUs. Sometimes, legal action may also be necessary.

- Reporting to the Approval Authority. As a condition of your pretreatment program or NPDES permit, you may be asked to report regularly on the program and to show the program's effect in cleaning up the nation's waters.

The next section describes some records you may wish to keep for accurate reporting to the Approval Authority as well as for your internal use.

8.2.2 Program Effectiveness

When implementing a local pretreatment program, it is important to keep in mind the four objectives of the National Pretreatment Program:

- To protect the treatment plant
- To protect the receiving water
- To improve sludge quality
- To protect POTW workers.

To determine if your local program is meeting these goals, you can measure its effectiveness. Such measurement is useful for the following reasons:

- To ensure equitable generation of revenues. It is important to identify where resources are used and where revenues are generated so that you can compare what users are paying to the actual activities you are performing for them. For example, if you bill users on the basis of flow, a large food processor may pay substantially more than a small metal finisher, even though you may spend more staff time and resources on the smaller firm. To correct a situation like this, you could charge your IUs by monitoring event to supplement flow rate charges. In this way, you can make sure that each user pays its fair share of the pretreatment services it receives.

- To ensure efficient use of resources. Tracking progress made to control pollutants and amounts spent on these efforts will be helpful for internal planning, organizing personnel, and directing resources. For example, if continued monitoring shows consistent compliance by a particular firm, you may want to concentrate efforts on those firms with poorer compliance records. Additionally, budget and personnel requests can be justified more easily to the POTW Administration or to the public if the positive effect of the pretreatment program (i.e., reduction in pollutant loading) can be demonstrated.

- To support realistic planning. If you have been keeping up to date on industrial discharger data, identifying trends, and looking ahead, you will have a good basis to plan for industrial growth in your service area, expansions to the treatment plant, or alternate methods of sludge disposal.

- To facilitate reporting and justifying variances. You may be asked to report regularly to the Approval Authority. Accurate records and data on the program's effectiveness will make it easy to do so. These records will also be important if the Approval Authority ever audits or inspects your program. In addition, if you want to justify a variance request such as removal credits, you will need accurate data.

There are many parameters you may use to measure the effectiveness of your program and plan for its future. You can evaluate the program's effectiveness in terms of environmental benefits or revenues expended. These are just a few suggestions:

- Environmental Benefits

  - Reduction in pollutant loading over time. This parameter will show whether your pretreatment program is reducing the amount of pollutants that enter the system. You must adjust for growth or new dischargers to see a true effect through time.

- Percent removal over time. Measuring this parameter will demonstrate whether your treatment plant is consistently removing pollutants or whether its efficiency is improving as toxic loads are reduced. Removal rate may also be used to justify a removal credit request.

- Sludge quality over time. One of the pretreatment program's objectives is to improve opportunities to recycle and reclaim municipal sludges. As sludge quality improves, new disposal options may become available to you.

- Revenues Expended

  - Amount spent versus sources of revenue. An evaluation of costs will show who is paying for the program and whether the proportion of program costs paid by each industry is changing over time. This budget evaluation, which also measures continuing program costs, can be compared to the parameters above which measure environmental benefits achieved by these program expenditures.

  - Amount spent on sludge disposal. To determine whether improving sludge quality is cost-effective and whether alternative disposal methods are financially sound, measurement of sludge disposal costs will be helpful.

- Amount spent on emergencies or maintenance problems. As the pretreatment program continues and environmental benefits results, your budget for responding to emergencies or system maintenance problems caused by industrial discharges should decrease.

8.2.3 Oversight

Although not involved in the day-to-day operation of your program, the Approval Authority retains oversight responsibility. Ongoing administration and implementation of your approved pretreatment program will become a condition of your NPDES permit. To verify continued compliance, the Approval Authority may inspect or audit your program (just as you check on your IUs) some time after your program is operating. The Approval Authority may also request reports on the progress of your program. An annual report may be requested by the Authority as a condition of your NPDES permit. This routine review is important to ensure the success of the National Pretreatment Program.

APPENDICES

APPENDIX A

PRETREATMENT INFORMATION CONTACTS

APPENDIX A

PRETREATMENT COORDINATORS
U.S. EPA Regional Contacts - August, 1983

Headquarters: Permits Division
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Region	Contact	Phone Numbers
I	Mr. Jerry Potamis U.S. EPA John F. Kennedy Federal Building Room 2203 Boston, MA 02203	(617) 223-5470
II	Mr. Paul Molonari U.S. EPA 26 Federal Plaza Room 1009 New York, NY 10007	(212) 264-9826 FTS 264-9826
III	Mr. Harry Harbold U.S. EPA Curtis Building - 3WA-13 6th & Walnut Streets Philadelphia, PA 19106	(215) 597-9226 FTS 597-9226
IV	Mr. Albert Herndon U.S. EPA 347 Courtland Street, N.E. Atlanta, GA 30365	(404) 881-2211 FTS 257-2328
V	Mrs. Valerie Jones U.S. EPA 230 S. Dearborn Street Chicago, IL 60604	(312) 353-2105 FTS 886-6097
VI	Mr. Ken Huffman (Temporary) U.S. EPA 6W-PM First International Building 1201 Elm Street Dallas, TX 75270	Office (214) 767-9822 Recpt. (214) 767-4375
VII	Mr. Lee Duvall U.S. EPA 324 E. Eleventh Street Kansas City, MO 64106	(816) 374-2281 FTS 758-2281

PRETREATMENT COORDINATORS (Continued)

Region	Contact	Phone Numbers
VIII	Mr. Marshall Fischer U.S. EPA 1860 Lincoln Street Denver, CO 80295	(303) 837-4901 FTS 327-4901
IX	Ms. Linda D. Powell U.S. EPA (W-5-2) 215 Fremont Street San Francisco, CA 94105	(415) 974-8311 FTS 454-8311
X	Mr. Ken Mosbaugh Mr. Robert Robichaud (temporary) U.S. EPA Permits Branch M/S 521 1200 Sixth Avenue Seattle, WA 98101	(206) 442-1270 (206) 442-1088 FTS 399-2712

NPDES STATE PRETREATMENT CONTACTS

REGION I

CT Mr. Dick Barlow
Assistant Director Water Compliance
Department of Environmental Protection
State Office Building
Hartford, CT 06115
(203) 566-5760

VT Mr. Gary Shokes
Environmental Engineer
Water Resources Department
Agency for Environmental Conservation
State Office Building
Montpelier, VT 05602
(802) 828-3345

REGION II

NJ Mr. Kenneth Goldstein
Environmental Engineer
Division of Water Resources
Office of Sludge Management and Industrial Pretreatment
P.O. Box 2809
Trenton, NJ 08625
(609) 292-0407

NY Mr. Joseph F. Kelleher, P.E.
Chief Pretreatment Section
Bureau of Municipal Project Management
N.Y. State Department of Environmental Conservation
50 Wolf Road, Room 306
Albany, NY 12233-0001
(518) 457-4125

REGION III

DC Mr. Jean Levesque
Administrator
Water Resources Management Admin.
5010 Overlook Avenue, S.W.
Washington, DC 20032
(202) 767-7651

REGION III (Continued)

DE Mr. Jay Brahmbhatt
Environmental Engineer
Water Resources Section
Division of Environmental Control
Dept. of Natural Resources and Environmental Control
Edward Tatnell Building
P.O. Box 1401
Dover, DE 19901
(302) 736-4761

MD Mr. Ken McElroy
Acting Chief, Municipal Discharge Permit Section
Water Resources Administration
State of Maryland
Tower State Office Building
Annapolis, MD 21401
(301) 269-3875

PA Mr. Dwayne Womer
Division of Sewerage and Grants
Bureau of Water Quality Management
Pennsylvania Department of Environmental Resources
P.O. Box 2063
Harrisburg, PA 17120
(717) 787-3481

VA Mr. Lawrence Lawson
Bureau of Applied Technology
State Water Control Board
P.O. Box 11143
Richmond, VA 23230
(804) 257-6336

WVA Mr. Praven Sangani
West Virginia Dept. of Natural Resources
1201 Greenbriar Street
Charleston, WV
(304) 345-8855/348-4086

REGION IV

AL Mr. Charles Horn
Alabama Water Improvement Commission
State Office Building
Montgomery, AL 36130
(205) 832-3370

GA Mr. John Beall
Water Quality Control
Environmental Protection Division
Georgia Department of Natural Resources
270 Washington Street, SW
Atlanta, GA 30334
(404) 656-7400

MS Mr. Bill Barnett
Mississippi Department of Natural Resources
Bureau of Pollution Control
P.O. Box 10385
Jackson, MS 39209
(601) 961-5171

NC Salahdin Abdul-Haqq
Supervisor
Pretreatment Unit
North Carolina Dept. of Natural Resources & Community Develop.
P.O. Box 27687
512 North Salisbury Street
Raleigh, NC 27611-7687
(919) 733-2930

SC Mr. Robert W. King
Division Director
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201
(803) 758-5067

TN Mr. Paul Davis, Chief
Permits Section
Division of Water Quality Control
Tennessee Dept. of Health and Environment
150 9th Avenue North
Terra Building, 2nd Floor
Nashville, TN 37203
(615) 741-7883

REGION V

IL Ms. Angela Tin
Pretreatment Coordinator
Permits Section
Division of Water Pollution Control
Illinois EPA
2200 Churchhill Road
Springfield, IL 62706
(217) 782-0610

IN Mr. Lonnie Brumfield
Pretreatment Coordinator
Indiana State Board of Health
Water Pollution Control Division
1330 West Michigan
Indianapolis, IN 46202
(317) 633-0751

MI Mr. Bruce C. Moore
Industrial Pretreatment Program
Dept. of Natural Resources
P.O. Box 30028
Lansing, MI 48909
(517) 373-8088

MN Mr. Ron Jacobson
Minnesota Pollution Control Agency
1935 West County Road B-2
Roseville, MN 55113
(612) 296-7231

OH Mr. Ed Duffield
Special Project Coordinator
Ohio EPA
P.O. Box 1049
Columbus, OH 43216
(614) 466-7427

WI Mr. John Parrish
Environmental Specialist
Wisconsin Dept. of Natural Resources
P.O. Box 7921
Madison, WI 53707
(608) 267-7635

REGION VII

IA Mr. Russel Soper, P.E.
Environmental Engineer
Wastewater Permits Branch
Iowa Department of Water, Waste and Air Management
Henry A. Wallace Building
900 East Grand
Des Moines, IA 50319
(515) 281-4421

KS Mr. Don Carlson/Steve Casper
Chief, Industrial Unit
Water Pollution Control Section
Kansas Department of Health & Environment
Building 740 - Forbes Field
Topeka, KS 66620
(913) 862-9360

MO Mr. Frank Dolan
Environmental Engineer
Missouri Dept. of Natural Resources
P.O. Box 1368
Jefferson City, MO 65102
(314) 751-3241

NE Mr. Kenneth Hassler
Environmental Specialist
Water Pollution Control Division
Nebraska Dept. of Environmental Control
Box 94877, Statehouse Station
301 Centennial Mall, South
Lincoln, NE 68509
(402) 471-2186

REGION VIII

CO Mr. Jeb Love
Chief, Permits Section
Water Quality Control Division
Colorado Dept. of Health
4210 E. 11th Avenue
Denver, CO 80220
(303) 320-8333 x 3361

MT Mr. Fred Shewman
Sanitary Engineer
Water Quality Bureau
Montana Department of Health
Capitol Station
Helena, MT 59601
(701) 224-2375

REGION VIII (Continued)

ND Ms. Sheila Kuhn - Permits
North Dakota State Department of Health
1200 Missouri Avenue
Bismarck, ND 58505
(701) 224-4578

WY Mr. John Wagner
Technical Supervisor
Water Quality Division
Wyoming Dept. of Environmental Quality
Hathaway Office Building
Cheyenne, WY 82002
(307) 777-7781

REGION IX

AZ Mr. Moe Wakefield
Bureau of Water Quality
Arizona Dept. of Health Services
1740 W. Adams, Room 203
Phoenix, AZ 85007
(602) 255-1277

CA Mr. Bruce Fujimoto
CA State Water Resource Control Board
P.O. Box 100
Sacramento, CA 95801
FTS 465-0539

HI Mr. Mel Koizumi
Deputy Director of Environmental Health
Hawaii State Department of Health
P.O. Box 3378
Honolulu, HI 96801
Attn: Dennis Lau
(808) 548-6410

NV Mr. W. Marvin Tebeau
Environmental Scientist
State of Nevada
Division of Environmental Protection
201 S. Fall Street
Capitol Complex
Carson City, NV
(702) 885-4670

REGION X

OR Mr. Kent Ashbaker
Supervisor, Source Control
Oregon Department of Environmental Quality
P.O. Box 1760
Portland, OR 97207
(503) 229-5325

WA Mr. Bob Monn
State Department of Ecology
Mail St. PV-11
Olympia, WA 98504
(206) 753-2825

APPENDIX B

BIBLIOGRAPHY OF PRETREATMENT REFERENCES

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Sources listed with an NTIS Order Number are available from:

National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161

Sources listed with a WPCF Order Number are available from:

Water Pollution Control Federation
2626 Pennsylvania Avenue, N.W.
Washington, DC 20037

APPENDIX C

GENERAL PRETREATMENT REGULATIONS FOR EXISTING AND NEW SOURCES AND AMENDMENTS

In an effort to reduce the bulk of this Guidance Manual, a complete copy of only the revised 40 CFR Part 403 regulations is included here. The actual January 28, 1981, Federal Register notice included an additional thirty-five pages of Supplementary Information which is not included in this Appendix.

federal register

Wednesday
January 28, 1981

Part II

Environmental Protection Agency

General Pretreatment Regulations for Existing and New Sources

the date of issuance of the June 26, 1978 regulations.

Douglas M. Costle,

Administrator.

January 13, 1981.

40 CFR Part 403 is revised to read as follows:

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

Sec.

Authority: Section 54(c)(2) of the Clean Water Act of 1977 (Pub. L. 95-217), §§ 204(b)(1)(C), 208(b)(2)(C)(iii), 301(b)(1)(A)(ii), 301(b)(2)(A)(ii), 301(b)(2)(C), 301(h)(5), 301(i)(2), 304(e), 304(g), 307, 308, 309, 402(b), 405, and 501(a) of the Federal Water Pollution Control Act (Pub. L. 92-500), as amended by the Clean Water Act of 1977.

§ 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, 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 responsibilities 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 pollutants from non-domestic sources covered by Pretreatment Standards which are indirectly 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; (3) to States which have or are applying for *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 Pretreatment Standards. National Pretreatment Standards do not apply to sources which Discharge to a sewer which is not connected to a POTW Treatment Plant.

§ 403.2 Objectives of general pretreatment regulations.

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 appropriate Regional Administrator 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 (§§ 403.3 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 "Enforcement Division Director" means one of the Directors of the Enforcement Divisions within the Regional offices of the Environmental Protection Agency or this person's delegated representative.

(g) The term "Indirect Discharge" or "Discharge" means the introduction of pollutants into a POTW from any non-domestic source regulated under section 307(b), (c) or (d) of the Act.

(h) The term "Industrial User" or "User" means a source of Indirect Discharge.

(i) The term "Interference" means an inhibition or disruption of the POTW, its treatment processes or operations, or its sludge processes, use or disposal which is a cause of or significantly contributes to either a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or to the prevention of sewage sludge use or disposal by the POTW in accordance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II more commonly referred to as the Resource Conservation and Recovery Act (RCRA) and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the SWDA), the Clean Air Act, and the Toxic Substances Control Act. An Industrial User significantly contributes to such a permit violation or prevention of sludge use or disposal in accordance with above-cited authorities whenever such User:

(1) Discharges a daily pollutant loading in excess of that allowed by contract with the POTW or by Federal, State or local law;

(2) Discharges wastewater which substantially differs in nature or constituents from the User's average Discharge; or

(3) Knows or has reason to know that its Discharge, alone or in conjunction with Discharges from other sources, would result in a POTW permit violation or prevent sewage sludge use or disposal in accordance with the above-cited authorities as they apply to the POTW's selected method of sludge management.

(j) The term "National Pretreatment Standard," "Pretreatment Standard," or "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. This term includes prohibitive discharge limits established pursuant to § 403.5.

(k) The term "New Source" means any building, structure, facility, or installation from which there is or may be a Discharge, the construction of which commenced:

(1) After promulgation of Pretreatment Standards under section 307(c) of the Act which are applicable to such source; or

(2) After proposal of Pretreatment Standards in accordance with section 307(c) of the Act which are applicable to such source, but only if the Standards are promulgated in accordance with section 307(c) within 120 days of their proposal.

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

(m) The term "NPDES State" means a State (as defined in 40 CFR § 122.3) or Interstate water pollution control agency with an NPDES permit program approved pursuant to section 402(b) of the Act.

(n) The term "Pass Through" means the Discharge of pollutants through the POTW into navigable waters in quantities or concentrations which are a cause of or significantly contribute to a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation). An Industrial User significantly contributes to such permit violation where it:

(1) Discharges a daily pollutant loading in excess of that allowed by contract with the POTW or by Federal, State, or local law;

(2) Discharges wastewater which substantially differs in nature and constituents from the User's average Discharge;

(3) Knows or has reason to know that its Discharge, alone or in conjunction with Discharges from other sources, would result in a permit violation; or

(4) Knows or has reason to know that the POTW is, for any reason, violating its final effluent limitations in its permit and that such Industrial User's Discharge either alone or in conjunction with Discharges from other sources, increases the magnitude or duration of the POTW's violations.

(o) 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 devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. 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.

(p) The term "POTW Treatment Plant" means that portion of the POTW which is designed to provide treatment (including recycling and reclamation) of municipal sewage and industrial waste.

(q) 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 prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. The reduction or alteration may be obtained by physical, chemical or biological processes, process changes or by other means, except as prohibited by § 403.6(d). Appropriate pretreatment technology includes control equipment, such as equalization tanks or facilities, for protection against surges or slug loadings that might interfere with or otherwise be incompatible with the POTW. However, where wastewater from a regulated process is mixed in an equalization facility with unregulated wastewater or with wastewater from another regulated process, the effluent from the equalization facility must meet an adjusted pretreatment limit calculated in accordance with § 403.6(e).

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

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

(t) The term "Submission" means: (1) a request by a POTW for approval of a Pretreatment Program to the EPA or a Director; (2) a request by a POTW to the EPA or a Director 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 of this regulation.

§ 403.5 National pretreatment standards: prohibited discharges.

(a) *General prohibitions.* Pollutants introduced into POTW's by an non-domestic source shall not Pass Through the POTW or Interfere with the operation or performance of the works. These general prohibitions and the specific prohibitions in paragraph (b) of this section apply to all non-domestic sources introducing pollutants into a POTW whether or not the source is subject to other National Pretreatment Standards or any national, State, or local Pretreatment Requirements.

(b) *Specific prohibitions.* In addition, the following pollutants shall not be introduced into a POTW:

(1) Pollutants which creat 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 the POTW resulting in Interference;

(4) Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a Discharge at a flow rate and/or pollutant concentration which will cause Interference with 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 POTW Treatment Plant exceeds 40°C (104°F) unless the Approval Authority, upon request of the POTW, approves alternate temperature limits.

(c) *When Specific Limits Must be Developed by POTW.* (1) POTW's developing POTW Pretreatment Programs pursuant to § 403.8 shall develop and enforce specific limits to implement the prohibitions listed in § 403.5 (a) and (b).

(2) All other POTW's shall, in cases where pollutants contributed by User(s) result in Interference or Pass-Through, and such violation is likely to recur,

develop and enforce specific effluent limits for Industrial User(s), and all other users, as appropriate, which, together with appropriate changes in the POTW Treatment Plant's Facilities or operation, are necessary to ensure renewed and continued compliance with the POTW's NPDES permit or sludge use or disposal practices.

(3) Specific effluent limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond.

(d) *Local Limits.* Where specific prohibitions or limits on pollutants or pollutant parameters are developed by a POTW in accordance with paragraph (c) above, such limits shall be deemed Pretreatment Standards for the purposes of section 307(d) of the Act.

(e) *EPA and State Enforcement Actions.* If, within 30 days after notice of an Interference or Pass Through violation has been sent by EPA or the NPDES State to the POTW, and to persons or groups who have requested such notice, the POTW fails to commence appropriate enforcement action to correct the violation, EPA or the NPDES State may take appropriate enforcement action.

(f) *Compliance Deadlines.* Compliance with the provisions of this section is required beginning on [44 days after publication in the **Federal Register**], except for paragraph (b)(5) of this section which must be complied with by August 25, 1981.

§ 403.6 National Pretreatment Standards: Categorical Standards.

National Pretreatment Standards specifying quantities or concentrations of pollutants or pollutant properties which may be Discharged 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.

(a) *Category Determination Request.* (1) *Application Deadline.* Within 60 days after the effective date of a Pretreatment Standard for a subcategory under which an Industrial User may be included, or within 60 days after the **Federal Register** notice announcing the availability of the technical development document for that subcategory, whichever is later, the existing Industrial User or POTW may request that the Enforcement Division Director or Director, as appropriate, provide written certification on whether the Industrial User falls within that particular subcategory. A new source must request this certification prior to commencing discharge. Where a request for certification is submitted by a POTW, the POTW shall notify any affected Industrial User of such submission. The Industrial User may provide written comments on the POTW submission to the Enforcement Division Director or Director, as appropriate, within 30 days of notification.

(2) *Contents of application.* Each request shall contain a statement:

(i) Describing which subcategories might be applicable; and

(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 that set forth in § 403.7(b)(2)(ii), except that the phrase "§ 403.7(d)" shall be replaced with "§ 403.6(a)."

(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 he or she will, after determining that it contains all of the information required by paragraph (2) 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 determination of the applicable subcategory and state the reasons for the determination.

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

(iii) Where the request is submitted by the Industrial User or POTW 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 the determination to the affected Industrial User and the POTW. Where the final determination is made by the Enforcement Division Director, he or she shall send a copy of the determination to the Director.

(5) *Requests for Hearing and/or Legal Decision.* Within 30 days following the date of receipt of notice of the final determination as provided for by paragraph (a)(4)(iv) of this section, the Requester may submit a petition to reconsider or contest the decision to the Regional Administrator who shall act on such petition expeditiously and state the reasons for his or her determination in writing.

(b) *Deadline for Compliance With Categorical Standards.* Compliance by existing sources with categorical Pretreatment Standards shall be within 3 years of the date the Standard is effective unless a shorter compliance time is specified in the appropriate subpart of 40 CFR Chapter I, Subchapter N but in any case no later than July 1, 1984. Direct Discharges with NPDES permits modified or reissued to provide a variance pursuant to section 301(i)(2) of the Act 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 sources meet the definition of a New Source as defined in § 403.3(k). Compliance with categorical Pretreatment Standards for New Sources will be required upon promulgation.

(c) *Concentration and Mass Limits.* Pollutant discharge limits in categorical Pretreatment Standards will be expressed either as concentration or mass limits. Wherever possible, where concentration limits are specified in standards, equivalent mass limits will be provided so that local, State or Federal authorities responsible for enforcement may use either concentration or mass limits. 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) *Dilution Prohibited as Substitute for Treatment.* 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. The Control Authority (as defined in § 403.12(a)) may impose mass limitations on Industrial Users which are using dilution to meet applicable Pretreatment Standards or in other cases where the imposition of mass limitations is appropriate.

(e) *Combined Wastestream Formula.* Where process effluent is mixed prior to treatment with wastewaters other than those generated by the regulated process, fixed alternative discharge limits may be derived by the Control Authority, as defined in § 403.12(a), or by the Industrial User with the written concurrence of the Control Authority. These alternative limits shall be applied to the mixed effluent. When deriving alternative categorical limits, the Control Authority or Industrial User shall calculate both an alternative daily maximum value using the daily maximum value(s) specified in the appropriate categorical Pretreatment Standard(s) and an alternative consecutive sampling day average value using the long-term average value(s) specified in the appropriate categorical Pretreatment Standard(s). The Industrial User shall comply with the alternative daily maximum and long-term average limits fixed by the Control Authority until the Control Authority modifies the limits or approves an Industrial User modification request. Modification is authorized whenever there is a material or significant change in the values used in the calculation to fix alternative limits for the regulated pollutant. An Industrial User must immediately report any such material or significant change to the Control Authority. Where appropriate new alternative categorical limits shall be calculated within 30 days.

(1) *Alternative limit calculation.* For purposes of these formulas, the "average daily flow" means a reasonable measure of the average daily flow for a 30-day period. For new sources, flows shall be estimated using projected values. The alternative limit for a specified pollutant will be derived by the use of either of the following formulas:

(i) *Alternative Concentration Limit:*

$$C_T = \left(\frac{\sum_{i=1}^{N} C_i F_i}{\sum_{i=1}^{N} F_i}\right)\left(\frac{F_T - F_D}{F_T}\right)$$

where

C_T = the alternative concentration limit for the combined wastestream.

C_i = the categorical Pretreatment Standard concentration limit for a pollutant in the regulated stream i.

F_i = the average daily flow (at least a 30-day average) of stream i to the extent that it is regulated for such pollutant.

F_D = the average daily flow (at least a 30-day average) from boiler blowdown streams, non-contact cooling streams, sanitary wastestreams (where such streams are not regulated by a categorical Pretreatment Standard) and from any process wastestreams which were or could have been entirely exempted from categorical Pretreatment Standards pursuant to paragraph 8 of the *NRDC* v. *Costle* Consent Decree (12 ERC 1833) for one or more of the following reasons (see Appendix D):

(1) the pollutants of concern are not detectable in the effluent from the Industrial User (paragraph (8)(a)(iii));

(2) the pollutants of concern are present only in trace amounts and are neither causing nor likely to cause toxic effects (paragraph (8)(a)(iii));

(3) the pollutants of concern are present in amounts too small to be effectively reduced by technologies known to the Administrator (paragraph (8)(a)(iii)); or

(4) the wastestream contains only pollutants which are compatible with the POTW (paragraph (8)(b)(i)).

F_T = the average daily flow (at least a 30-day average) through the combined treatment facility (includes F_i, F_D and unregulated streams).

N = the total number of regulated streams.

(ii) *Alternative Mass Limit:*

$$M_T = \left(\sum_{i=1}^{N} M_i\right)\left(\frac{F_T - F_D}{\sum_{i=1}^{N} F_i}\right)$$

where

M_T = the alternative mass limit for a pollutant in the combined wastestream.

M_i = the categorical Pretreatment Standard mass limit for a pollutant in the regulated stream i (the categorical pretreatment mass limit multiplied by the appropriate measure of production).

F_i = the average flow (at least a 30-day average) of stream i to the extent that it is regulated for such pollutant.

F_D = the average flow (at least a 30-day average) from boiler blowdown streams, non-contact cooling streams, sanitary wastestreams (where such streams are not regulated by a categorical Pretreatment Standard) and from any process wastestreams which were or could have been entirely exempted from categorical Pretreatment Standards pursuant to paragraph 8 of the *NRDC* v. *Costle* Consent Decree (12 ERC 1833) for one or more of the following reasons (see Appendix D):

(1) the pollutants of concern are not detectable in the effluent from the Industrial User (paragraph (8)(a)(iii));

(2) the pollutants of concern are present only in trace amounts and are neither causing nor likely to cause toxic effects (paragraph (8)(a)(iii));

(3) the pollutants of concern are present in amounts too small to be effectively reduced by technologies known to the Administrator (paragraph (8)(a)(iii)); or

(4) the wastestream contains only pollutants which are compatible with the POTW (paragraph (8)(b)(i)).

F_T = the average daily flow (at least a 30-day average) through the combined treatment facility (includes F_i, F_D and unregulated streams).

N = the total number of regulated streams.

(2) *Alternate Limits Below Detection Limit.* An alternative pretreatment limit may not be used if the alternative limit is below the analytical detection limit for any of the regulated pollutants.

(3) *Self-monitoring.* Self-monitoring required to insure compliance with the alternative categorical limit shall be as follows:

(i) The type and frequency of sampling, analysis and flow measurement shall be determined by reference to the self-monitoring requirements of the appropriate categorical Pretreatment Standard(s);

(ii) Where the self-monitoring schedules for the appropriate Standards differ, monitoring shall be done according to the most frequent schedule;

(iii) Where flow determines the frequency of self-monitoring in a categorical Pretreatment Standard, the sum of all regulated flows (F_i) is the flow which shall be used to determine self-monitoring frequency.

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

This section 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) *Definitions.* For the purpose of this section: (1) "Removal" shall mean a reduction in the amount of a pollutant in the POTW's effluent or alteration of the nature of a pollutant during treatment at the POTW. 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. The demonstration of Removal shall consist of data which reflect the Removal achieved by the POTW for those specific pollutants of concern included on the list developed pursuant to section 307(a) of the Act. Each categorical Pretreatment Standard will specify whether or not a Removal Allowance may be granted for indicator or surrogate pollutants regulated in that Standard.

(2) "Consistent Removal" shall mean the average of the lowest 50 percent of the removals measured according to paragraph (d)(2) of this section. All sample data obtained for the measured pollutant during the time period prescribed in paragraph (d)(2) of this section must be reported and used in computing Consistent Removal. If a substance is measurable in the influent but not in the effluent, the effluent level may be assumed to be the limit of measurement, and those data may be used by the POTW at its discretion and subject to approval by the Approval Authority. If the substance is not measurable in the influent, the data may not be used. Where the number of samples with concentrations equal to or above the limit of measurement is between 8 and 12, the average of the lowest 6 removals shall be used. If there are less than 8 samples with concentrations equal to or above the limit of measurement, the Approval Authority may approve alternate means for demonstrating Consistent Removal. The term "measurement" refers to the ability of the analytical method or protocol to quantify as well as identify the presence of the substance in question.

(3) "Overflow" means the intentional or unintentional diversion of flow from the POTW before the POTW Treatment Plant.

(b) *Revision of Categorical Pretreatment Standards to Reflect POTW Pollutant Removal.* Any POTW receiving wastes from an Industrial User to which a 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. Revisions will only be made where the POTW demonstrates Consistent Removal of each pollutant for which the discharge limit in a categorical Pretreatment Standard is to be revised at a level which justifies the amount of revision to the discharge limit. In addition, revision of pollutant discharge limits in categorical Pretreatment Standards by a POTW may only be made provided that:

(1) *Application.* 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; and

(2) *POTW Pretreatment Programs.* The POTW has a Pretreatment Program approved in accordance with §§ 403.8, 403.9, and 403.11; provided, however, a POTW may conditionally revise the discharge limits for specific pollutants, even though a Pretreatment Program has not been approved, in accordance with the following terms and conditions. These provision also govern the issuance of provisional authorizations under § 403.7(d)(2)(vii):

(i) All Industrial Users who wish to receive a conditional or provisional revision of categorical Pretreatment Standards must submit to the POTW the information required in § 403.12(b)(1)–(7) pertaining to the categorical Pretreatment Standard as modified by the conditional or provisional removal allowance, except that the compliance schedule required by § 403.12(b)(7) is not required where a provisional allowance is requested. The submission shall indicate what additional technology, if any, will be needed to comply with the categorical Pretreatment Standards as revised by the POTW;

(ii) The POTW must compile and submit data demonstrating removal in accordance with the requirements of paragraphs (d)(1)–(7) of this section. The POTW shall submit to the Approval Authority a removal report which comports with the signatory and certification requirements of § 403.12 (l) and (m). This report shall contain a certification by any of the persons specified in § 403.12(l) or by an independent engineer containing the following statement: "I have personally examined and am familiar with the information submitted in the attached document, and I hereby certify under penalty of law that this information was obtained in accordance with the requirements of § 403.7(d). Moreover, based upon my inquiry of those individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.";

(iii) The POTW must submit to the Approval Authority an application for pretreatment program approval meeting the requirements of §§ 403.8 and 403.9(a) or (b) in a timely manner, not to exceed the time limitation set forth in a compliance schedule for development of a pretreatment program included in the POTW's NPDES permit;

(iv) If a POTW grants conditional or provisional revision(s) and the Approval Authority subsequently makes a final determination, after notice and an opportunity for a hearing, that the POTW failed to comply with the conditions in paragraphs (b)(2)(ii) or (iii) of this section, or that its sludge use or disposal practices are not in compliance with the provisions of paragraph (b)(4) of this section, the revision shall be terminated by the Approval Authority and all Industrial Users to whom the revised discharge limits had been applied shall achieve compliance with the applicable categorical Pretreatment Standard(s) within a reasonable time (not to exceed the period of time prescribed in the applicable categorical Pretreatment Standard(s)) as specified by the Approval Authority. However, the revision(s) shall not be terminated where the POTW has not made a timely application for program approval if the POTW has made demonstrable progress towards and has demonstrated and continues to demonstrate an intention to submit an approvable pretreatment program as expeditiously as possible within an additional period of time, not to exceed one year, established by the Approval Authority;

(v) If a POTW grants conditional or provisional revision(s) and the POTW or Approval Authority subsequently makes a final determination, after notice and an opportunity for a hearing, that the Industrial User(s) failed to comply with conditions in paragraph (b)(2)(i) of this section, including in the case of a conditional revision, the dates specified in the compliance schedule required by

§ 403.12(b)(7), the revision shall be terminated by the POTW or the Approval Authority for the non-complying Industrial Users and all non-complying Industrial Users to whom the revised discharge limits had been applied shall achieve compliance with the applicable categorical Pretreatment Standard(s) within the time period specified in such Standard(s). The revision(s) shall not be terminated where a violation of the provisions of this subparagraph results from causes entirely outside of the control of the Industrial User or the Industrial User has demonstrated substantial compliance; and

(vi) The POTW shall submit to the Approval Authority by December 31 of each year the name and address of each Industrial User that has received a conditionally or provisionally revised discharge limit. If the revised discharge limit is revoked, the POTW must submit the information in paragraph (b)(2)(i) above to the Approval Authority;

(3) *Compensation for overflow.* POTW's which at least once annually Overflow untreated wastewater to receiving waters may claim Consistent Removal of a pollutant only by complying with either paragraphs (b)(3)(i) or (ii) below. However, this subsection shall not apply where Industrial User(s) can demonstrate that Overflow does not occur between the Industrial User(s) and the POTW Treatment Plant:

(i) The Industrial User provides containment or otherwise ceases or reduces Discharges from the regulated processes which contain the pollutant for which an allowance is requested during all circumstances in which an Overflow event can reasonably be expected to occur at the POTW or at a sewer to which the Industrial User is connected. Discharges must cease or be reduced, or pretreatment must be increased, to the extent necessary to compensate for the removal not being provided by the POTW. Allowances under this provision will only be granted where the POTW submits to the Approval Authority evidence that:

(A) All Industrial Users to which the POTW proposes to apply this provision have demonstrated the ability to contain or otherwise cease or reduce, during circumstances in which an Overflow event can reasonably be expected to occur, Discharges from the regulated processes which contain pollutants for which an allowance is requested;

(B) The POTW has identified circumstances in which an Overflow event can reasonably be expected to occur, and has a notification or other viable plan to insure that Industrial Users will learn of an impending Overflow in sufficient time to contain, cease or reduce Discharging to prevent untreated Overflows from occurring. The POTW must also demonstrate that it will monitor and verify the data required in paragraph (b)(3)(i)(C) herein to insure that Industrial Users are containing, ceasing or reducing operations during POTW System Overflow; and

(C) All Industrial Users to which the POTW proposes to apply this provision have demonstrated the ability and commitment to collect and make available upon request by the POTW, State Director or EPA Regional Administrator daily flow reports or other data sufficient to demonstrate that all Discharges from regulated processes containing the pollutant for which the allowance is requested were contained, reduced or otherwise ceased, as appropriate, during all circumstances in which an Overflow event was reasonably expected to occur; or

(ii)(A) The Consistent Removal claimed is reduced pursuant to the following equation:

$$r_c = r_m \quad \frac{8760 - Z}{8760}$$

Where:

r_m = POTW's Consistent Removal rate for that pollutant as established under paragraphs (a)(1) and (d)(2) of this section

r_c = removal corrected by the Overflow factor

Z = hours per year that Overflow occurred between the Industrial User(s) and the POTW Treatment Plant, the hours either to be shown in the POTW's current NPDES permit application or the hours, as demonstrated by verifiable techniques, that a particular Industrial User's Discharge Overflows between the Industrial User and the POTW Treatment Plant; and

(B)(1) After July 1, 1983, Consistent Removal may be claimed 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" (same document) published on December 16, 1975 by EPA Office of Water Program Operations (WH-546). (See Appendix A.) 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 Overflows. At minimum, by July 1, 1983, the POTW must have completed the analysis required by PRM 75-34 and be making an effort to implement the plan.

(2) If, by July 1, 1983, a POTW has begun the PRM 75-34 analysis but due to circumstances beyond its control has not completed it, Consistent Removal, subject to the approval of the Approval Authority, may continue to be claimed according to the formula in paragraph (b)(3)(ii)(A) above so long as the POTW acts in a timely fashion to complete the analysis and makes an effort to implement the non-structural cost-effective measures identified by the analysis; and so long as the POTW has expressed its willingness to apply, after completing the analysis, for a construction grant necessary to implement any other cost-effective Overflow controls identified in the analysis should federal funds become available, so applies for such funds, and proceeds with the required construction in an expeditious manner. In addition, Consistent Removal may, subject to the approval of the Approval Authority, continue to be claimed according to the formula in paragraph (b)(3)(ii)(A) above where the POTW has completed and the Approval Authority has accepted the analysis required by PRM 75-34 and the POTW has requested inclusion in its NPDES permit of an acceptable compliance schedule providing for timely implementation of cost-effective measures identified in the analysis. [In considering what is timely implementation, the Approval Authority shall consider the availability of funds, cost of control measures, and seriousness of the water quality problem.]; and

(4) *Compliance with applicable sludge requirements.* Such revision will not contribute to the POTW's inability to comply with its NPDES permit or with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations) as they apply to the sludge management methods being used: section 405 of the Clean Water Act; the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation Recovery Act (RCRA) and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of SWDA)), the Clean Air Act and the Toxic Substances Control Act. The POTW will be authorized to revise discharge limits only for those pollutants that do not contribute to the violation of

its NPDES permit or any of the above statutes.

(c) *POTW application for authorization to revise discharge limits.* (1) Application for authorization to revise discharge limits for Industrial Users who are or in the future may be subject to categorical Pretreatment Standards, or approval of discharge limits conditionally or provisionally revised for Industrial Users by the POTW pursuant to paragraphs (b)(2) and (d)(2)(vii) shall be submitted by the POTW to the Approval Authority.

(2) Each POTW may submit such an application no more than once per year with respect to either:

(i) any categorical Pretreatment Standard promulgated in the prior 18 months;

(ii) any new or modified facilities or production changes resulting in the Discharge of pollutants which were not previously discharged and which are subject to promulgated categorical Standards; or

(iii) any significant increase in Removal efficiency attributable to specific identifiable circumstances or corrective measures (such as improvements in operation and maintenance practices, new treatment or treatment capacity, or a significant change in the influent to the POTW Treatment Plant).

(3) The Approval Authority may, however, elect not to review such application(s) upon receipt, in which case the POTW's conditionally or provisionally revised discharge limits will remain in effect until reviewed by the Approval Authority. This review may occur at any time in accordance with the procedures of § 403.11, but in no event later than the time of any pretreatment program approval or any NPDES permit reissuance thereafter.

(4) If the Consistent Removal claimed is based on an analytical technique other than the technique specified for the applicable categorical Pretreatment Standard, the Approval Authority may require the POTW perform additional analyses.

(d) *Contents of application to revise discharge limits.* Requests for authorization to revise discharge limits in categorical Pretreatment Standards must be supported by the following information:

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

(2) *Consistent Removal Data.* Influent and effluent operational data demonstrating Consistent Removal or other information, as provided for in paragraph (a)(2) of this section, which demonstrates Consistent Removal of the pollutants for which discharge limit revisions are proposed. This data shall meet the following requirements:

(i) *Representative Data: Seasonal.* 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) *Representative Data: Quality and Quantity.* The data shall be representative of the quality and quantity of normal effluent and influent flow if such data can be obtained. If such data are unobtainable, alternate data or information may be presented for approval to demonstrate Consistent Removal as provided for in paragraph (a)(2) of this section.

(iii) *Sampling Procedures: Composite.* (A) The influent and effluent operational data shall be obtained through 24-hour flow-proportional composite samples. Sampling may be done manually or automatically, and discretely or continuously. For discrete sampling, at least 12 aliquots shall be composited. Discrete sampling may be flow-proportioned either by varying the time interval between each aliquot or the volume of each aliquot. All composites must be flow-proportional to either stream flow at time of collection of influent aliquot or to the total influent flow since the previous influent aliquot. Volatile pollutant aliquots must be combined in the laboratory immediately before analysis.

(B)*(1)* Twelve samples shall be taken at approximately equal intervals throughout one full year. Sampling must be evenly distributed over the days of the week so as to include non-workdays as well as workdays. If the Approval Authority determines that this schedule will not be most representative of the actual operation of the POTW Treatment Plant, an alternative sampling schedule will be approved.

(2) In addition, upon the Approval Authority's concurrence, a POTW may utilize an historical data base amassed prior to the effective date of this section provided that such data otherwise meet the requirements of this paragraph. In order for the historical data base to be approved it must present a statistically valid description of daily, weekly and seasonal sewage treatment plant loadings and performance for at least one year.

(C) Effluent sample collection need not be delayed to compensate for hydraulic detention unless the POTW elects to include detention time compensation or unless the Approval Authority requires detention time compensation. The Approval Authority may require that each effluent sample be taken approximately one detention time later than the corresponding influent sample when failure to do so would result in an unrepresentative portrayal of actual POTW operation. The detention period is to be based on a 24-hour average daily flow value. The average daily flow used will be based upon the average of the daily flows during the same month of the previous year.

(iv) *Sampling Procedures: Grab.* Where composite sampling is not an appropriate sampling technique, a grab sample(s) shall be taken to obtain influent and effluent operational data. Collection of influent grab samples should preceed collection of effluent samples by approximately one detention period. The detention period is to be based on a 24-hour average daily flow value. The average daily flow used will be based upon the average of the daily flows during the same month of the previous year. 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.

(v) *Analytical methods.* The sampling referred to in paragraphs (d)(2)(i)-(iv) and (d)(5) 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. Where 40 CFR Part 136 does not contain sampling or analytical techniques for the pollutant in question, or where the Administrator determines that the Part 136 sampling and analytical techniques are inappropriate for the pollutant in question, sampling and analysis shall be performed using validated analytical methods or any other applicable sampling and analytical procedures, including procedures suggested by the POTW or other parties, approved by the Administrator.

(vi) *Calculation of removal.* All data acquired under the provisions of this section must be submitted to the Approval Authority. Removal for a specific pollutant shall be determined either, for each sample, by measuring the difference between the concentrations of the pollutant in the influent and effluent of the POTW and expressing the difference as a percent of the influent concentration, or, where such data cannot be obtained, Removal may be demonstrated using other data

or procedures subject to concurrence by the Approval Authority as provided for in paragraph (a)(2) of this section.

(vii) *Exception to sampling data requirement: provisional removal demonstration.* For pollutants which are not currently being discharged (new or modified facilities, or production changes) application may be made by the POTW for provisional authorization to revise the applicable categorical Pretreatment Standard prior to initial discharge of the pollutant. Consistent Removal may be based provisionally on data from treatability studies or demonstrated removal at other treatment facilities where the quality and quantity of influent are similar. In calculating and applying for provisional removal allowances, the POTW must comply with the provisions of paragraphs (b)(1)–(4) of this section. Within 18 months after the commencement of Discharge of the pollutants in question, Consistent Removal must be demonstrated pursuant to the requirements of paragraphs (a)(2) and (d)(2)(i)–(vi) of this section.

(3) *List of industrial subcategories.* A list of the industrial subcategories for which discharge limits in categorical Pretreatment Standards will 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 (d)(1) of this section are Discharged by each subcategory.

(4) *Calculation of revised discharge limits.* Proposed revised discharge limits for each of the subcategories of Industrial Users identified in paragraph (d)(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

r = POTW's Consistent Removal rate for that pollutant as established under para... (a)(2), (d)(2) and, if appropriate, (b)(3)(ii)(A) of this section. (percentage expressed as a decimal)

Y = revised discharged limit for the specified pollutant (expressed in same units as x)

(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 categorical Pretreatment Standards which Discharge that pollutant to the POTW.

(5) *Data on sludge characteristics.* Data showing the concentrations and amounts in the POTW's sludge of the pollutants for which discharge limit revisions are proposed and for which EPA, the State or locality have published sludge disposal or use criteria applicable to the POTW's current method of sludge use or disposal. These data shall meet the following requirements.

(i) The data shall be obtained through a composite sample taken during the same sampling periods selected to measure Consistent POTW Removals in accordance with the requirements of paragraph (d)(2) 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 (d)(5)(i) of this section shall be performed in accordance with the sampling and analytical techniques described previously in paragraph (d)(2)(v) of this section.

(6) *Description of sludge management.* 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 continue to comply with the requirements of paragraph (b)(4) of this section.

(7) *Certification statement.* The certification statement required by paragraph (b)(2)(ii) of this section stating that the pollutant Removals and associated revised discharged 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.

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

(2) POTW's which 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. In addition, where sludge disposal or treatment technology is or will be acquired or constructed with construction grant funds, POTWs should refer to § 35.917(d)(6) and Appendix A of Part 35 of Title 40 of the Code of Federal Regulations to determine the funding eligibility of sludge disposal or treatment facilities.

(3) The Approval Authority shall, at such time as it elects to review the Submission under paragraph (c) of this section, or at the time of POTW pretreatment program approval or NPDES permit reissuance thereafter, authorize the POTW to revise Industrial User discharge limits, as submitted pursuant to paragraph (d)(4) of this section, which comply with the provisions of this section.

(4) Nothing in these regulations precludes an Industrial User or other interested party from assisting the POTW in preparing and presenting the information necessary to apply for authorization to revise categorical Pretreatment Standards.

(f) *Continuation and withdrawal of authorization.* (1) *Monitoring and reporting of consistent removal.* Following authorization to revise the discharge limits in 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 (i) and (j) pertaining to pollutant removal capability reports.

(2) *Re-evaluation of revisions.* Approval of authority to revise Pretreatment Standards will be re-examined whenever the POTW's NPDES Permit is reissued, unless the Regional Administrator determines the need to re-evaluate the authority pursuant to paragraph (f)(5) of this section. In order

to maintain a removal allowance, the POTW must comply with all federal, State and local Statutes, regulations and permits applicable to the POTW's selected method of sludge use or disposal. *In addition, where Overflows* 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 on POTW Overflows.

(3) *Inclusion in POTW permit.* 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.

(4) *EPA review of state removal allowance approvals.* Where the NPDES State has an approved pretreatment program, the Regional Administrator may agree, in the Memorandum of Agreement under 40 CFR 123.7, to waive the right to review and object to Submissions for authority to revise discharge limits under this section. Such an agreement shall not restrict the Regional Administrator's right to comment upon or object to permits issued to POTW's except to the extent permitted under 40 CFR 123.7(b)(3)(i)(D).

(5) *Modification or withdrawal of revised limits.*—(i) *Notice to POTW.* The Approval Authority shall notify the POTW if, on the basis of pollutant removal capability reports received pursuant to paragraph (f)(1) of this section or other information available to it, the Approval Authority determines:

(A) that one or more of the discharge limit revisions made by the POTW, or the POTW itself, no longer meets the requirements of this section, or

(B) that such discharge limit revisions are causing or significantly contributing to a violation of any conditions or limits contained in the POTW's NPDES Permit. A revised discharge limit is significantly contributing to a violation of the POTW's permit if it satisfies the definition set forth in § 40.33 (l) or (n).

(ii) *Corrective action.* If appropriate corrective action is not taken within a reasonable time, not to exceed 60 days unless the POTW or the affected Industrial Users demonstrate that a longer time period is reasonably necessary to undertake the appropriate corrective action, the Approval Authority shall either withdraw such discharge limits or require modifications in the revised discharge limits.

(iii) *Public notice of withdrawal or modification.* The Approval Authority shall not withdraw or modify revised discharge limits unless it shall first have notified the POTW and all Industrial Users to whom revised discharge limits have been applied, and made public, in writing, the reasons for such withdrawal or modification, and an opportunity is provided for a hearing. Following such notice and withdrawal or modification, all Industrial Users to whom revised discharge limits had been applied, shall be subject to the modified discharge limits or the discharge limits prescribed in the applicable categorical Pretreatment Standards, as appropriate, and shall achieve compliance with such limits within a reasonable time (not to exceed the period of time prescribed in the applicable categorical Pretreatment Standard(s) as may be specified by the Approval Authority.

(g) *Removal allowances in State-run pretreatment programs under § 403.10(e).* Where an NPDES State with an approved pretreatment program elects to implement a local pretreatment program in lieu of requiring the POTW to develop such a program (see § 403.10(e)) the POTW shall nevertheless be responsible for demonstrating Consistent Removal as provided for in this section. The POTW will not, however, be required to develop a pretreatment program as a precondition to obtaining approval of the allowance as required by paragraph (b)(2) of this section. Instead, before a removal allowance is approved, the State will be required to demonstrate that sufficient technical personnel and resources are available to ensure that modified discharge limits are correctly applied to affected Users and that Consistent Removal is maintained.

§ 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 or Interfere with the operation of the POTW or are otherwise subject to Pretreatment Standards will be required to establish a POTW Pretreatment Program unless the NPDES State exercises its option to assume local responsibilities as provided for in § 403.10(e). The Regional Administrator or Director may require that a POTW with a design flow of 5 mgd or less develop a POTW Pretreatment Program if he or she 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. In addition, any POTW desiring to modify categorical Pretreatment Standards for pollutants Removed by the POTW (as provided for by § 403.7) must have an approved POTW Pretreatment Program prior to obtaining final approval of a removal allowance. *POTW's may receive* conditional approval of a removal allowance, as provided for by § 403.7(b)(2), prior to obtaining POTW Pretreatment Program Approval. A POTW may receive § 403.7(g) authority to revise Pretreatment Standards without being required to develop a POTW Pretreatment Program where the NPDES State has assumed responsibility for running a local program in lieu of the POTW in accordance with § 403.10(e).

(b) *Deadline for Program Approval.* 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 125, Subpart C (44 FR 34783 (1979). 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) *Incorporation of approved programs in permits.* A POTW may develop an approvable POTW Pretreatment Program any time 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 § 403.10; 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 reissued or modified by the NPDES State or EPA, respectively, to incorporate the approved Program conditions as enforceable conditions of the Permit. 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) *Incorporation of compliance schedules in permits.* 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 approval 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) *Cause for Reissuance or Modification of Permits.* 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 in order to:

(1) put the POTW on a compliance schedule for the development of a POTW Pretreatment Program where 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;

(2) coordinate the issuance of a section 201 construction grant with the incorporation into a permit of a compliance schedule for POTW Pretreatment Program;

(3) incorporate a modification of the permit approved under sections 301(h) or 301(i) of the Act;

(4) incorporate an approved POTW Pretreatment Program in the POTW permit; or

(5) incorporate a compliance schedule for the development of a POTW pretreatment program in the POTW permit.

(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)(8) 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 where such contributions do not meet applicable Pretreatment Standards and Requirements or where such contributions would cause the POTW to violate its NPDES permit;

(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 Requirements 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 a Discharge 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 injuctive 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 paragraph (f)(1)(vi)(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 (after informal notice to the discharger) immediately and effectively to halt or prevent any Discharge of pollutants to the POTW which reasonably appears to present an imminent endangerment to the health or welfare of persons. The POTW shall also have authority and procedures (which shall include notice to the affected Industrial Users and an opportunity to respond) to halt or prevent any Discharge to the POTW which presents or may present an endangerment to the environment or which threatens to interfere 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. The procedures for notice to dischargers where the POTW is seeking *ex parte* temporary judicial injunctive relief will be governed by applicable state or federal law and not by this provision; and

(vii) Comply with the confidentiality requirements set forth in § 403.14.

(2) *Procedures.* The POTW shall develop and implement 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 Subtitles C and D of the Resource Conservation and Recovery 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; and

(vii) Comply with the public participation requirements of 40 CFR Part 25 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, during the previous 12 months, were significantly violating applicable Pretreatment Standards or other Pretreatment Requirements. For the purposes of this provision, a significant violation is a violation which remains uncorrected 45 days after notification of noncompliance; which is part of a pattern of noncompliance over a twelve month period; which involves a failure to accurately report noncompliance; or which resulted in the POTW exercising its emergency authority under § 403.8(f)(1)(iv)(B).

(3) *Funding.* The POTW shall have sufficient resources and qualified personnel to carry out the authorities and procedures described in paragraphs (f) (1) and (2) of this section. 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 this section, 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) *Who Approves Program.* A POTW requesting approval of a POTW Pretreatment Program shall develop a program description which includes the information set forth in paragraphs (b)(1)–(4) of this section. This description shall be submitted to the Approval Authority which will make a determination on the request for program approval in accordance with the procedures described in § 403.11.

(b) *Contents of POTW program submission.* 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 programs 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, agreements, 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; and

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

(c) *Conditional POTW program approval.* 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 (b) of this section except that the requirements of paragraph (b) may be relaxed if the Submission demonstrates that:

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

(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 modified or withdrawn.

(d) *Content of removal allowance submission.* The request for authority to revise categorical Pretreatment Standards must contain the information required in § 403.7(d).

(e) *Approval authority action.* Any POTW requesting POTW Pretreatment Program approval shall submit to the Approval Authority three copies of the Submission described in paragraph (b), and, if appropriate, (d) of this section. Upon a preliminary determination that the Submission meets the requirements of paragraph (b) and, if appropriate, (d), 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) *Notification where submission is defective.* 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 (h) or (c), and, if appropriate, (d), of this section, the Approval Authority shall provide notice in writing to the applying POTW and each person who has requested individual notice. This notification shall identify any defects in the Submission and advise the POTW and each person who has requested individual notice of the means by which the POTW can comply with the applicable requirements of paragraphs (b), (c), and, if appropriate, (d) of this section.

(g) *Consistency with water quality management plans.* (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) *Approval of State Programs.* 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. Notwithstanding any other provision of this regulation, a State will be required to act upon those authorities which it currently possesses before the approval of a State Pretreatment Program.

(b) *Deadline for requesting approval.* 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) by March 27, 1979 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) *Failure to request approval.* The EPA shall exercise the authorities available to it 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 (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) *Modification clause in POTW permits prior to submission deadline.* (1) Before the submission deadline for State Pretreatment Program approval set forth in paragraph (b) of this section, 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 submission deadline for State Pretreatment Program approval set forth in (b) of this section 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.

(2) All Permits subject to the requirements of paragraph (d)(1) of this section 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 Submission deadline for State Pretreatment Program approval (set forth in paragraph (b) of this section) 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) *State Program in Lieu of POTW Program.* Notwithstanding the provision of § 403.8(a), a State with an approved Pretreatment Program may assume responsibility for implementing the POTW Pretreatment Program requirements set forth in § 403.8(f) in lieu of requiring the POTW to develop a Pretreatment Program. However, this does not preclude POTW's from independently developing Pretreatment Programs.

(f) *State Pretreatment Program requirements.* 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 Attorney General's Statement submitted in accordance with subparagraph (g)(1)(i) shall certify that the Director has authority under State law to operate and enforce the State Pretreatment Program to the extent required by this Part and by 40 CFR § 123.9. At a minimum, the Director shall have the authority 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);

(v) Approve and deny requests for approval of POTW Pretreatment Programs 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; and

(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 POTW's 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 POTW's in developing Pretreatment Programs;

(iii) Develop compliance schedules for inclusion in POTW Permits which set forth the shortest reasonable time schedule for the completion of tasks needed to implement a POTW Pretreatment Program. The final compliance date in these schedules shall be no later than July 1, 1983;

(iv) Sample and analyze:

(A) Influent and effluent of the 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 requirements applicable to the selected method of sludge management;

(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; and

(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 paragraphs (f)(1) and (2) of this section.

(g) *Content of State Pretreatment Program Submission.* The request for State Pretreatment Program approval will consist of:

(1) (i) 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 implement the requirements of this Part. The authorities cited by the Attorney General in this statement shall be in the form of lawfully adopted State statutes or regulations which shall be effective by the time of approval of the State Pretreatment Program; and

(ii) Copies of all State statutes and regulations cited in the above statement;

(iii) Notwithstanding paragraphs (g)(1)(i) and (ii) of this section, if the State has the statutory authority to implement the requirements of this Part, and if the State at the time of submission of this request has an approved NPDES Program, then regulations setting forth the requirements of this section need not be promulgated by the State if the Administrator finds that the State has submitted a complete description of procedures to administer its program in conformance with the requirements of this section. States without an approved NPDES program will be required to comply with the requirements of paragraphs (g)(1)(i) and (ii) of this section.

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

(3) Any modifications or additions to the Memorandum of Agreement (required by 40 CFR 123.6) which may be necessary for EPA and the State to implement the requirements of this Part.

(h) *EPA Action.* Any approved NPDES State requesting State Pretreatment Program approval shall submit to the Regional 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 Regional Administrator shall:

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

(2) Commence the program revision process set out in 40 CFR § 123.13. For purposes of that section all requests for approval of State Pretreatment Programs shall be deemed substantial program modifications. A comment period of at least 30 days and the opportunity for a hearing shall be afforded the public on all such proposed program revisions.

(i) *Notification where submission is defective.* If, after review of the Submission as provided for in paragraph (h) of this section, EPA determines that the Submission does not comply with the requirements of paragraphs (f) or (g) of this section EPA 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 this Part.

§ 403.11 Approval Procedures for POTW Pretreatment Programs and POTW Revision of Categorical Pretreatment Standards.

The following procedures shall be adopted in approving or denying *requests for approval of* POTW Pretreatment Programs and revising Categorical Pretreatment Standards, including requests for authorization to grant conditional revised discharge limitations and provisional limitations:

(a) *Deadline for review of submission.* The Approval Authority shall have 90 days from the date of public notice of any Submission complying with the requirements of § 403.9(b) and, where removal allowance approval is sought, with §§ 403.7(d) and 403.9(d), to review the Submission. The Approval Authority shall review the Submission to *determine compliance with the* requirements of § 403.8(b) and (f), and, where removal allowance approval is sought, with § 403.7(a)–(e) and (g). 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 30 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 public notice of a Submission meeting the requirements of § 403.9(b) and, in the case of removal allowance application, §§ 403.7(d) and 403.9(d).

(b) *Public notice and opportunity for hearing.* Upon receipt of a Submission

the Approval Authority shall commence its review. Within 5 days after making a determination that a Submission meets the requirements of § 403.9(b), and, where removal allowance approval is sought, §§ 403.7(d) and 403.9(d), or at such later time under § 403.7(c) that the Approval Authority elects to review the removal allowance Submission, the Approval Authority shall:

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

(i) This public notice 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 designated 208 planning agencies, Federal and State fish, shellfish, and wildlife resource agencies; and to any other person or group who has requested individual notice, including those on appropriate mailing lists; and

(B) Publication of a notice of request for approval of the Submission in the largest daily newspaper within the jurisdiction(s) served by the POTW.

(ii) The public notice shall provide a period of not less than 30 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 30 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; and

(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 30 day (or extended) comment period described in paragraph (b)(1)(ii) of this section 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 the 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 under paragraph (b)(1)(i)(B) of this section. In addition, notice of the hearing shall be sent to those persons requesting individual notice.

(3) Whenever the approval authority elects to defer review of a submission which authorizes the POTW to grant conditional revised discharge limits under § 403.7(b)(2) and 403.7(c), the Approval Authority shall publish public notice of its election in accordance with paragraph (b)(1) of this section.

(c) *Approval authority decision.* At the end of the 30 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. Where the Approval Authority makes a determination to deny the request, the Approval Authority shall so notify the POTW and each person who has requested individual notice. This notification shall include suggested modifications and the Approval Authority may allow the requestor additional time to bring the Submission into compliance with applicable requirements.

(d) *EPA objection to Director's decision.* No POTW pretreatment program or authorization to grant removal allowances shall be approved by the Director if following the 30 day (or extended) evaluation period provided for in paragraph (b)(1)(ii) of this section and any hearing held pursuant to paragraph (b)(2) of this section the Regional Administrator sets forth in writing objections to the approval of such Submission and the reasons for such objections. A copy of the Regional Administrator's objections shall be provided to the applicant, and each person who has requested individual notice. The Regional Administrator shall provide an opportunity for written comments and may convene a public hearing on his or her objections. Unless retracted, the Regional Administrator's objections shall constitute a final ruling to deny approval of a POTW pretreatment program or authorization to grant removal allowances 90 days after the date the objections are issued.

(e) *Notice of decision.* 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 or disapproval 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.

(f) *Public access to submission.* 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 for its pretreatment program (§ 403.3(t)(1)) has been approved in accordance with the requirements of § 403.11; or (2) the Approval Authority if the Submission has not been approved.

(b) *Reporting requirement for industrial users upon effective date of categorical pretreatment standard—baseline report.* Within 180 days after the effective date of a categorical Pretreatment Standard, or 180 days after the final administrative decision made upon a category determination submission under § 403.6(a)(4), whichever is later, existing Industrial Users subject to such categorical Pretreatment Standards and currently discharging to or scheduled to discharge to a POTW shall be required to submit to the Control Authority a report which contains the information listed in paragraph (b)(1)–(7) of this section. 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 paragraphs (b)(1)–(5) of this section:

(1) *Identifying information.* The User shall submit the name and address of the facility including the name of the operator and owners;

(2) *Permits.* The User shall submit a list of any environmental control permits held by or for the facility;

(3) *Description of operations.* The User shall submit a brief description of the nature, average rate of production,

and Standard Industrial Classification of the operation(s) carried out by such Industrial User. This description should include a schematic process diagram which indicates points of Discharge to the POTW from the regulated processes.

(4) *Flow measurement.* The User shall submit information showing the measured average daily and maximum daily flow, in gallons per day, to the POTW from each of the following:

(i) regulated process streams; and

(ii) other streams as necessary to allow use of the combined wastestream formula of § 403.6(e). (See paragraph (b)(5)(v) of this section.)

The Control Authority may allow for verifiable estimates of these flows where justified by cost or feasibility considerations.

(5) *Measurement of Pollutants.* (i) The user shall identify the Pretreatment Standards applicable to each regulated process;

(ii) In addition, the User shall submit the results of sampling and analysis identifying the nature and concentration (or mass, where required by the Standard or Control Authority) of regulated pollutants in the Discharge from each regulated process. Both daily maximum and average concentration (or mass, where required) shall be reported. The sample shall be representative of daily operations;

(iii) Where feasible, samples must be obtained through the flow-proportional composite sampling techniques specified in the applicable categorical Pretreatment Standard. Where composite sampling is not feasible, a grab sample is acceptable;

(iv) Where the flow of the stream being sampled is less than or equal to 950,000 liters/day (approximately 250,000 gpd), the User must take three samples within a two-week period. Where the flow of the stream being sampled is greater than 950,000 liters day (approximately 250,000 gpd), the User must take six samples within a two-week period;

(v) Samples should be taken immediately downstream from pretreatment facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with the regulated wastewater prior to pretreatment the User should measure the flows and concentrations necessary to allow use of the combined wastestream formula of § 403.6(e) in order to evaluate compliance with the Pretreatment Standards. Where an alternate concentration or mass limit has been calculated in accordance with § 403.6(e) this adjusted limit along with supporting data shall be submitted to the Control Authority;

(vi) Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto. Where 40 CFR Part 136 does not contain sampling or analytical techniques for the pollutant in question, or where the Administrator determines that the Part 136 sampling and analytical techniques are inappropriate for the pollutant in question, sampling and analysis shall be performed by using validated analytical methods or any other applicable sampling and analytical procedures, including procedures suggested by the POTW or other parties, approved by the Administrator;

(vii) The Control Authority may allow the submission of a baseline report which utilizes only historical data so long as the data provides information sufficient to determine the need for industrial pretreatment measures;

(viii) The baseline report shall indicate the time, date and place, of sampling, and methods of analysis, and shall certify that such sampling and analysis is representative of normal work cycles and expected pollutant Discharges to the POTW;

(6) *Certification.* 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) *Compliance Schedule.* 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 and/or O and M. The completion date in this schedule shall not be later than the compliance date established for the applicable Pretreatment Standard.

(i) Where the Industrial User's categorical Pretreatment Standard has been modified by a removal allowance (§ 403.7), the combined wastestream formula (§ 403.6(e)), and/or a Fundamentally Different Factors variance (§ 403.13) at the time the User submits the report required by paragraph (b) of this section, the information required by paragraphs (b)(6) and (7) of this section shall pertain to the modified limits.

(ii) If the categorical Pretreatment Standard is modified by a removal allowance (§ 403.7), the combined wastestream formula (§ 403.6(e)), and/or a Fundamentally Different Factors variance (§ 403.13) after the User submits the report required by paragraph (b) of this section, any necessary amendments to the information requested by paragraphs (b)(6) and (7) of this section shall be submitted by the User to the Control Authority within 60 days after the modified limit is approved.

(c) *Compliance Schedule for Meeting Categorical Pretreatment Standards.* 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 categorical 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, at 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) *Report on compliance with categorical pretreatment standard deadline.* Within 90 days following the date for final compliance with applicable categorical 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 and 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) *Periodic reports on continued compliance.* (1) Any Industrial User subject to a categorical 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 categorical Pretreatment Standards. In addition, this report shall include a record of measured or estimated average and maximum daily flows for the reporting period for the Discharge reported in paragraph (b)(4) of this section except that the Control Authority may require more detailed reporting of flows. 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) Where the Control Authority has imposed mass limitations on Industrial Users as provided for by § 403.6(d), the report required by paragraph (e)(1) of this section shall indicate the mass of pollutants regulated by Pretreatment Standards in the Discharge from the Industrial User.

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

(g) *Monitoring and analysis to demonstrate continued compliance.* 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 analyses 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. Where 40 CFR Part 136 does not include sampling or analytical techniques for the pollutants in question, or where the Administrator determines that the Part 136 sampling and analytical techniques are inappropriate for the pollutant in question, sampling and analyses shall be performed using validated analytical methods or any other sampling and analytical procedures, including procedures suggested by the POTW or other parties, approved by the Administrator.

(h) *Compliance schedule 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 (h)(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) *Initial POTW report on compliance with approved removal allowance.* 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 effective date of a Pretreatment Standard for which authorization to modify has been approved, a report which contains the information required by §§ 403.7(d)(2), 403.7(d)(5) and 403.7(d)(6). A minimum of one sample per month during the reporting period is required.

(j) *Periodic reports by POTW to demonstrate continued compliance with removal allowance.* 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) *Signatory requirements for industrial user reports.* 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) *Signatory requirements for POTW reports.* 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) *Provisions governing fraud and false statements.* 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) *Record-keeping requirements.*

(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 or 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 Director or the Regional Administrator.

§ 403.13 Variances from categorical pretreatment standards for fundamentally different factors.

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

(b) *Purpose and scope.* 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. This will only be done if data specific to that Industrial User indicates it presents factors fundamentally different from those considered by EPA in developing the limit at issue. 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) *Criteria.*—(1) *General criteria.* A request for a variance based upon fundamentally different factors shall be approved only if:

(i) There is an applicable categorical Pretreatment Standard which specifically controls the pollutant for which alternative limits have been requested; and

(ii) Factors relating to the discharge controlled by the categorical Pretreatment Standard are fundamentally different from the factors considered by EPA in establishing the Standards; and

(iii) The request for a variance is made in accordance with the procedural requirements in paragraphs (g) and (h) of this section.

(2) *Criteria applicable to less stringent limits.* A variance request for the establishment of limits less stringent than required by the Standard shall be approved only if:

(i) The alternative limit requested is no less stringent than justified by the fundamental difference;

(ii) The alternative limit will not result in a violation of prohibitive discharge standards prescribed by or established under § 403.5;

(iii) The alternative limit will not result in a non-water quality environmental impact (including energy requirements) fundamentally more adverse than the impact considered during development of the Pretreatment Standards; and

(iv) Compliance with the Standards (either by using the technologies upon which the Standards are based or by using other control alternatives) would result in either:

(A) A removal cost (adjusted for inflation) wholly out of proportion to the removal cost considered during development of the Standards; or

(B) A non-water quality environmental impact (including energy requirements) fundamentally more adverse than the impact considered during development of the Standards.

(3) *Criteria applicable to more stringent limits.* A variance request for the establishment of limits more stringent than required by the Standards shall be approved only if:

(i) The alternative limit request is no more stringent than justified by the fundamental difference; and

(ii) Compliance with the alternative limit would not result in either:

(A) A removal cost (adjusted for inflation) wholly out of proportion to the removal cost considered during development of the Standards; or

(B) A non-water quality environmental impact (including energy requirements) fundamentally more adverse than the impact considered during development of the Standards.

(d) *Factors considered fundamentally different.* Factors which may be considered fundamentally different are:

(1) The nature or quality of pollutants contained in the raw waste load of the User's process wastewater;

(2) The volume of the User's process wastewater and effluent discharged;

(3) Non-water quality environmental impact of control and treatment of the User's raw waste load;

(4) Energy requirements of the application of control and treatment technology;

(5) Age, size, land availability, and configuration as they relate to the User's equipment or facilities; processes employed; process changes; and engineering aspects of the application of control technology;

(6) Cost of compliance with required control technology.

(e) *Factors which will not be considered fundamentally different.* A variance request or portion of such a request under this section may not be granted on any of the following grounds:

(1) The feasibility of installing the required waste treatment equipment within the time the Act allows;

(2) The assertion that the Standards cannot be achieved with the appropriate waste treatment facilities installed, if such assertion is not based on factors listed in paragraph (d) of this section;

(3) The User's ability to pay for the required waste treatment; or

(4) The impact of a Discharge on the quality of the POTW's receiving waters.

(f) *State or local law.* Nothing in this section shall be construed to impair the right of any state or locality under section 510 of the Act to impose more stringent limitations than required by Federal law.

(g) *Application deadline.*

(1) Requests for a variance and supporting information must be submitted in writing to the Director or to the Enforcement Division Director, as appropriate.

(2) In order to be considered, request for variances must be submitted within

180 days after the effective date of the categorical Pretreatment Standard unless the User has requested a categorical determination pursuant to § 403.6(a).

(3) Where the User has requested a catergorical determination pursuant to § 403.6(a), the User may elect to await the results of the category determination before submitting a variance request under this section. Where the User so elects, he or she must submit the variance request within 30 days after a final decision has been made on the categorical determination pursuant to § 403.6(a)(4).

(h) *Contents of submission.* Written Submissions for variance request, whether made to the Enforcement Division Director or to the Director must include:

(1) The name and address of the person making the request;

(2) Identification of the interest of the Requester which is affected by the categorical Pretreatment Standard for which the variance is requested;

(3) Identification of the POTW currently receiving the waste from the Industrial User for which alternative discharge limits are requested;

(4) Identification of the categorical Pretreatment Standards which are applicable to the Industrial User;

(5) A list of each pollutant or pollutant parameter for which an alternative discharge limit is sought;

(6) The alternative discharge limits proposed by the Requester for each pollutant or pollutant parameter identified in item (5) of this paragraph;

(7) A description of the Industrial User's existing water pollution control facilities;

(8) A schematic flow representation of the Industrial User's water system including water supply, process wastewater systems, and points of Discharge; and

(9) 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.

(i) *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 up to 30 days to correct the deficiency. If the deficiency is not corrected within the time period allowed by the Enforcement Division Director or the Director, the request for a variance shall be denied.

(j) *Public notice.* Upon receipt of a complete request, the Director or Enforcement Division Director will provide notice of receipt, opportunity to review the submission, and opportunity to comment.

(1) The public notice shall be circulated in a manner designed to inform interested and potentially interested persons of the request. Procedures for the circulation of public notice shall include mailing notices to:

(i) The POTW into which the Industrial User requesting the variance discharges;

(ii) Adjoining States whose waters may be affected; and

(iii) Designated 208 planning agencies, Federal and State fish, shellfish and wildlife resource agencies; and to any other person or group who has requested individual notice, including those on appropriate mailing lists.

(2) The public notice shall provide for a period not less than 30 days following the date of the public notice during which time interested persons may review the request and submit their written views on the request.

(3) Following the comment period, the Director or Enforcement Division Director will make a determination on the request taking into consideration any comments received. Notice of this final decision shall be provided to the requestor (and the Industrial User for which the variance is requested if different), the POTW into which the Industrial User discharges and all persons who submitted comments on the request.

(k) *Review of requests by state.* (1) Where 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) and the POTW of the denial.

(2) Where 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.

(l) *Review of requests by EPA.* (1) Where 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 determination to the Director, to the POTW, and to the Requester (and to the Industrial User, where they are not the same).

(2) Where 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;

(ii) Provide the following information in his written determination:

(A) the recommended alternative discharge limits for the Industrial User concerned;

(B) 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;

(C) the supporting evidence submitted to the Enforcement Division Director; and

(D) other information considered by the Enforcement Division Director in developing the recommended alternative discharge limits;

(iii) Notify the Director and the POTW of his or her determination; and

(iv) Send the information described in paragraphs (1)(2) (i) and (ii) above to the Requestor (and to the Industrial User where they are not the same).

(m) *Request for hearing.* (1) Within 30 days following the date of receipt of notice of the Enforcement Division Director's decision on a variance request, the Requester or any other interested person may submit a petition to the Regional Administrator for a hearing to reconsider or contest the decision. If such a request is submitted by a person other than the Industrial User the person shall simultaneously serve a copy of the request on the Industrial User.

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

§ 403.14 Confidentiality.

(a) *EPA authorities.* In accordance with 40 CFR Part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such

claim must be asserted at the time of submission in the manner prescribed on the application form or instructions, or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2 (Public Information).

(b) *Effluent data.* Information and data provided to the Control Authority pursuant to this part which is effluent data shall be available to the public without restriction.

(c) *State or POTW.* All other information which is submitted to the State or POTW shall be available to the public at least to the extent provided by 40 CFR § 2.302.

§ 403.15 Net/Gross calculation.

Categorical Pretreatment Standards may be adjusted to reflect the presence of pollutants in the Industrial Users' intake water in accordance with the provisions of paragraph (a)–(d) below:

(a) *Application deadline and contents.* Any Industrial User wishing to obtain a credit for intake pollutants must make application therefore within 60 days after the effective date of the applicable categorical Pretreatment Standard. Application shall be made to the appropriate Enforcement Division Director. Upon request of the Industrial User, the applicable Standard will be calculated on a "net" basis, i.e., adjusted to reflect credit for pollutants in the intake water, if the User demonstrates that:

(1) Its intake water is drawn from the same body of water into which the discharge from its publicly owned treatment works is made;

(2) The pollutants present in the intake water will not be entirely removed by the treatment system operated by the User;

(3) The pollutants in the intake water do not vary chemically or biologically from the pollutants limited by the applicable Standards; and

(4) The User does not significantly increase concentrations of pollutants in the intake water, even if the total amount of pollutants remains the same.

(b) *Criteria.* Standards adjusted under this paragraph shall be calculated on the basis of the amount of pollutants present after any treatment steps have been performed on the intake water by or for the Industrial User. Adjustments under this section shall be given only to the extent that pollutants in the intake water which are limited by the Standard are not removed by the treatment technology employed by the User.

(c) *Notice.* The User shall notify the Regional Enforcement Officer if there are any significant changes in the quantity of the pollutants in the intake water or in the level of treatment provided.

(d) *EPA decision.* The Enforcement Division Director shall require the User to conduct additional monitoring (i.e., for flow and concentration of pollutants) as necessary to determine continued eligibility for and compliance with any adjustments. The Enforcement Division Director shall consider all timely applications for credits for intake pollutants plus any additional evidence that may have been submitted in response to the EPA's request. The Enforcement Division Director shall then make a written determination of the applicable credit(s), if any, state the reasons for its determination, state what additional monitoring is necessary, and send a copy of said determination to the applicant and the applicant's POTW. The decision of the Enforcement Division Director shall be final.

§ 403.16 Upset provision.

(a) *Definition.* For the purposes of this section, "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with categorical Pretreatment Standards because of factors beyond the reasonable control of the Industrial User. An Upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(b) *Effect of an upset.* An Upset shall constitute an affirmative defense to an action brought for noncompliance with categorical Pretreatment Standards if the requirements of paragraph (c) are met.

(c) *Conditions necessary for a demonstration of upset.* An Industrial User who wishes to establish the affirmative defense of Upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An Upset occurred and the Industrial User can identify the specific cause(s) of the Upset;

(2) The facility was at the time being operated in a prudent and workman-like manner and in compliance with applicable operation and maintenance procedures;

(3) The Industrial User has submitted the following information to the POTW and Control Authority within 24 hours of becoming aware of the Upset (if this information is provided orally, a written submission must be provided within five days):

(i) A description of the Indirect Discharge and cause of noncompliance;

(ii) The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue;

(iii) Steps being taken and/or planned to reduce, eliminate and prevent recurrence of the noncompliance.

(d) *Burden of proof.* In any enforcement proceeding the Industrial User seeking to establish the occurrence of an Upset shall have the burden of proof.

(e) *Reviewability of agency consideration of claims of upset.* In the usual exercise of prosecutorial discretion, Agency enforcement personnel should review any claims that non-compliance was caused by an Upset. No determinations made in the course of the review constitute final Agency action subject to judicial review. Industrial Users will have the opportunity for a judicial determination on any claim of Upset only in an enforcement action brought for noncompliance with categorical Pretreatment Standards.

(f) *User responsibility in case of upset.* The Industrial User shall control production or all Discharges to the extent necessary to maintain compliance with categorical Pretreatment Standards upon reduction, loss, or failure of its treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost or fails.

Appendix A.—United States Environmental Protection Agency

December 16, 1975.

Program Guidance Memorandum—61

Subject: Grants for Treatment and Control of Combined Sewer Overflows and Stormwater Discharges.

From: John T. Rhett, Deputy Assistant Administrator for Water Program Operations (WH-546).

To: Regional Administrators, Regions I–X.

This memorandum summarizes the Agency's policy on the use of construction grants for treatment and control of combined sewer overflows and stormwater discharges during wet weather conditions. The purpose is to assure that projects are funded only when careful planning has demonstrated they are cost-effective.

I. Combined Sewer Overflows

A. Background

The costs and benefits of control of various portions of pollution due to combined sewer overflows and by-passes vary greatly with the characteristics of the sewer and treatment system, the duration, intensity, frequency and areal extent of precipitation, the type and extent of development in the service area, and the characteristics, uses and water quality standards of the receiving waters. Decisions on grants for control of combined sewer overflows, therefore, must be made on a case-by-case basis after detailed planning at the local level.

Where detailed planning has been completed, treatment or control of pollution from wet-weather overflows and bypasses may be given priority for construction grant funds only after provision has been made for secondary treatment of dry-weather flows in the area. The detailed planning requirements and criteria for project approval follow.

B. Planning Requirements

Construction grants may be approved for control of pollution from combined sewer overflows only if planning for the project was thoroughly analyzed for the 20 year planning period:

1. Alternative control techniques which might be utilized to attain various levels of pollution control (related to alternative beneficial uses, if appropriate), including at least mutual consideration of all the alternatives described in the section on combined sewer and stormwater control in "Alternative Waste Management Techniques and Best Practicable Waste Treatment" (Section C of Chapter III of the information proposed for comment in March 1974).

2. The costs of achieving the various levels of pollution control by each of the techniques appearing to be the most feasible and cost-effective after the preliminary analysis.

3. The benefits to the receiving waters of a range of levels of pollution control during wet-weather conditions. This analysis will normally be conducted as part of State water quality management planning, 208 areawide management planning, or other State, regional or local planning effort.

4. The costs and benefits of addition of advanced waste treatment processes to dry-weather flows in the area.

C. Criteria for Project Approval

The final alternative selected shall meet the following criteria:

1. The analysis required above has demonstrated that the level of pollution control provided will be necessary to protect a beneficial use of the receiving water even after technology based standards required by Section 301 of P.L. 92-500 are achieved by industrial point sources and at least secondary treatment is achieved for dry-weather municipal flows in the area.

2. Provision has already been made for funding of secondary treatment of dry-weather flows in the area.

3. The pollution control technique proposed for combined sewer overflow is a more cost-effective means of protecting the beneficial use of the receiving waters than other combined sewer pollution control techniques and the addition of treatment higher than secondary treatment for dry-weather municipal flows in the area.

4. The marginal costs are not substantial compared to marginal benefits.

Marginal costs and benefits for each alternative may be displayed graphically to assist with determining a project's acceptability under this criterion. Dollar costs should be compared with quantified pollution reduction and water quality improvements. A descriptive narrative should also be included analyzing monetary, social and environmental costs compared to benefits, particularly the significance of the beneficial uses to be protected by the project.

II. Stormwater Discharges

Approaches for reducing pollution from separate stormwater discharges are now in the early stages of development and evaluation. We anticipate, however, that in many cases the benefits obtained by construction of treatment works for this purpose will be small compared with the costs, and other techniques of control and prevention will be more cost-effective. The policy of the Agency is, therefore, that construction grants shall not be used for construction of treatment works to control pollution from separate discharges of stormwater except under unusual conditions where the project clearly has been demonstrated to meet the planning requirements and criteria described above for combined sewer overflows.

III. Multi-purpose Projects

Projects with multiple purposes, such as flood control and recreation in addition to pollution control, may be eligible for an amount not to exceed the cost of the most cost-effective single purpose pollution abatement system. Normally the Separable Costs-Remaining Benefits (SCRB) method should be used to allocate costs between pollution control and other purposes, although in unusual cases another method may be appropriate. For such cost allocation, the cost of the least cost pollution abatement alternative may be used as a substitute measure of the benefits for that purpose. The method is described in "Proposed Practices for Economic Analysis of River Basin Projects," GPO, Washington, D.C., 1958, and "Efficiency in Government through Systems Analysis," by Roland N. McKean, John Wiley & Sons, Inc., 1958.

Enlargement of or otherwise adding to combined sewer conveyance systems is one means of reducing or eliminating flooding caused by wet-weather conditions. These additions may be designed so as to produce some benefits in terms of reduced discharge of pollutants to surrounding waterways. The pollution control benefits of such flood control measures, however, are likely to be small compared with the costs, and the measures therefore would normally be ineligible for funding under the construction grants program.

All multi-purpose projects where less than 100% of the costs are eligible for construction grants under this policy shall contain a special grant condition precluding EPA funding of non-pollution control elements. This condition should, as a minimum, contain a provision similar to the following: "The grantee explicitly acknowledges and agrees that costs are allowable only to the extent they are incurred for the water pollution control elements of this project."

Additional special conditions should be included as appropriate to assure that the grantee clearly understands which elements of the project are eligible for construction grants under Public Law 92-500.

Appendix B—65 Toxic Pollutants

Acenaphthene
Acrolein
Acrylonitrile
Aldrin/Dieldrin
Antimony and compounds[1]
Arsenic and compounds
Asbestos
Benzene
Benzidine
Beryllium and compounds
Cadmium and compounds
Carbon tetrachloride
Chlordane (technical mixture and metabolites)
Chlorinated benzenes (other than dichlorobenzenes)
Chlorinated ethanes (including 1,2-dichloroethane, 1,1,1-trichloroethane, and hexachloroethane)
Chloralkyl 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
Fluoranthene
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 chloromethyl-chloride, methylbromide, bromoform, dichlorobromomethane, trichlorofluoromethane, dichlorodifluoromethane)
Heptachlor and metabolites
Hexachlorobutadiene

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

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 benzanthracenes, benzopyrenes, benzofluoranthene, 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—34 Industrial Categories

Adhesives and Sealants
Aluminum Forming
Auto and Other Laundries
Battery Manufacturing
Coal Mining
Coil Coating
Copper Forming
Electrical and Electronic Components
Electroplating
Explosives Manufacturing
Foundries
Gum and Wood Chemicals
Inorganic Chemicals Manufacturing
Iron and Steel Manufacturing
Leather Tanning and Finishing
Mechanical Products Manufacturing
Nonferrous Metals Manufacturing
Ore Mining
Organic Chemicals Manufacturing
Paint and Ink Formulation
Pesticides
Petroleum Refining
Pharmaceutical Preparations
Photographic Equipment and Supplies
Plastics Processing
Plastic and Synthetic Materials Manufacturing
Porcelain Enameling
Printing and Publishing
Pulp and Paper Mills
Rubber Processing
Soap and Detergent Manufacturing
Steam Electric Power Plants
Textile Mills
Timber Products Processing

Appendix D—Selected Industrial Subcategories Exempted From Regulation Pursuant of Paragraph 8 of the NRDC v. Costle Consent Decree

The following industrial subcategories have been excluded from further rulemaking pursuant to paragraph 8 of the *Natural Resources Defense Council* v. *Costle* Consent Decree for one or more of the following reasons: (1) the pollutants of concern are not detectable in the effluent from the industrial User (paragraph 8(a)(iii)); (2) the pollutants of concern are present only in trace amounts and are neither causing nor likely to cause toxic effects (paragraph 8(a)(iii)); (3) the pollutants of concern are present in amounts too small to be effectively reduced by technologies known to the Administrator (paragraph 8(a)(iii)); or (4) the wastestream contains only pollutants which are compatible with the POTW (paragraph 8(b)(i)). In some instances, different rationale were given for exclusion under paragraph 8. However, EPA has reviewed these subcategories and has determined that exclusion could have occurred due to one of the four reasons listed above.

This list includes all subcategories that have been excluded for the above-listed reasons as of [date of publication in the **Federal Register**]. This list will be updated periodically for the convenience of the reader.

Auto and Other Laundries Industry

- Carpet Cleaners
- Coin Operated Laundries
- Diaper Services
- Dry Cleaners
- Power Laundries

Battery Manufacturing Industry

- Carbon Zinc Air Cell Batteries
- Lithium Batteries
- Magnesium Carbon Batteries
- Magnesium Cell Batteries
- Miniature Alkaline Batteries
- Nickel Zinc Batteries

Electrical and Electronic Components

- Carbon and Graphite Products
- Fixed Capacitors
- Fluorescent Lamps
- Incandescent Lamps
- Magnetic Coatings
- Mica Paper

Electroplating

- Alkaline Cleaning
- Bright Dipping
- Chemical Machining
- Galvanizing
- Immersion Plating
- Iridite Dipping
- Pickling

Explosives Industry

- Military Explosive Manufacturing

Foundries Industry

- Nickel Casting
- Tin Casting
- Titanium Casting

Gum and Wood Chemicals

- Char and Charcoal Briquets
- Gum Resin, Turpentine and Essential Oils

Iron and Steel Industry

- Basic Oxygen Furnace (Semiwet)
- Beehive Coke Process
- Electric Arc Furnace (Semiwet)

Inorganic Chemicals Manufacturing Industry

- Aluminum Sulfate
- Ammonium Chloride
- Ammonium Hydroxide
- Barium Carbonate
- Borax
- Boric Acid
- Bromine
- Calcium Carbide
- Calcium Carbonate
- Calcium Chloride
- Calcium Hydroxide
- Calcium Oxide
- Carbon Dioxide
- Carbon Monoxide
- Chromic Acid
- Cuprous Oxide
- Ferric Chloride
- Ferrous Sulfate
- Fluorine
- Hydrogen
- Hydrochloric Acid
- Hydrogen Peroxide
- Iodine
- Lead Monoxide
- Lithium Carbonate
- Manganese Sulfate
- Nitric Acid
- Oxygen and Nitrogen
- Potassium Chloride
- Potassium Dichromate
- Potassium Iodide
- Potassium Metal
- Potassium Permanganate
- Potassium Sulfate
- Sodium Bicarbonate
- Sodium Carbonate
- Sodium Chloride
- Sodium Fluoride
- Sodium Hydrosulfide
- Sodium Metal
- Sodium Silicate
- Sodium Sulfite
- Sodium Thiosulfate
- Stannic Oxide
- Sulfur Dioxide
- Sulfuric Acid
- Zinc Oxide
- Zinc Sulfate

Leather Industries

- Gloves
- Luggage
- Shoes and Related Footwear
- Personal Goods

Non Ferrous Metals Industry

- Primary Arsenic
- Primary Antimony
- Secondary Babbitt
- Primary Barium
- Secondary Beryllium
- Primary Bismuth
- Primary Boron
- Secondary Boron
- Bauxite
- Secondary Cadmium
- Primary Calcium
- Primary Cesium
- Primary Chromium
- Primary Cobalt
- Secondary Cobalt
- Secondary Columbium
- Primary Gallium
- Primary Germanium
- Primary Gold
- Secondary Precious Metals
- Primary Hafnium

- Primary and Secondary Indium
- Primary Lithium
- Primary Manganese
- Primary Magnesium
- Secondary Magnesium
- Primary Mercury
- Secondary Mercury
- Primary Molybdenum
- Secondary Molybdenum
- Primary Nickel
- Secondary Nickel
- Secondary Plutonium
- Primary Potassium
- Primary Rare Earths
- Primary Rhenium
- Secondary Rhenium
- Primary Rubidium
- Primary Platinum Group
- Primary Silicon
- Primary Sodium
- Secondary Tantalum
- Primary Tin
- Secondary Tin
- Primary Titanium
- Secondary Titanium
- Secondary Tungsten
- Primary Uranium
- Secondary Uranium
- Secondary Zinc
- Primary Zirconium

Paint and Ink Industry

- Solvent Base Process
- Solvent Wash Process

Paving and Roofing Industry

- Asphalt Concrete
- Asphalt Emulsion
- Linoleum
- Printed Asphalt Felt
- Roofing

Pulp, Paper, Paperboard, and Converted Paper Industry

- Converted Paper Industry

Rubber Processing Industry

- Latex-Dipped, Latex-Extruded, and Latex Molded Goods
- Latex Foam
- Small-sized General Molded, Extruded and Fabricated Rubber Plants
- Medium-sized General Molded, Extruded and Fabricated Rubber Plants
- Large-sized General Molded, Extruded and Fabricated Rubber Plants
- Synthetic Crumb Rubber Production—Emulsion Polymerization
- Synthetic Crumb Rubber Production—Solution Polymerization
- Synthetic Latex Rubber Production
- Tire & Inner Tube Production

Textile Industry

- Apparel Manufacturing
- Cordage and Twine
- Low Water Use Processing (Greige Mills)
- Padding and Upholstery Filling

Timber Products Processing

- Barking Process
- Finishing Processes
- Hardboard—Dry Process
- Log Washing
- Particleboard
- Planing Mills
- Sawmills
- Veneer
- Wet Storage
- Wood Preserving (Inorganics) Process

PART 125—CRITERIA AND STANDARDS FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Subpart D—Criteria and Standards for Determining Fundamentally Different Factors Under Sections 301(b)(1)(A), 301(b)(2) (A) and (E)[AND 307(a)] OF THE ACT

2. 40 CFR Part 125 subpart D is amended by deleting "and 307(b)" from the title of the subpart.

3. 40 CFR § 125.30 is amended to read as follows:

§ 125.30 Purpose and scope.

(a) This subpart establishes the criteria and standards to be used in determining whether effluent limitations alternative to those required by promulgated EPA effluent limitations guidelines under sections 301 and 304 of the Act (hereinafter referred to as "national limits") should be imposed on a discharger because factors relating to the discharger's facilities, equipment, processes or other factors related to the discharger are fundamentally different from the factors considered by EPA in development of the national limits. This subpart applies to all national limits promulgated under sections 301 and 304 of the Act, except for those contained in 40 CFR Part 423 (steam electric generating point source category).

(b) In establishing national limits, EPA takes into account all the information it can collect, develop and solicit regarding the factors listed in sections 304(b) and 304(g) of the Act.

* * * * *

[FR Doc. 81-2121 Filed 1-27-81; 8:45 am]

BILLING CODE 6560-33-M

FINAL AMENDMENTS TO THE GENERAL PRETREATMENT REGULATIONS

The following amendments to the General Pretreatment Regulations reflect the most recent and final status regarding applicability and effective data of the Regulations. Additional Federal Register notices that provided notification of changes, suspensions, postponements, etc. which are no longer valid have not been included.

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 403

[EN-FRL-1629-4]

General Pretreatment Regulations for Existing and New Sources

AGENCY: Environmental Protection Agency.

ACTION: Final Rule.

SUMMARY: On June 26, 1978, the Environmental Protection Agency promulgated the final General Pretreatment Regulations at 43 FR 27736. Amendments to these regulations were proposed on October 29, 1979, at 44 FR 62260. The October 29 proposal included an amendment to § 403.10(g) specifying the information to be included in a request for State pretreatment program approval. This notice amends the requirements for approval of State pretreatment programs to give EPA clear authority to approve State pretreatment programs submitted by National Pollutant Discharge Elimination System ("NPDES") States in the absence of implementing state regulations if certain requirements are met.

DATE: The effective date of 403.10(g)(1)(i)–(iii) is November 18, 1980.

In accordance with 40 CFR 100.01 (45 FR 28048), these regulations shall be issued for purposes of judicial review at 1:00 p.m. eastern time on November 18, 1980.

FOR FURTHER INFORMATION CONTACT: Nancy Hutzel, Environmental Protection Agency, Permits Division (EN-336), 401 M St., S.W., Washington, D.C. 20460, (202) 755-0750.

SUPPLEMENTARY INFORMATION:

Under Section 402(b) of the Clean Water Act ("the Act"), States desiring to administer their own permit programs for discharges into navigable waters may submit such programs to the Administrator for approval. States approved by EPA become part of the National Pollutant Discharge Elimination System ("NPDES"). Section 402(b) of the Act also requires that NPDES States have a program to ensure compliance by publicly owned treatment works ("POTW's") with various requirements now prescribed in the General Pretreatment Regulations (40 CFR Part 403, June 26, 1978). States with approved NPDES programs must seek modifications of their programs, if necessary, to incorporate pretreatment authorities. States which have not yet received NPDES authority must develop the requisite pretreatment program elements before their application to assume NPDES authority can be approved.

This amendment would modify the requirements set forth in Section 403.10(g) of the General Pretreatment Regulations for approval of pretreatment programs submitted by NPDES States. (Elsewhere in today's **Federal Register**, EPA is proposing an amendment to the General Pretreatment Regulations which would allow NPDES States requesting approval of pretreatment programs a grace period in which to revise statutes or regulations as necessary to comply with the final Consolidated Permit Regulations, 40 CFR 122–124, 45 FR at 33290.)

Amendments to the General Pretreatment Regulations (43 FR 27736, June 26, 1978), were proposed on October 29, 1979, at 44 FR 62260. The October 29 proposal included an amendment to § 403.10(g) clarifying the information to be included in a request for State pretreatment program approval. The proposed § 403.10(g) required that all "statutes and regulations" upon which a State relied in attesting to its authority to implement a pretreatment program be in "full force and effect" at the time the program was approved. The quoted phrases appear in similar form in the NPDES program regulations pertaining to State application requirements which have been interpreted to require the submission of complete State implementing regulations before program approval. (40 CFR Part 123). The Agency believes, however, that State regulations pertaining to pretreatment authorities are not a necessary prerequisite to pretreatment program approval for existing NPDES States. Accordingly, we are amending § 403.10(g) to allow existing NPDES States to submit pretreatment programs which may be approved in the absence of State pretreatment regulations if: (1) the State has sufficient statutory authority, and (2) the State has submitted a detailed description of the procedures by which it proposes to implement the program.

There are several reasons for approval of these State pretreatment programs without regulations. First, NPDES States have already demonstrated their ability to carry out a complex NPDES permit program on a statewide level. Thus, specific regulations detailing the manner in which a State must exercise its authorities are not essential to ensure implementation of the program. Moreover, substantial environmental benefit will result from early approval of State pretreatment programs which would otherwise be delayed while State regulations are being promulgated. The application of State resources to the pretreatment program implementation is likely to improve compliance with the program and thereby decrease the introduction of pollutants into POTW's and the navigable waters. Second, many of the authorities that are necessary to carry out the pretreatment program are part of the NPDES program and are encompassed by the State's existing NPDES regulations. Existing authorities encompass the ability to levy civil and criminal penalties, to enter and inspect, and to carry out other requirements of the Clean Water Act. Thus, many of the requirements for a pretreatment program will already be satisfied by the previously approved NPDES program. For those matters that are unique to the pretreatment program, the Agency believes that a statement describing how the State intends to carry out this portion of the program and to promulgate regulations in the future, if necessary, will provide sufficient public notice and assurance of the State's authority and intention to carry out the program.

These factors are also the basis for distinguishing between requirements imposed on NPDES States and non-NPDES States. While NPDES States will be permitted to submit programs without final and complete regulations, non-NPDES States must submit either detailed statutory authority or broad statutory authority with detailed implementing regulations.

The remaining amendments to the General Pretreatment Regulations which were proposed on October 29, 1979, will be promulgated in final form shortly.

Effective Date

These regulations shall take effect o November 18, 1980. In accordance with U.S.C. 553(d)(3), the Administrator finds good cause that the effective date not be postponed until 30 days after publication in the **Federal Register** because several State applications have been pending before EPA which require immediate action. One State advised EPA that if the Agency does not approv the State program immediately, it will have to reallocate the pretreatment program funds to other programs. This would delay the pretreatment program until the next fiscal year. Another State cannot take any action with respect to planning, budgeting, or implementation until EPA approves its program. Other States will have similar problems if program approval is not immediately forthcoming. In addition, the Agency's regulations require that EPA approve o disapprove State programs

expeditiously. 40 CFR Part 123. Thus, EPA must decide rapidly whether to approve or disapprove programs that have been awaiting decision for some time. The public interest will be served by early action on these program submissions. The Administrator also believes that the public has received adequate notice of the changes in these regulations to justify an early effective date.

Executive Order 12044

Under Executive Order 12044 EPA is required to judge whether a regulation is "significant" and therefore subject to the procedural requirements of the Order or whether it may follow other specialized development procedures. EPA labels these regulations "specialized". I have reviewed this regulation and determine that it is a specialized regulation not subject to the procedural requirements of Executive Order 12044.

Dated: October 28, 1980

Douglas M. Costle,

Administrator

Part 403 of Title 40 of the Code of Federal Regulations is amended by revising § 403.10(g)(1) to read as follows:

PART 403—GENERAL PRETREATMENT REGULATIONS FOR EXISTING AND NEW SOURCES

§ 403.10 Development and Submission of NPDES State Pretreatment Programs.

* * * * *

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

(1)(i) 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 implement the requirements of this Part. The authorities cited by the Attorney General in this statement shall be in the form of lawfully adopted State statutes or regulations which shall be effective by the time of approval of the State Pretreatment Program.

(ii) Copies of all State statutes and regulations cited in the above statement.

(iii) Notwithstanding paragraphs (g)(1)(i) and (ii) of this section, if the State has the statutory authority to implement the requirements of this Part, and if the State at the time of submission of this request has an approved NPDES program, then regulations setting forth the requirements of this Section need not be promulgated by the State if the Administrator finds that the State has submitted a complete description of procedures to administer its program in conformance with the requirements of this Section. States without an approved NPDES program will be required to comply with the requirements of paragraphs (g)(1)(i) and (ii) of this section.

(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.*). Sections 204(b), 208(b), 301(b), 301(h), 301(i), 304(e), 304(g), 307, 308, 309, 402(b), 405, and 501(a))

[FR Doc. 80-34233 Filed 10-31-80; 8:45 am]

BILLING CODE 6560-33-M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 125 and 403

[WH-FRL 1943-3a]

General Pretreatment Regulations for Existing and New Sources

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: On January 28, 1981, the Environmental Protection Agency promulgated amendments to the General Pretreatment Regulations for Existing and New Sources (46 FR 9404–9460). On March 27, 1981, the effective date of these amendments was indefinitely postponed, in order to enable the Agency to conduct a Regulatory Impact Analysis under Executive Order 12291 (46 FR 19936, April 2, 1981).

EPA has decided to terminate the indefinite postponement of the general pretreatment amendments and make them effective January 31, 1982. This is being done to allow public comment on the question of whether the amendments should be postponed indefinitely and in response to various groups' suggestions that portions of the general pretreatment amendments be put immediately into effect. By separate notice published this day, EPA is initiating a rulemaking on whether the amendments should be further postponed.

DATES: The effective date of the amendments to the general pretreatment regulations will be January 31, 1982.

ADDRESSES: The record supporting this rulemaking will be made available for inspection through contacting the following person at the following address: Bill Diamond, Environmental Protection Agency, Permits Division (EN-336), 401 M Street SW., Washington, D.C. 20460, (202) 426-4793.

FOR FURTHER INFORMATION CONTACT: Bill Diamond, Environmental Protection Agency, Permits Division (EN-336), 401 M Street SW., Washington, D.C. 20460, (202) 426-4793.

SUPPLEMENTARY INFORMATION: On June 26, 1978, the Environmental Protection Agency ("EPA") promulgated general pretreatment regulations establishing mechanisms and procedures for controlling the introduction of wastes from industry and other non-domestic sources into publicly-owned treatment works. (43 FR 27736–27773). Following promulgation, several parties brought actions in Federal court challenging these regulations. On January 28, 1981, pursuant to the terms of a settlement agreement entered into by some of the parties, EPA promulgated amendments to the 1978 regulations. (46 FR 9404–9460). These amendments were originally scheduled to take effect on March 13, 1981. Their effective date was temporarily deferred until March 30, 1981, however, under the President's Memorandum of January 29, 1981 (46 FR 11972, February 12, 1981). On March 27, 1981, EPA indefinitely postponed the amendments' effective date in order to enable it to conduct a Regulatory Impact Analysis of the general pretreatment program under Executive Order 12291. On April 2, 1981, EPA published a notice in the **Federal Register** to this effect (46 FR 19936). As a result of the deferral of the January 1981 amendments, the June 1978 general pretreatment regulations remain in effect.

Since EPA's indefinite deferral of the effective date of the general pretreatment amendments, a suit has been brought by the Natural Resources Defense Council challenging, among other things, EPA's deferral of the general pretreatment amendments without notice and comment. Additionally, two groups who are directly and intimately affected by the general pretreatment program have recommended that portions of the general pretreatment amendments go into effect. Accordingly, in order to allow public comment on the deferral and address public suggestions that the amendments be put into effect, EPA is today establishing January 31, 1982, as the effective date of the amendments to the general pretreatment regulations.

By separate notice published this day, EPA is conducting a rulemaking on whether the amendments to the general pretreatment regulations should be further deferred. Such a rulemaking will allow for a general public airing of the desirability and appropriate scope of the deferral. EPA considered terminating the current suspension and putting the amendments into effect immediately and then conducting a rulemaking on whether the amendments should be further suspended. This solution, however, would have risked a new suspension following very soon after the amendments had gone back into effect. In order to avoid such confusion, EPA has chosen an effective date which gives it time to complete a rulemaking on the question of further suspension.

Because notice and comment on the amendments' effective date is in effect being provided through the concurrent rulemaking on the question of further suspension, the Agency has determined that there is good cause to promulgate this rule without notice and comment.

Regulatory Impact Analysis

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. EPA is presently conducting a Regulatory Impact Analysis on the amendments to the general pretreatment regulations. Consequently, this rule, which puts those amendments into effect, may possibly be considered major. For the reasons previously outlined in this notice, EPA has nevertheless concluded that the amendments to the general pretreatment regulations should go into effect while they are under reconsideration.

This rule was submitted to the Office of Management and Budget for review as required by Executive Order 12291. Any comments from OMB to EPA and any EPA response to those comments are available for public inspection at the address in the beginning of this notice.

Dated: October 5, 1981.

Anne M. Gorsuch,

Administrator.

[FR Doc. 81-29605 Filed 10-9-81; 8:45 am]

BILLING CODE 6560-29-M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 403

[OGC-FRL 2181-2]

General Pretreatment Regulations for Existing and New Sources

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: On January 28, 1981, the Environmental Protection Agency promulgated amendments to the General Pretreatment Regulations for Existing and New Sources (46 FR 9404–9460). On March 27, 1981, the effective date of these amendments was indefinitely postponed, in order to enable the Agency to conduct a Regulatory Impact Analysis under Executive Order 12291 (46 FR 19936, April 2, 1981). On January 31, 1982, pursuant to a rulemaking commenced by the Agency on October 13, 1981 (46 FR 50502–50503), all but four of the amendments were put into effect (47 FR 4518, February 1, 1982). On July 8, 1982, the United States Court of Appeals for the Third Circuit issued an opinion finding that the Agency's original indefinite deferral of the amendments to the general pretreatment regulations contravened the notice and comment provisions of the Administrative Procedure Act. To remedy this violation, the Court directed the Agency to retroactively reinstate all of the amendments, effective March 30, 1981. By today's notice, the Agency is complying with the Court's order and reinstating all of the amendments as of March 30, 1981.

DATES: The effective date of the amendments to the general pretreatment regulations originally promulgated on January 28, 1981, is March 31, 1981.

FOR FURTHER INFORMATION CONTACT: Bill Diamond, Environmental Protection Agency, Permits Division (EN-336), 401 M Street, S.W., Washington, D.C. 20460, (202) 426-4793.

SUPPLEMENTARY INFORMATION:

I. Background

On June 26, 1978, the Environmental Protection Agency (EPA) promulgated the General Pretreatment Regulations establishing mechanisms and procedures for controlling the introduction of wastes from industry and other non-domestic sources into publicly-owned treatment works (POTWs) (43 FR 27736–27773). Following promulgation, several parties brought actions in Federal court challenging these regulations. On January 28, 1981, pursuant to the terms of a settlement agreement entered into by some of the parties, EPA promulgated amendments to the 1978 regulations (46 FR 9404–9460). These amendments were originally scheduled to take effect on March 13, 1981. Their effective date was temporarily deferred until March 30, 1981 under the President's Memorandum of January 29, 1981 (46 FR 11972, February 12, 1981). On March 27, 1981, EPA indefinitely postponed the amendments' effective date to enable it to conduct a Regulatory Impact Analysis of the general pretreatment program under Executive Order 12291. EPA published a notice in the **Federal Register** to this effect on April 2, 1981 (46 FR 19936).

Subsequent to EPA's indefinite deferral of the effective date of the general pretreatment amendments, a suit was brought by the Natural Resources Defense Council (NRDC) in the United States Court of Appeals for the Third Circuit challenging EPA's deferral of the general pretreatment amendments without notice and comment (*NRDC v. EPA*, No. 81–2068). On October 13, 1981, while this suit was pending, EPA announced that it was terminating the indefinite deferral of the amendments, making them effective January 31, 1982 (46 FR 50502). In a separate action also taken on October 13, the Agency initiated a rulemaking and invited public comment on the issue of whether the effective date of all or specific portions of the amendments should be further postponed (46 FR 50503). After evaluating the comments received in response to the October 13 proposal, EPA, on February 1, 1982, announced that it was deferring the effective date of four of the amendments pending further analysis but that the remaining amendments would go into effect (47 FR 4518). The four amendments which continued to be deferred were the combined watestream formula (§ 403.6(e)), the removal credits section (§ 403.7) and the definitions of "pass through" (§ 403(n)) and "interference" (§ 403.3(i)).

On July 8, 1982, the United States Court of Appeals issued its opinion in the NRDC suit, finding that EPA's March 27, 1981 deferral of the amendments to the general pretreatment regulations violated the notice and comment provisions of the Administrative Procedure Act. To remedy this procedural violation, the Court directed EPA to retroactively reinstate all of the amendments as of March 30, 1981, including the four amendments which EPA further deferred on February 1, 1982. At the same time, the court noted that its decision did not "forestall future agency action with regard to the four amendments, provided such action is taken in compliance with the Administrative Procedure Act."

Pursuant to the Court's direction, EPA is hereby reinstating all of the amendments to the general pretreatment regulations, effective March 30, 1981. The Agency is continuing, however, to deliberate on what future steps might be appropriate with respect to these amendments.

One of the amendments which EPA continued to defer on February 1, 1982, but which is being put into effect by today's action is the combined wastestream formula. This formula triggers the three year compliance deadline for integrated facilities under the electroplating pretreatment standards (see, 40 CFR 413.01). As a result of today' action, these facilities will have three years from the combined wastestream formula's March 30, 1981 effective date, or until March 30, 1984, to comply with the electroplating pretreatment standards. Also as a result of today's action, the time allotted for integrated facilities to submit baseline reports (§ 403.12(b)), fundamentally different factors variance requests (§ 403.13) and category determination requests (§ 403.6) will begin to run. These facilities will have six months from today's date to submit baseline reports and fundamentally different factors variance requests and sixty days from today's date to submit category determination requests.

Today's reinstatement of the amendments to the general pretreatment regulations is being done to rectify past failure to provide notice and comment and is dictated by court order. Thus, there is "good cause" to dispense with notice and comment prior to the reinstatement. See *American Federation of Government Employees, AFL–CIO, v. Block*, 655 F.2d 1153 (D.C. Cir. 1981).

This notice was submitted to the Office of Management and Budget for review as required by Executive Order 12291. Any comments from OMB to EPA and any EPA response to those comments are available for public inspection through contacting the person listed in the front of this notice. EPA is presently in the process of completing a regulatory impact analysis of the general pretreatment program, of which these amendments are part.

OMB has approved the following information collection requirements under the provisions of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 *et seq*. These requirements have been assigned the following control numbers

Citation	Title	OMB No. 2040-
40 CFR 122.61	Report by Publicly Owned Treatment Works of New or Increased Pollutant Introduction.	0010
40 CFR 403.6	Category Determination Report	0015
40 CFR 403.7	Removal Credit Approval Request.	0020
40 CFR 403.7	Removal Credit Self-Monitoring Report.	0025
40 CFR 403.9	POTW Pretreatment Program Approval Request.	0016
40 CFR 403.10	State Pretreatment Program Approval Request.	0019
40 CFR 403.12	Industrial Self-Monitoring Report.	0024
40 CFR 403.12	POTW Compliance Schedule Work Plan.	0013
40 CFR 403.12	Industrial Pretreaters Compliance Schedule Reports.	0014
40 CFR 403.12	Baseline Monitoring Report	0012
40 CFR 403.12	Industrial Pretreaters Slug Load Notification.	0023
40 CFR 403.12	POTW Maintenance of Monitoring Records.	0022
40 CFR 403.12	Industrial Pretreaters Compliance Attainment Report.	0011
40 CFR 403.13	Fundamentally Different Factors Variance Requests.	0017
40 CFR 403.15	Net/Gross Request Credit for Intake Water Pollution.	0018

List of Subjects in 40 CFR 403

Confidential business information, Reporting and recordkeeping requirement, Waste treatment and disposal, Water pollution control.

Dated: September 21, 1982.

Anne M. Gorsuch,

Administrator.

[FR Doc. 82-26888 Filed 9-27-82; 8:45 am]

BILLING CODE 6560-50-M

40 CFR Parts 403 and 413

[OW-FRL 2276-7]

General Pretreatment Regulations Existing and New Sources and Effluent Guidelines and Standards; Electroplating Point Source Category Pretreatment Standards for Existing Sources

AGENCY: Environmental Protection Agency.

ACTION: Final rule; change in compliance, application, and reporting deadlines.

SUMMARY: On October 4, 1982, the United States Court of Appeals for the Third Circuit issued an order staying for ninety days certain deadlines in the Environmental Protection Agency's pretreatment standards for the Electroplating Point Source Category (40 CFR Part 413) and General Pretreatment Regulations for Existing and New Sources (40 CFR Part 403). The purpose of this rulemaking is to implement the stay and explain its effects.

DATES: The compliance deadline for the non-integrated segment of the electroplating industry is now April 27, 1984. The compliance deadline for the integrated segment of the electroplating industry is now June 30, 1984. The deadline for submission of category determination requests (40 CFR 403.6(a)), baseline monitoring reports (40 CFR 413.12), fundamentally different factors variance requests (40 CFR 403.13) and net/gross adjustments requests (40 CFR 403.15) is extended ninety days for facilities subject to these submission deadlines as of October 4, 1982.

FOR FURTHER INFORMATION CONTACT: Bill Diamond, Environmental Protection Agency, Permits Division (EN-336), 401 M St., SW., Washington, D.C. 20460, (202) 426-4793.

SUPPLEMENTARY INFORMATION: This notice addresses two interrelated regulations: (1) The Environmental Protection Agency's Electroplating Pretreatment Standards for existing sources (40 CFR Part 413) and (2) EPA's General Pretreatment Regulations for Existing and New Sources (40 CFR Part 403). The Electroplating Pretreatment Standards were initially promulgated on September 7, 1979 and amended on January 28, 1981, (see, 44 FR 52590 and 46 FR 9462). The General Pretreatment Regulations for Existing and New Sources (40 CFR Part 403) were originally promulgated on June 26, 1978 and amended on January 28, 1981 (see, 43 FR 77736 and 46 FR 9404). A number of cases challenging these two regulations are currently lodged in the United States Court of Appeals for the Third Circuit.

On September 24, 1982 the Third Circuit conducted a prehearing conference in these cases in an attempt to resolve various threshold issues concerning consolidation of the cases, establishment of a briefing schedule and other matters. At this conference, the Court recommended entry of an order staying certain compliance, application and reporting deadlines in the Electroplating Pretreatment regulations and General Pretreatment regulations to "accommodate the unique management problems imposed upon the Court by these complex cases."

Out of deference to the Court and in the interest of helping to relieve the Court's management problem, EPA informed the Court several days after the prehearing conference that it would not object to entry of the order. In this communication, EPA noted that it had elected not to oppose the order "solely to accommodate the unique burdens imposed on the Court by this complex litigation." EPA added that it did not believe the Agency itself had the authority to stay the statutorily-mandated compliance deadlines contained in the electroplating regulations nor did it concede that the narrowly defined circumstances warranting a judicial stay of regulations were present. The Agency concluded:

> In short, EPA's action is not intended to compromise in any way the generally accepted principle that those who challenge its regulations must 'litigate on their own time' and are not ordinarily entitled to a stay of regulations pending judicial review. Consistent with this intention, EPA can not generally be expected to agree to entry of a stay order in other cases involving judicial review of other regulations. Moreover, EPA is all likelihood would vigorously oppose any further stay of the electroplating or general pretreatment regulations in these cases. EPA believes it proper to expect industry petitioners to treat the stay as an opportunity for additional time in which to effectuate compliance with EPA's regulations, and not as a basis for halting or deferring their compliance efforts.

After receiving word from EPA that the Agency would not oppose entry of the order, the Court, on October 4, 1982 entered an order staying for ninety days the compliance deadlines contained in the Electroplating regulations and all deadlines applicable to industrial users contained in the General Pretreatment regulations.

The practical effects of the Third Circuit's order are essentially threefold. First, it extends the compliance deadline for the non-integrated segment of the electroplating industry from January 28, 1984 to April 27, 1984.

Second, it extends the compliance deadline for the integrated segment of the electroplating industry from March 30, 1984 to June 30, 1984. As we explained in a September 28, 1982 Federal Register notice, the March 30, 1984 deadline was brought into being by the Third Circuit's decision ordering EPA to retroactively reinstate the amendments to the General Pretreatment regulations in *Natural Resources Defense Council, Inc.* v. *EPA*, No. 81-2068 (47 FR 42888).

Third, the order extends for ninety days various application and reporting deadlines in the General Pretreatment regulations currently applicable to industrial users. These deadlines are the application deadline for category determination requests (40 CFR 403.6(a)); the deadline for submission of baseline monitoring reports (40 CFR 403.12); the deadline for submission of fundamentally different factors variance requests (40 CFR 403.13); and the application deadline for net/gross adjustments (40 CFR 403.15). The Court's order requires alteration of these application and reporting deadlines only for industrial users subject to these deadlines as of the date of the Court's order. It thus does not apply to facilities which have become subject to these deadlines since the October 4, 1982 order or which, at some time in the future, will become subject to these deadlines. By the same token, since the order only extends the deadlines for ninety days, it does not apply to facilities whose deadlines expired ninety days prior to October 4. Given this and the fact that the deadlines are all keyed to the effective date of categorical pretreatment standards, it is possible to accurately identify the facilities who benefit from the ninety day extension of application and reporting deadlines. The beneficiaries are integrated electroplating plants, iron and steel facilities, and inorganic chemical facilities subject to the pretreatment standards promulgated on June 29, 1982. (47 FR 28260). All these facilities are subject to recently effective categorical pretreatment standards. The following chart identifies the new application and reporting deadlines for these facilities.

Industry	Category determination requests		Baseline monitoring report		Fundamentally different factors variance requests		Net gross adjustments	
	Old deadline	New deadline	Old deadline	New deadline	Old deadline	New deadline	Old deadline	New deadline
Integrated electroplating	Nov. 27, 1982	Feb. 25, 1983	Mar. 27, 1983	June 25, 1983	Mar. 27, 1983	June 25, 1983	Nov. 27, 1982	Feb. 25, 1983
Iron and steel	Sept. 8, 1982	Dec. 7, 1982	Jan. 6, 1983	Apr. 6, 1983	Jan. 6, 1983	Apr. 6, 1983	Sept. 8, 1982	Dec. 7, 1982
Inorganic chemicals	Oct. 11, 1982	Jan. 9, 1983	Feb. 8, 1983	May 9, 1983	Feb. 8, 1983	May 9, 1983	Oct. 11, 1982	Jan. 9, 1983

APPENDIX D

PRIORITY POLLUTANTS AND CATEGORICAL INDUSTRY INFORMATION

TABLE D.1

MATRIX OF PRIORITY POLLUTANTS POTENTIALLY
DISCHARGED FROM INDUSTRIAL CATEGORIES

Table D.1 lists the 25 categorical industries and the potential priority pollutants that can occur in significant amounts in the wastewater discharged from each group. This does not mean that every facility within a specific group discharges that pollutant; it does mean that there is a high probability that it will be discharged, based on a national survey of the industries conducted by USEPA. In addition, it does not mean that other priority pollutants will not be found in significant quantities, but that, in general, the manufacturing process and raw materials involved do not lead to the discharge of these pollutants.

NOTE: The information in the table was developed from Industry Summaries prepared by the USEPA, dated March, 1979 from the published development documents for effluent limitations from industrial point source categories. This information is subject to change, and, as shown in Tables D.1 and D.2, some industry groups may not be regulated.

TABLE D.1

MATRIX OF PRIORITY POLLUTANTS POTENTIALLY DISCHARGED FROM INDUSTRIAL CATEGORIES

● POLLUTANT FOUND IN SIGNIFICANT QUANTITY

PRIORITY POLLUTANTS / CATEGORICAL INDUSTRY	ADHESIVE	ALUMINUM FORMING	BATTERY MANUFACTURING	COAL MINING	COIL COATING	COPPER FORMING	ELECTRICAL PRODUCTS	ELECTROPLATING	FOUNDRIES	INORGANIC CHEMICALS
1. acenaphthene										
2. acrolein										
3. acrylonitrile										
4. benzene				●						
5. benzidine										
6. carbon tetrachloride	●									
7. chlorobenzene				●						
8. 1,2,4-trichlorobenzene										
9. hexachlorobenzene										
10. 1,2-dichloroethane				●			●			
11. 1,1,1-trichloroethane				●			●			
12. hexachloroethane										
13. 1,1-dichloroethane										
14. 1,1,2-trichloroethane										
15. 1,1,2,2-tetrachloroethane										
16. chloroethane										
17. bis(2-chloroethyl) ether										
18. 2-chloroethyl vinyl ether (mixed)										
19. 2-chloronaphthalene										
20. 2,4,6-trichlorophenol										
21. parachlorometa cresol										
22. chloroform (trichloromethane)	●	●		●						
23. 2-chlorophenol							●			
24. 1,2-dichlorobenzene							●			
25. 1,3-dichlorobenzene							●			
26. 1,4-dichlorobenzene							●			
27. 3,3-dichlorobenzidine										
28. 1,1-dichloroethylene										
29. 1,2-trans-dichloroethylene				●						
30. 2,4-dichlorophenol										
31. 1,2-dichloropropane										
32. 1,3-dichloropropylene (1,3-dichloropropene)										
33. 2,4-dimethylphenol										
34. 2,4-dinitrotoluene										
35. 2,6-dinitrotoluene				●						
36. 1,2-diphenylhydrazine										
37. ethylbenzene	●			●			●			
38. fluoranthene										
39. 4-chlorophenyl phenyl ether										
40. 4-bromophenyl phenyl ether										
41. bis(2-chloroisopropyl) ether										
42. bis(2-chloroethoxy) methane										
43. methylene chloride (dichloromethane)	●	●		●			●			
44. methyl chloride (chloromethane)										
45. methyl bromide (bromomethane)										
46. bromoform (tribromomethane)										
47. dichlorobromomethane										
48. chlorodibromomethane				●						
49. hexachlorobutadiene										
50. hexachlorocyclopentadiene										
51. isophorone										
52. naphthalene							●			
53. nitrobenzene										
54. 2-nitrophenol										
55. 4-nitrophenol										
56. 2,4-dinitrophenol										
57. 4,6-dinitro-o-cresol										
58. N-nitrosodimethylamine										
59. N-nitrosodiphenylamine										
60. N-nitrosodi-n-propylamine										
61. pentachlorophenol	●									
62. phenol	●	●					●		●	
63. bis(2-ethylhexyl) phthalate	●	●		●						
64. butyl benzyl phthalate	●									

TABLE D.1 (Continued)

MATRIX OF PRIORITY POLLUTANTS POTENTIALLY DISCHARGED FROM INDUSTRIAL CATEGORIES

POLLUTANT FOUND IN SIGNIFICANT QUANTITY

PRIORITY POLLUTANTS	CATEGORICAL INDUSTRY: ADHESIVE	ALUMINUM FORMING	BATTERY MANUFACTURING	COAL MINING	COIL COATING	COPPER FORMING	ELECTRICAL PRODUCTS	ELECTROPLATING	FOUNDRIES	INORGANIC CHEMICALS
[illegible]-Butyl phthalate	●	●		●						
[illegible]-n-octyl phthalate										
Diethyl phthalate	●			●						
Dimethyl phthalate	●									
[illegible]anthracene (1,2-benzanthracene)										
[illegible]pyrene (3,4-benzopyrene			●							
[illegible]-benzofluoranthene (benzo(b)fluoranthene)										
[illegible]fluoranthene (11,12-benzofluoranthene)										
[illegible]rene										
[illegible]naphthylene										
[illegible]thalene				●						
[illegible]perylene (1,12-benzoperylene)										
[illegible]rene										
[illegible]phenanthrene										
[illegible]benzanthracene (1,2,5,6-dibenzanthracene)										
[illegible]-cd]pyrene (2,3-o-phenylenepyrene)										
[illegible]rene										
[illegible]ylene						●				
[illegible]ene				●						
[illegible]chloroethylene	●	●								
[illegible]chloride (Chloroethylene)										
Aldrin										
[illegible]drin										
[illegible]ane (technical mixture & metabolites)										
[illegible]-DDE										
[illegible]-DDD (TDE)										
[illegible]-DDT										
[illegible]sulfan										
[illegible]sulfan sulfate										
Dieldrin										
[illegible]drin aldehyde										
[illegible]-BHC										
[illegible]-BHC epoxide (BHC-hexachlorocyclohexane)										
[illegible]-BHC										
[illegible]-BHC										
[illegible]-BHC (Lindane)										
[illegible]-BHC (PCB-polychlorinated biphenyl)										
PCB-1242 (Arochlor 1242)										
PCB-1254 (Arochlor 1254)										
PCB-1221 (Arochlor 1221)										
PCB-1232 (Arochlor 1232)										
PCB-1248 (Arochlor 1248)										
PCB-1260 (Arochlor 1260)										
PCB-1016 (Arochlor 1016)										
Toxaphene										
Antimony (total)	●			●						●
Arsenic (total)				●			●			●
Asbestos (fibrous)										●
Beryllium (total)										
Cadmium (total)			●			●	●	●	●	●
Chromium (total)	●	●		●	●	●	●	●	●	●
Copper (total)	●	●		●		●	●	●	●	●
Cyanide (total)	●				●			●		●
Lead (total)	●	●	●	●		●	●	●		●
Mercury (total)	●		●	●						●
Nickel (total)		●	●	●				●		●
Selenium (total)										●
Silver (total)			●							●
Thallium (total)				●						●
Zinc (total)	●	●	●	●	●	●	●	●	●	●
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)										

TABLE D.1 (Continued)

MATRIX OF PRIORITY POLLUTANTS POTENTIALLY DISCHARGED FROM INDUSTRIAL CATEGORIES

POLLUTANT FOUND IN SIGNIFICANT QUANTITY

PRIORITY POLLUTANTS	IRON & STEEL	LEATHER TANNING & FINISHING	METAL FINISHING	NON-FERROUS METALS	ORE MINING & DRESSING	ORGANIC CHEMICALS, PLASTICS AND SYNTHETICS	PESTICIDES	PETROLEUM REFINING	PHARMACEUTICALS	PLASTICS PROCESSING
1. Acenaphthene				●						
2. Acrolein										
3. Acrylonitrile										
4. Benzene			●	●		●			●	
5. Benzidine										
6. Carbon tetrachloride			●			●				
7. Chlorobenzene						●				
8. 1,2,4-trichlorobenzene				●						
9. Hexachlorobenzene				●						
10. 1,2-dichloroethane			●	●						
11. 1,1,1-trichloroethane			●							
12. Hexachloroethane										
13. 1,1-dichloroethane			●	●		●				
14. 1,1,2-trichloroethane			●							
15. 1,1,2,2-tetrachloroethane										
16. Chloroethane										
17. Bis(chloromethyl) ether										
18. Bis(2-chloroethyl) ether (mixed)										
19. 2-chloronaphthalene										
20. 2,4,6-trichlorophenol		●								
21. Parachlorometa cresol										
22. Chloroform (trichloromethane)		●				●			●	
23. 2-chlorophenol										
24. 1,2-dichlorobenzene		●								
25. 1,3-dichlorobenzene										
26. 1,4-dichlorobenzene		●								
27. 3,3-dichlorobenzidine										
28. 1,1-dichloroethylene			●							
29. 1,2-trans-dichloroethylene			●							
30. 2,4-dichlorophenol										
31. 1,2-dichloropropane										
32. 1,3-dichloropropylene (1,3-dichloropropene)										
33. 2,4-dimethylphenol										
34. 2,4-dinitrotoluene										
35. 2,6-dinitrotoluene										
36. 1,2-diphenylhydrazine										
37. Ethylbenzene		●	●			●				
38. Fluoranthene			●	●						
39. 4-nitrophenyl phenyl ether										
40. 4-bromophenyl phenyl ether										
41. Bis(2-chloroisopropyl) ether										
42. Bis(2-chloroethoxy) methane			●							
43. Methylene chloride (dichloromethane)		●		●		●			●	
44. Methyl chloride (chloromethane)										
45. Methyl bromide (bromomethane)										
46. Bromoform (tribromomethane)										
47. Dichlorobromomethane				●		●				
48. Chlorodibromomethane										
49. Hexachlorobutadiene										
50. Hexachlorocyclopentadiene										
51. Isophorone										
52. Naphthalene		●	●							
53. Nitrobenzene										
54. 2-nitrophenol										
55. 4-nitrophenol										
56. 2,4-dinitrophenol										
57. 4,6-dinitro-o-cresol										
58. N-nitrosodimethylamine										
59. N-nitrosodiphenylamine			●							
60. N-nitrosodi-n-propylamine										
61. Pentachlorophenol		●	●							
62. Phenol	●	●	●		●	●	●	●	●	
63. Bis(2-ethylhexyl) phthalate		●	●	●		●				
64. Butyl benzyl phthalate			●	●						

TABLE D.1 (Continued)

MATRIX OF PRIORITY POLLUTANTS POTENTIALLY DISCHARGED FROM INDUSTRIAL CATEGORIES

POLLUTANT FOUND IN SIGNIFICANT QUANTITY

PRIORITY POLLUTANTS	CATEGORICAL INDUSTRY: IRON & STEEL	LEATHER TANNING & FINISHING	METAL FINISHING	NON-FERROUS METALS	ORE MINING & DRESSING	ORGANIC CHEMICALS, PLASTICS AND SYNTHETICS	PESTICIDES	PETROLEUM REFINING	PHARMACEUTICALS	PLASTICS PROCESSING
[illegible]				●		●				
[illegible]				●						
[illegible]			●	●						
[illegible]										
[illegible] (1,2-benzanthracene)										
[illegible] (3,4-benzofluoranthene)				●						
[illegible] benzo(k)fluoranthene (11,12-benzofluoranthene)										
[illegible]										
[illegible]				●						
[illegible]										
[illegible]			●							
[illegible] (1,12-benzoperylene)										
[illegible]				●						
[illegible]						●				
[illegible] (2,3,6,7-dibenzanthracene)										
[illegible] (1,2,7,8-dibenzophenylenepyrene)										
[illegible]				●						
[illegible]			●	●		●				
[illegible]		●				●			●	
[illegible]										
[illegible] (methylene)										
[illegible]										
[illegible]										
[illegible] (mixture & metabolites)										
[illegible]										
[illegible]										
[illegible]										
[illegible]										
[illegible]										
[illegible]										
[illegible]										
[illegible]										
[illegible] (BHC-hexachlorocyclohexane)										
[illegible]										
[illegible] BH										
[illegible]										
[illegible] (PCB-polychlorinated biphenyl)										
[illegible]										
[illegible] (Aroclor 1254)				●						
[illegible] (Aroclor 1221)										
[illegible] (Aroclor 1232)										
[illegible] (Aroclor 1248)				●						
[illegible] (Aroclor 1260)										
[illegible] (Aroclor 1016)										
[illegible]										
[illegible]				●						
[illegible]				●					●	
[illegible]										
[illegible]				●						
[illegible]			●	●		●			●	●
[illegible]	●	●	●	●		●		●	●	
[illegible]		●	●	●	●	●				●
[illegible]	●	●		●	●		●	●	●	
[illegible]		●	●	●	●	●			●	●
[illegible]				●		●			●	
[illegible]		●	●	●					●	
[illegible]				●						
[illegible]				●						
[illegible]										
[illegible]	●	●	●	●	●			●	●	
[illegible] (2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD))							●			
							●			

TABLE D.1 (Continued)

MATRIX OF PRIORITY POLLUTANTS POTENTIALLY DISCHARGED FROM INDUSTRIAL CATEGORIES

POLLUTANT FOUND IN SIGNIFICANT QUANTITY

PRIORITY POLLUTANTS	CATEGORICAL INDUSTRY	PORCELAIN ENAMELING	PULP, PAPER, AND FIBERBOARD	STEAM ELECTRIC	TEXTILE MILLS	TIMBER PRODUCTS PROCESSING					
1. acenaphthene											
2. acrolein											
3. acrylonitrile											
4. benzene											
5. benzidine											
6. carbon tetrachloride											
7. chlorobenzene											
8. 1,2,4-trichlorobenzene											
9. hexachlorobenzene											
10. 1,2-dichloroethane											
11. 1,1,1-trichloroethane											
12. hexachloroethane											
13. 1,1-dichloroethane											
14. 1,1,2-trichloroethane											
15. 1,1,2,2-tetrachloroethane											
16. chloroethane											
17. bis(2-chloroethyl) ether											
18. 2-chloroethyl vinyl ether (mixed)											
19. 2-chloronaphthalene											
20. 2,4,6-trichlorophenol											
21. parachlorometa cresol											
22. chloroform (trichloromethane)											
23. 2-chlorophenol											
24. 1,2-dichlorobenzene											
25. 1,3-dichlorobenzene											
26. 1,4-dichlorobenzene											
27. 3,3-dichlorobenzidine											
28. 1,1-dichloroethylene											
29. 1,2-trans-dichloroethylene											
30. 2,4-dichlorophenol											
31. 1,2-dichloropropane											
32. 1,2-dichloropropylene (1,3-dichloropropene)											
33. 2,4-dimethylphenol											
34. 2,4-dinitrotoluene											
35. 2,6-dinitrotoluene											
36. 1,2-diphenylhydrazine											
37. ethylbenzene											
38. fluoranthene											
39. 4-chlorophenyl phenyl ether											
40. 4-bromophenyl phenyl ether											
41. bis(2-chloroisopropyl) ether											
42. bis(2-chloroethoxy) methane											
43. methylene chloride (dichloromethane)											
44. methyl chloride (chloromethane)											
45. methyl bromide (bromomethane)											
46. bromoform (tribromomethane)											
47. dichlorobromomethane											
48. chlorodibromomethane											
49. hexachlorobutadiene											
50. hexachlorocyclopentadiene											
51. isophorone											
52. naphthalene											
53. nitrobenzene											
54. 2-nitrophenol											
55. 4-nitrophenol											
56. 2,4-dinitrophenol											
57. 4,6-dinitro-o-cresol											
58. N-nitrosodimethylamine											
59. N-nitrosodiphenylamine											
60. N-nitrosodi-n-propylamine											
61. pentachlorophenol						●					
62. phenol					●	●					
63. bis(2-ethylhexyl) phthalate					●						
64. butyl benzyl phthalate											

TABLE D.1 (Continued)

MATRIX OF PRIORITY POLLUTANTS POTENTIALLY DISCHARGED FROM INDUSTRIAL CATEGORIES

● POLLUTANT FOUND IN SIGNIFICANT QUANTITY

PRIORITY POLLUTANTS	PORCELAIN ENAMELING	PULP, PAPER, AND FIBERBOARD	STEAM ELECTRIC	TEXTILE MILLS	TIMBER PRODUCTS PROCESSING					
55. di-n-butyl phthalate										
56. di-n-octyl phthalate										
57. diethyl phthalate										
58. dimethyl phthalate										
59. benzo(a)anthracene (1,2-benzanthracene)										
60. benzo(a)pyrene (3,4-benzo-pyrene										
61. 3,4-benzofluoranthene (benzo(b)fluoranthene)										
62. benzo(k)fluoranthane (11,12-benzofluoranthene)										
63. chrysene										
64. acenaphthylene										
65. anthracene										
66. benzo(ghi)perylene (1,12-benzoperylene)										
67. fluorene										
68. phenanthrene										
69. dibenzo(ah anthracene (1,2,5,6-dibenzanthracene)										
70. indeno (1,2,3-cd)pyrene (2,3-o-phenylenepyrene)										
71. pyrene										
72. tetrachloroethylene				●						
73. toluene				●						
74. trichloroethylene				●						
75. vinyl chloride (chloroethylene)										
76. aldrin										
77. dieldrin										
78. chlordane (technical mixture & metabolites)										
79. 4,4-DDT										
80. 4,4-DDE (p,p-DDX)										
81. 4,4-DDD (p,p-TDE)										
82. Alpha endosulfan										
83. Beta endosulfan										
84. endosulfan sulfate										
85. endrin										
86. endrin aldehyde										
87. heptachlor										
88. heptachlor epoxide (BHC-hexachlorocyclohexane)										
89. Alpha-BHC										
100. Beta-BHC										
101. Gamma-BHC (Lindane)										
102. Delta-BHC (PCB-polychlorinated biphenyl)										
103. PCB-1242 (Arochlor 1242)										
104. PCB-1254 (Arochlor 1254)										
105. PCB-1221 (Arochlor 1221)										
106. PCB-1232 (Arochlor 1232)										
107. PCB-1248 (Arochlor 1248)										
108. PCB-1260 (Arochlor 1260)										
109. PCB-1016 (Arochlor 1016)										
110. toxaphene										
111. antimony (total)				●						
112. arsenic (total)				●	●					
113. asbestos (fibrous)										
114. beryllium (total)										
115. cadmium (total)	●			●						
116. chromium (total)	●			●	●					
117. copper (total)	●		●	●	●					
118. cyanide (total)				●						
119. lead (total)	●			●						
120. mercury (total)				●						
121. nickel (total)	●		●	●						
122. selenium (total)				●						
123. silver (total)				●						
124. thallium (total)										
125. zinc (total)	●		●	●						
126. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)										

TABLE D.2

STATUS REPORT OF CATEGORIES TOTALLY OR PARTIALLY EXCLUDED FROM PRETREATMENT REGULATION

40 CFR Part	Industrial Category as listed in the EGD / NRDC Settlement Agreement	CATEGORY/SUBCATEGORY AFFECTED			
		PARAGRAPH 8 EXCLUSION		PROJECT DEFERRED	
		Total	Partial	Total	Partial
456	Adhesive and Sealants				
467	Aluminum Forming		X		
444	Auto and Other Laundries	X			
461	Battery Mfg.		X		
458	Carbon Black	X			
434	Coal Mining		X		
465	Coil Coating		X		
468	Copper Forming		X		
469	Electrical and Electronic Products		X		X
413	[2]Electroplating		X		
457	Explosives Mfg.	X			
464	Foundry		X		
454	Gum and Wood Chemicals	X			
447	Ink Formulation	X			
415	Inorganic Chemicals		X		X
420	Iron and Steel Mfg.		X		
425	Leather Tanning and Finishing		X		
	[2]Mechanical Products				
433	[2]Metal Finishing		X		
421	Nonferrous Metals Manufacturing		X		
471	Nonferrous Metals Forming				
440	Ore Mining and Dressing		X		
414	[1]Organic Chemicals		X		
446	Paint Formulation	X			
443	Paving and Roofing Materials	X			
455	Pesticides		X		
419	Petroleum Refining				
439	Pharmaceutical Mfg.		X		
459	Photographic Equipment and Supplies	X			
416	[1]Plastics and Synthetics		X		
463	Plastics Molding and Forming				
466	Porcelain Enameling		X		
448	Printing and Publishing	X			
430	Pulp, Paper, and Paperboard		X		
428	Rubber Mfg.	X			
470	Shipbuilding	X			
417	Soap and Detergent Mfg.	X			
423	Steam Electric Powerplants		X		
410	Textile		X		
429	Timber		X		

[1]The Organic Chemicals and the Plastics and Synthetics Categories have been combined for BAT rulemaking under the Organic/Plastic Category.

[2]The Electroplating and the Mechanical Products Categories have been combined for BAT rulemaking under the Metal Finishing Category.

Source: This table is an update of the July 1981 Summary of Paragraph 8 Exclusions prepared by the Office of Quality the Effluent Guidelines Division, Office of Water Regulations and Standards, Office of Water, EPA. It was s memorandum from Jeffrey Denit, dated August 18, 1981. This information is subject to change.

TABLE D.3

REGULATED INDUSTRIAL SUBCATEGORIES WITH ASSOCIATED SIC CODES

Industry Category	SIC Code
Adhesives and Sealants	2891
Aluminum Forming	
• Rolling with Emulsions	3353, 3355
• Rolling with Neat Oils	3353, 3355
• Extrusion	3354
• Drawing with Neat Oils	3353, 3355
• Forging	3463
• Drawing with Emulsions or Soaps	3353, 3355
Coal Mining	
• Coal Preparation	1111, 1112, 1211, 1213
• Acid/Ferrugenous Mine Drainage	1111, 1112, 1211, 1213
• Alkaline Mine Drainage	1111, 1112, 1211, 1213
• Areas under Reclamation	1111, 1112, 1211, 1213
• Western Coal Mines	1211, 1213
Coil Coating	
• Steel Basis Material Coating	3479
• Galvanized Basis Material Coating	3479
• Aluminum Basis Material Coating	3479
Copper Forming	
• Hot Rolling	3351
• Cold Rolling	3351
• Extrusion	3351
• Drawing	3351
• Pickling	3351
• Alkaline Cleaning	3351
• Forging	3351
• Copper Foil Production	3497, 3351
Electroplating (Metal Finishing)	3471 & 3479
• Electroplating of Common Metals • Electroplating of Precious Metals • Electroplating of Speciality Metals • Anodizing • Coatings • Chemical Etching & Milling • Electroless Plating • Printed Circuit Board • Chemical Matching • Immersion Plating • Pickling • Bright Dipping • Alkaline Cleaning	(Some industries within these subcategories may not be subject to regulations)

Source: Summarized from (1) "Summary of Paragraph 8 Exclusions," EGD, OWRS, EPA, July, 1981; (2) Standard Industrial Classification Manual, Executive Office of the President, Office of Management and Budget, 1972.

TABLE D.3 (Continued)

REGULATED INDUSTRIAL SUBCATEGORIES WITH ASSOCIATED SIC CODES

Industry Category	SIC Code
Foundries	
• Iron and Steel	3322, 3324, 3325
• Copper	3362
• Aluminum	3361
• Zinc	3369
• Lead	3369
• Magnesium	3369
Inorganic Chemicals	
• Chlorine & Na or K Hydroxide	2812
• Hydrofluoric Acid Production	2819
• Na Dichromate & Sulfate Production	2819
• Titanium Dioxide	2816
• Aluminum Fluoride Production	2819
• Chrome Pigment	2816
• Copper Sulfate Production	2819
• Hydrogen Cyanide Production	2819
• Nickel Sulfate Production	2819
• Sodium Bisulfite Production	2819
• Sodium Silicofluoride Production	2819
Iron and Steel Manufacturing (BAT subcategorization scheme)	
• Cokemaking	3312
• Sintering	3312
• Ironmaking	3312
• Steelmaking	3312
• Vacuum Degassing	3312
• Continuous Casting	3312
• Hot Forming	3312, 3315, 3317[1]
• Scale Removal	3312, 3315, 3317[1]
• Acid Pickling	3312, 3315, 3317[1]
• Cold Forming	3316
• Alkaline Cleaning	3312, 3315, 3316, 3317[1]
• Hot Coating	3312, 3315, 3317[1]
Leather Tanning and Finishing	
• Hair Pulp Unhairing with Chrome Tanning and Finishing	3111
• Hair Save Unhairing with Chrome Tanning or Finishing	3111
• Unhairing with Vegetable or Alum. Tanning and Finishing	3111
• Finishing of Tanned Hides	3111
• Vegetable or Chrome Tanning of Unhaired Hides	3111
• Unhairing with Chrome Tanning and No Finishing	3111
• Shearing	3111

TABLE D.3 (Continued)

REGULATED INDUSTRIES SUBCATEGORIES WITH ASSOCIATED SIC CODES

Industry Category	SIC Code
Metal Finishing/Mechanical Products	Large number of subcategories including: 3411-29; 3432-66; 3482-3599; 3613-23; 3629-39
Nonferrous Metals Manufacturing	
• Bauxite Refining	2819
• Primary Aluminum Smelting	3334
• Secondary Aluminum Smelting	3341
• Primary Copper Smelting	3331
• Primary Copper Refining	3331
• Secondary Copper	3341
• Primary Lead	3332
• Primary Zinc	3333
• Metallurgical Acid Plants	3331, 3332, 3333
• Primary Columbium Tantalum	3339
• Secondary Silver - Photographic	3341
• Secondary Silver - Nonphotographic	3341
• Primary Tungsten	3339
• Secondary Lead	3341
Ore Mining and Dressing	
• Base and Precious Metals (Cu, Pb, Zn, Ag, Au, Pt, Mo)	1021, 1031, 1041, 1044, 1061
• Ferroalloy Ores	1061
• Uranium, Radium, Vanadium Ores	1094
• Tungsten Ore	1061
• Nickel Ores	1061
• Vanadium Ore (non-radioactive)	1094
• Antimony Ore	1099
Organic Chemicals, Plastics and Synthetic Materials	2865, 2869
• Processes with Process Water, Contact as Steam Diluent Quench or Vent Gas Absorbent	
Pesticides Chemicals	
• Organic Pesticide Mfg.	2869, 2879
• Metallo-Organic Pesticides	2869, 2879
• Pesticide Chemicals Formulating	2869, 2879
Petroleum Refining	
• Topping	2911
• Cracking	2911
• Petrochemicals	2911
• Lube	2911
• Integrated	2911

TABLE D.3 (Continued)

REGULATED INDUSTRIES SUBCATEGORIES WITH ASSOCIATED SIC CODES

Industry Category	SIC Code
Pharmaceutical Manufacturing	
• Fermentation Products	2833, 2831
• Extractions	2831, 2833
• Chemical Synthesis Products	2833
• Mixing/Compounding - Formulation	2834
• Research	2831, 2833, 2834
Plastics and Synthetics (Organic Chemicals, Plastics, Synthetic Materials)	
• Polyvinyl Chloride	2821
• Polyvinyl Acetate	2821
• Polystyrene	2821
• Polypropylene	2821
• Polyethylene	2821
• Cellophane	2821
• Rayon	2823
• ABS and SAN Resin - Copolymers	2821
• Polyester	2821
• Nylon 6	2821
• Cellulose Acetate	2823
• Acrylics	2821
• Ethylene - Vinyl Acetate	2821
• Polytetrafluoroethylene	2821
• Polypropylene Fiber	2823
• Alkyds & Unsaturated Polyester Resins	2821
• Cellulose Nitrate	2821
• Polyamide (Nylon 6/12)	2821
• Polyester Resins (Thermoplastics)	2821
• Silicones	2821
Porcelain Enameling	
• Steel	3631, 3632, 3633, 3639, 3469, 3479, 3431
• Cast Iron	Mainly 3631, 3431
• Aluminum	Mainly 3469, 3479, 3631
• Copper	Mainly 3479, Limited use in 3469 and 3631
Pulp, Paper and Paperboard	
• Unbleached Kraft	2611
• Sodium Based neutral Sulfite Semi-Chemicals	2611
• Ammonia Based Neutral Sulfite Semi-Chemical	2611
• Unbleached Kraft-Neutral Sulfite Semi-Chemical	2611
• Paperboard from Wastepaper	2631
• Dissolving Kraft	2611

TABLE D.3 (Continued)

REGULATED INDUSTRIAL SUBCATEGORIES WITH ASSOCIATED SIC CODES

Industry Category	SIC Code
Pulp, Paper and Paperboard (Continued)	
• Market Bleached Kraft	2611
• OCT Bleached Kraft	2611
• Fine Bleached Kraft	2611
• Papergrade Sulfite	2611, 2621
• Dissolving Sulfite Pulp	2611
• Groundwood - Thermo - Mechanical	2611, 2621
• Groundwood - CMN Papers	2611, 2621
• Groundwood - Fine Papers	2611, 2621
• Soda	2611, 2621
• Unbleached Kraft & Semi-Chemical	2611
• Semi-Chemical	2611
• Wastepaper - Molded Products	2646
• Nonintegrated - Lightweight Paper	2621
• Nonintegrated - Filter and Nonwoven Papers	2621
• Nonintegrated - Paperboard	2631
• Deink	2611, 2621
• Nonintegrated Fine Paper	2621
• Nonintegrated Tissue Papers	2631
• Tissue from Wastepaper	2647
• Papergrade Sulfite (Drum Wash)	2611, 2621
Steam Electric Power Generating	
• Generating Unit	4911, 4931
• Small Unit	4911, 4931
• Old Unit	4911, 4931
• Area Runoff	4911, 4931
Textile Industry	
• Wool Scouring	2299
• Wool Finishing	2231
• Woven Fabric Finishing	2261, 2262, 2269
• Knit Fabric Finishing	2251-59
• Carpet Mills	2271, 2272, 2279
• Stock and Yarn Dyeing & Finishing	2269
• Nonwoven Manufacturing	2297
• Felted Fabric Processing	2291
Timber Products	
• Wood Preserving - Boultonizing	2491
• Wood Furning and Fixtures (with and Without Water Wash Spray Booths or Laundry Facilities)	2511, 2512, 2517, 2521 2531, 2541

[1]Mainly Zero Dischargers

[2]Low Flow or Zero Discharge

TABLE D.4

DETECTION LEVELS FOR PRIORITY POLLUTANTS

	PRIORITY POLLUTANT[a]	Detection Level (ug/L)	EPA Method
1.	acenaphthene	1.8	610
2.	acrolein	0.6	603
3.	acrylonitrile	0.5	603
4.	benzene	0.2	602
5.	benzidine	0.08	605
6.	carbon tetrachloride	0.12	601
7.	chlorobenzene	0.25	601
8.	1,2,4-trichlorobenzene	0.05	612
9.	hexachlorobenzene	0.05	612
10.	1,2-dichloroethane	0.03	601
11.	1,1,1-trichloroethane	0.03	601
12.	hexachloroethane	1.6	625
13.	1,1-dichloroethane	0.07	601
14.	1,1,2-trichloroethane	0.02	601
15.	1,1,2,2-tetrachloroethane	0.03	601
16.	chloroethane	0.52	601
17.	bis (2-chloroethyl) ether	0.3	611
18.	2-chloroethyl vinyl ether (mixed)	0.13	601
19.	2-chloronaphthalene	1.9	625
20.	2,4,6-trichlorophenol	0.64	604
21.	parachlorometa cresol	0.36	604
22.	chloroform (trichloromethane)	0.05	601
23.	2-chlorophenol	0.31	604
24.	1,2-dichlorobenzene	0.15	601
25.	1,3-dichlorobenzene	0.32	601
26.	1,4-dichlorobenzene	0.24	601
27.	3,3-dichlorobenzidine	0.13	605
28.	1,1-dichloroethylene	0.13	601
29.	1,2-trans-dichloroethylene	0.1	601
30.	2,4-dichlorophenol	0.39	604
31.	1,2-dichloropropane	0.04	601
32.	1,2-dichloropropylene (trans 1,3-dichloropropene)	0.34	601
33.	2,4-dimethylphenol	0.32	604
34.	2,4-dinitrotoluene	0.02	609
35.	2,6-dinitrotoluene	0.01	609
36.	1,2-diphenylhydrazine	b	b
37.	ethylbenzene	0.2	602
38.	fluoranthene	0.21	610
39.	4-chlorophenyl phenyl ether	3.9	611
40.	4-bromophenyl phenyl ether	2.3	611

DETECTION LEVELS FOR PRIORITY POLLUTANTS (Continued)

	PRIORITY POLLUTANT[a]	Detection Level (ug/L)	EPA Method	
41.	bis (2-chlorisopropyl) ether	0.8	611	
42.	bis (2-chloroethoxy) methane	0.5	611	
43.	methylene chloride (dichloromethane)	0.25	601	
44.	methyl chloride (chloromethane)	0.08	601	
45.	methyl bromide (bromomethane)	1.18	601	
46.	bromoform (tribromomethane)	0.2	601	
47.	dichlorobromomethane	0.1	601	
48.	chlorodibromomethane	b	601	
49.	hexachlorobutadiene	0.34	612	
50.	hexachlorocyclopentadiene	–	–	
51.	isophorone	5.7	609	FID[c]
52.	naphthalene	1.8	610	
53.	nitrobenzene	3.6	609	FID
54.	nitrophenol	0.45	604	
55.	4-nitrophenol	2.8	604	
56.	2,4-dinitrophenol	13.0	604	
57.	4,6-dinitro-o-cresol	16.0	604	
58.	N-nitrosodimethylamine	0.15	607	
59.	N-nitrosodiphenylamine	0.81	607	
60.	N-nitrosodi-n-propylamine	0.46	607	
61.	pentachlorophenol	7.4	604	
62.	phenol	0.14	604	
63.	bis (2-ethylhexyl) phthalate	2.0	606	
64.	butyl benzyl phthalate	0.34	606	
65.	di-n-butyl phthalate	0.36	606	
66.	di-n-octyl phthalate	3.0	606	
67.	diethyl phthalate	0.49	606	
68.	dimethyl phthalate	0.29	606	
69.	benzo (a) anthracene (1,2-benzanthracene)	0.013	610	HPLC[d]
70.	benzo (a) pyrene (3,4-benzopyrene)	0.023	610	HPLC
71.	3,4-benzofluoranthene	0.018	610	HPLC
72.	benzo (k) fluoranthane (11, 12-benzofluoranthene)	0.017	610	HPLC
73.	chrysene	0.15	610	HPLC
74.	acenaphthylene	2.3	610	HPLC
75.	anthracene	0.66	610	HPLC
76.	benzo (ghi) perylene (1, 12-benzoperylene)	0.076	610	HPLC
77.	fluorene	0.21	610	HPLC
78.	phenanthrene	0.64	610	HPLC
79.	dibenzo (a,h) anthracene (1,2,5,6-dibenzanthracene)	0.03	610	HPLC
80.	indeno (1,2,3-cd) pyrene (2,3-o-phenylenepyrene)	0.043	610	HPLC
81.	pyrene	0.27	610	HPLC
82.	tetrachloroethylene	0.03	601	

DETECTION LEVELS FOR PRIORITY POLLUTANTS (Continued)

	PRIORITY POLLUTANT[a]	Detection Level (ug/L)	EPA Method
83.	toluene	0.2	602
84.	trichloroethylene	0.12	601
85.	vinyl chloride (chloroethylene)	0.18	601
86.	aldrin	0.004	608
87.	dieldrin	0.002	608
88.	chlordane (technical mixture & metabolites)	0.014	608
89.	4, 4'-DDT	0.012	608
90.	4, 4'-DDE (p, p'-DDX)	0.004	608
91.	4, 4'-DDD (p, p'-TDE)	0.011	608
92.	Alpha-endosulfan	0.014	608
93.	Beta-endosulfan	0.004	608
94.	endosulfan sulfate	0.066	608
95.	endrin	0.006	608
96.	endrin aldehyde	0.023	608
97.	heptachlor	0.003	608
98.	heptachlor epoxide	0.083	608
99.	Alpha-BHC	0.003	608
100.	Beta-BHC	0.006	608
101.	Gamma-BHC (lindane)	0.004	608
102.	Delta-BHC	0.009	608
103.	PCB-1242 (Arochlor 1242)	0.065	608
104.	PCB-1254 (Arochlor 1254)	b	608
105.	PCB-1221 (Arochlor 1221)	b	608
106.	PCB-1232 (Arochlor 1232)	b	608
107.	PCB-1248 (Arochlor 1248)	b	608
108.	PCB-1260 (Arochlor 1260)	b	608
109.	PCB-1016 (Arochlor 1016)	b	608
110.	toxaphene	0.24	608
111.	antimony (total)	10	FUR[e]
112.	arsenic (total)	10	FUR
113.	asbestos (fibrous)	b	
114.	beryllium (total)	1	FLAME[f]
115.	cadmium (total)	1	FUR
116.	chromium (total)	5	FUR
117.	copper (total)	1	FUR
118.	cyanide (total)	20	DIST[g]
119.	lead (total)	10	FUR
120.	mercury (total)	0.2	CV[h]
121.	nickel (total)	10	FUR
122.	selenium (total)	5	FUR
123.	silver (total)	1	FUR

DETECTION LEVELS FOR PRIORITY POLLUTANTS (Continued)

	PRIORITY POLLUTANT[a]	Detection Level (ug/L)	EPA Method
124.	thallium (total)	10	FUR
125.	zinc (total)	1	FUR
126.	2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)	0.003	

[a] This numbering does not correspond with numbers on EPA's list of priority pollutants.

[b] No detection limit determined.

[c] Flame ionization detection (FID).

[d] High pressure liquid chromatography (HPLC).

[e] Furnace (FUR).

[f] Flame (FLAME).

[g] Distillation (DIST).

[h] Cold vapor (CV).

Source: "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater," Environmental Monitoring and Support Laboratory, Cincinnati, OH 45268. EPA-600/4-82-057. July 1982.

Table D.4 lists the analytical methods and appropriate detection limits for the EPA priority pollutants. The information contained in "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater" represents an effort to provide procedures that are as uniform and cost effective as practical for a wide cross-section of chemical compound classes. Due to the variable chemical and physical properties of the parameters, some compromises had to be made. Therefore, in some of the methods, the extraction procedures, cleanup procedures and determinative steps are not optimum for all parameters.

APPENDIX E

SAMPLE PRETREATMENT COMPLIANCE SCHEDULE

APPENDIX E

EXAMPLE PRETREATMENT COMPLIANCE SCHEDULE

Under the authority of section 307(b) and 402(b)(8) of the Clean Water Act, and implementing regulations (40 CFR 403), the permittee is required to develop a pretreatment program. This program shall enable the permittee to detect and enforce against violations of categorical pretreatment standards promulgated under section 307(b) and (c) of the Clean Water Act and prohibitive discharge standards as set forth in 40 CFR 403.5.

The schedule of compliance for the development of this pretreatment program is as follows. The permittee shall:

ACTIVITY NO.	ACTIVITY	DATE
1	Submit the results of an industrial waste survey as required by 40 CFR 403.8(f)(2)(i-iii), including identification of industrial users and the character and volume of pollutants contributed to the POTW by the industrial users.	_____
2	Submit an evaluation of the legal authorities to be used by the permittee to apply and enforce the requirements of sections 307(b) and (c) and 402(b)(8) of the Clean Water Act, including those requirements outlined in 40 CFR 403.8(f)(1).	_____
3	Submit a determination of technical information (including specific requirements to specify violations of the discharge prohibitions in 403.5) necessary to develop an industrial waste ordinance or other means of enforcing pretreatment standards.	_____
4	Submit an evaluation of the financial programs and revenue sources, as required by 40 CFR 403.8(f)(3), that will be employed to implement the pretreatment program.	_____
5	Submit design of a monitoring program which will implement the requirements of 40 CFR 403.8 and 403.12, and in particular those requirements referenced in 40 CFR 403.8(f)(1)(iv-v), 403.8(f)(2)(iv-vi) and 403.12(n-j), (l-n).	_____

ACTIVITY NO.	ACTIVITY	DATE
6	Submit list of monitoring equipment required by the POTW to implement the pretreatment program and a description of municipal facilities to be constructed for monitoring or analysis of industrial wastes.	_____
7	Submit specific POTW effluent limitations for prohibited pollutants (as defined by 40 CFR 403.5) contributed to the POTW by industrial users.	_____
8	Submit a request for pretreatment program approval (and removal credit approval, if desired) as required by 40 CFR 403.9.	_____

The terms and conditions of the POTW pretreatment program, when approved, shall be enforceable through the permittee's NPDES permit.

Quarterly Reporting

The permittee shall report to the permit-issuing authority on a quarterly basis the status of work completed on the POTW pretreatment program. Reporting periods shall end on the last day of the months of March, June, September and December. The report shall be submitted to the permit-issuance authority no later than the 28th day of the month following each reporting period.

Removal Allowances

Any applications for authority to revise categorical pretreatment standards to reflect POTW removal of pollutants in accordance with the requirements of 40 CFR 403.7 must be submitted to the permit-issuing authority at the time of application for POTW pretreatment program approval, or at the time of permit expiration and reissuance thereafter.

APPENDIX F

BLANK WORKSHEETS

TABLE 2.1

INDUSTRIAL WASTE SURVEY RESULTS

Company Name	Company Address	SIC Code	No Discharge to POTW	Domestic Wastewater Only (Noncontact Cooling, Boiler/Tower Blowdown)	Pollutants In Nondomestic Wastewater 126 Priority Pollutants	Prohibited Pollutants	Did Not Respond

TABLE 2.2

INDUSTRIES ELIMINATED FROM FURTHER SURVEY EFFORTS

Company Name	Company Address	Company Contact	Telephone Number
1.			
Reason Eliminated:			
2.			
Reason Eliminated:			
3.			
Reason Eliminated:			
4.			
Reason Eliminated:			
5.			
Reason Eliminated:			
6.			
Reason Eliminated:			

Note: The reason for eliminating each of these industrial users from further survey efforts must be shown. If groups of industrial users were all eliminated for the same or similar reasons, these should be listed together and a single explanation given.

TABLE 2.3

INDUSTRIAL USERS DISCHARGING NONDOMESTIC WASTE

Company Name	SIC Code/ Industrial Category	Average Flow (gpd)	Pollutants Known or Suspected Present in Nondomestic Wastestream	Average Pollutant Concentrations, if known	Is Pretreatment of Nondomestic Wastestream Provided?	Treatment Plant	Jurisdiction

TABLE 4-1

DETERMINING NEED FOR LOCAL LIMITATIONS

Total number of Industrial Users: ___

Number of Industrial Users discharging only compatible pollutants (pollutants for which the POTW was designed to remove, i.e., restaurants, hotels, theaters, offices, some food processing industries): ___ (subtract)

Number of Significant Industrial Users: ___

			Answer "yes" or "no" if the Pollutants in the IU Wastestream Create Any of These Problems		
Name of Significant IU	What Priority Pollutant Does the Waste Contain (List)	POTW Interference:	Adverse effects on POTW Receiving Stream?	POTW Sludge Unfit For Land?	Hazards For POTW Workers?
1.					
2.					
3.					
4.					
5.					

TABLE 5.1

SAMPLING RECORD

Person Sampling: _____

Date: _____ Time: _____ am/pm

Facility Sampled: _____

Facility Location: _____

_____

_____

Sampling Location: _____

_____

_____

Sample Type: Grab ( ) Composite ( )

Observation/Comments: _____

_____

_____

_____

Sample Bottle I.D. (Marking) _____

Samples split with facility? Yes ( ) No ( )

Name of Facility Representative: _____

Title of Facility Representative: _____

TIME/DATE	SAMPLE RECEIVED BY	SIGNATURE	AFFILIATION/ TITLE	COMMENTS

TABLE 5.2

MONITORING RESULTS REPORT FORM

Facility Name:

Permit No.:

Sampling Code: S = Scheduled; U = Unscheduled; FC_x = Flow Proportion Composite (x = hours); D = Demand; M = Self Monitoring; G = Grab Sample; C_x = Composite (x = hours)

		Parameter									
Permit Limits*		Value mg/l									
Date	Sample Code										
		Parameter									
		Value									
		Parameter									
		Value									
		Parameter									
		Value									
		Parameter									
		Value									
		Parameter									
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		Parameter									
		Value									
		Parameter									
		Value									

* Permit limits for 24 hrs. flow composite

FIGURE 7.1 WORKSHEET FOR DEVELOPING AN ORGANIZATION PLAN

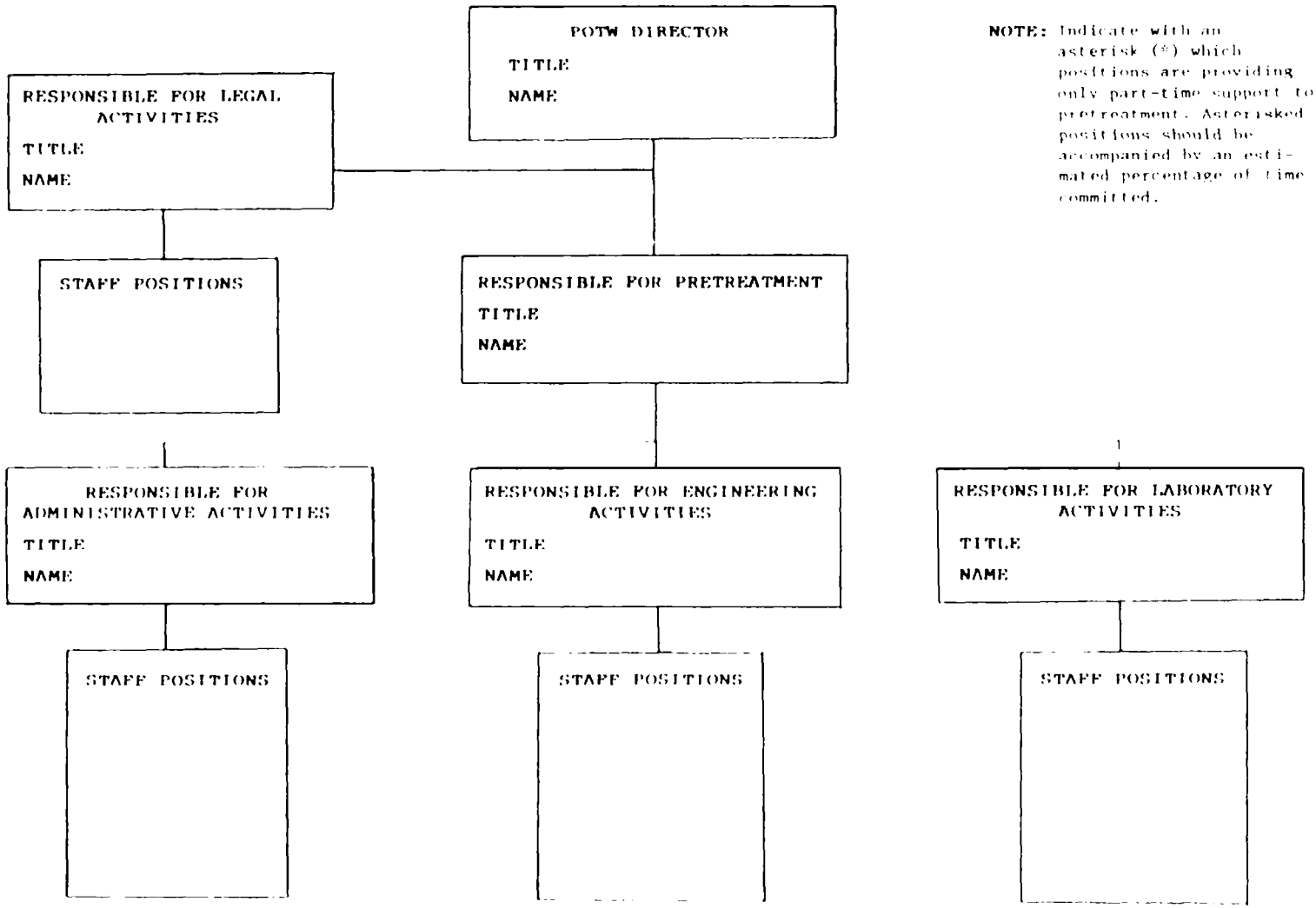

TABLE 7.6
WORKSHEET FOR CALCULATING
ANNUAL OPERATING COSTS

I. Direct Labor:	Labor hours	Average Hourly Rate	Annual Program Cost
Management	_____	_____	$_____
Legal	_____	_____	$_____
Engineering	_____	_____	$_____
Laboratory	_____	_____	$_____
Field inspection/sampling	_____	_____	$_____
Clerical	_____	_____	$_____
		Subtotal	$_____

II. Other Direct Costs	Amount	
Vehicle operation	_____	
Laboratory equipment/supplies	_____	
Sampling and laboratory equipment operating & maintenance	_____	
Miscellaneous		
- commercial laboratory	_____	
- contractor services	_____	
- debt service repayment	_____	
	Subtotal	$_____
III. Indirect Costs (May include overhead and general and administrative expenses)	_____	$_____
	Subtotal	$_____

TOTAL ANNUAL OPERATING EXPENDITURES $_____

TABLE 7.9 RATE CALCULATION WORKSHEET FOR SERVICE MODEL

Cost Items	Total Cost	Sampling				Analysis					
		High Cost		Low Cost		Conventional		Metals		Toxic Organics	
	$	%	$	%	$	%	$	%	$	%	$
A. Operating Costs											
1. Labor											
Administration/management											
Industrial monitoring											
Laboratory analysis											
2. Other Direct Costs											
3. Overhead											
B. Total Annual Cost											
C. Summary											
Total Annual Cost ÷											
Frequency per Year =											
Service Charge/Sampling or Analysis Event											

TABLE 7.10 RATE CALCULATION WORKSHEET FOR INDUSTRY CLASS/ACTIVITY MODEL

Cost Items	Total Cost $	Pulp & Paper[1]	Food Products[1]	Laundries	Metal Plating[1]	Pharmaceutical[1]
A. Operating Costs						
1. Labor						
Administration						
Industrial monitoring						
Laboratory analysis						
2. Other Direct Costs						
3. Overhead(42% of Labor)						
B. Total Annual Cost						
C. Summary						
Total annual pretreatment costs for an industrial group ÷ Total annual sewer revenue generated by that industrial group = Pretreatment factor for each industry class.						

[1] Allocation is assisted by calculating total number of sampling/analysis activities required per year.

TABLE 7.11 RATE CALCULATION WORKSHEET FOR POLLUTANT STRENGTH MODEL

	Total Cost	Wastewater Volume		BOD		TSS	
	$	$	%	$	%	$	%
A. Operating Costs							
1. Labor Administration Industrial monitoring Laboratory analysis							
2. Other Direct Costs							
3. Overhead							
B. Total Pretreatment Costs							
C. Summary							
Costs by pollutant group ÷ amount of pollutant group discharged per year = Charge rate per unit for each pollutant group							

APPENDIX G

CHECKLIST FOR PRETREATMENT PROGRAM SUBMISSION

Legal Authority Checklist

Name of POTW _____
Date _____

	Yes	No	Section of POTW's Submission
PART I. Submission Completeness Checklist (Legal Aspects)			
A. 40 CFR 403.9(b) requirements for submission:			
(1) Does the submission contain a statement from the city solicitor, POTW attorney, or other official?	___	___	_____
(2) Does the submission contain a copy of every legal authority source cited in the attorney's statement or necessary for program implementation? (e.g., ordinances, contracts, statutes, joint agreements, permits, regulations, etc.)	___	___	_____
(3) Does the submission contain endorsements from all local boards/bodies responsible for supervising/funding the pretreatment program?	___	___	_____
*(4) If any of the legal authorities cited are vested in a particular official's discretion, is there a statement of endorsement from such official?	___	___	_____
B. 40 CFR 403.9(b)(1) requirements for attorney's statement:			
(1) Does the statement identify the provision of legal authority for each requirement under 403.8(f)(2)?	___	___	_____
(2) Does the statement identify the manner in which 403.8 program requirements will be implemented?	___	___	_____
(3) Does the statement identify how the POTW intends to ensure compliance?	___	___	_____
C. If the POTW service area includes more than one agency, jurisdiction, government, or body, does the submission include all ordinances, resolutions, regulations, service agreements and other legal documents relevant to the analysis of multijurisdictional issues? (Use separate Part II forms for each jurisdiction.)	___	___	_____
PART II. Legal Adequacy [403.8(f)(1)]			
Does the POTW have the authority to:			
A. Deny or condition new or increased contributions of pollutants? [403.8(f)(1)(i)]	___	___	_____
B. Require compliance with applicable pretreatment standards? [403.8(f)(1)(ii)]	___	___	_____
(1) General prohibitions: pass-through, interference [403.5(a)]	___	___	_____

Legal Authority Checklist (Continued)

Name of POTW _____
Date _____

	Yes	No	Section of POTW's Submission
(2) Specific prohibitions [403.5(b)]:			
• Fire/explosive hazard?	___	___	_____
• pH/corrosion?	___	___	_____
• Solid or viscous - obstruction/interference?	___	___	_____
• Flow rate or concentration to cause interference?	___	___	_____
• Heat - treatment plant influent 40°C (104°F)?	___	___	_____
(3) Locally developed limits? [403.5(c) and (d)]	___	___	_____
(4) National categorical standards? [403.8(f)(1)(ii)]	___	___	_____
C. Control through permit, contract, etc., to ensure compliance? [403.8(f)(1)(iii)]	___	___	_____
D. Require development of compliance schedules and submission of reports? [403.8(f)(1)(iv)]			
(1) Development of compliance schedules for installation of technology?	___	___	_____
(2) Submission of notices and self-monitoring reports including 403.12 requirements (baseline report, compliance schedule progress report, report on final compliance with categorical pretreatment standards, periodic reports on continued compliance, notice of slug loading)?	___	___	_____
E. Carry out inspection, surveillance, and monitoring procedures: [403.8(f)(1)(v)]			
(1) Right to enter premises at any reasonable time?	___	___	_____
(2) Right to inspect generally for compliance?	___	___	_____
(3) Right to sample?	___	___	_____
(4) Right to require installation of monitoring equipment?	___	___	_____
(5) Right to inspect and copy records [403.12(n)]?	___	___	_____
F. Remedies for non-compliance by industrial users? [403.8(f)(1)(vi)]			
(1) Obtain remedies for noncompliance:			
• Injunctive relief?	___	___	_____
• Are the civil or criminal penalties sufficient to bring about compliance, or act as a deterrent?	___	___	_____
(2) Halt immediately and effectively any actual or threatened discharge?	___	___	_____
G. Comply with confidentiality requirements (protection of public access to effluent data)? [403.8(f)(1)(vii)] [403.14]	___	___	_____

Legal Authority Checklist (Continued)

Name of POTW _____
Date _____

	Yes	No	Section of POTW's Submission
H. Form special agreements (waivers):			
(1) Does the ordinance contain a special agreement clause?	___	___	_____
(2) If yes, does this special agreement clause specifically exclude the waiver of Federal categorical pretreatment standards?	___	___	_____
I. Control extra-jurisdictional agencies, and industries which contribute industrial wastewaters to the POTW?	___	___	_____

*Indicates item is recommended, but not mandatory.

I have reviewed this submission in detail and have determined the legal authority to be:

(_____) Adequate (_____) Inadequate

Date: _____ Reviewed by: _____
(Name)

Technical Information Checklist

Name of POTW _____
Date _____

	Yes	No	Section of POTW's Submission
PART I. Industrial Waste Survey [403.8(f)(2)(i) and (ii)]			
A. Were the sources used sufficient to assure that all major industrial users were identified and located?	___	___	_____
B. Were the criteria used to eliminate industries from the inventory appropriate?	___	___	_____
C. Survey Questionnaire			
(1) Did the POTW obtain the following information (either through the survey or other means):			
• Name?	___	___	_____
• Address?	___	___	_____
• SIC code(s) or expected classification?	___	___	_____
• Wastewater flow rate or water consumption rate?	___	___	_____
• Loads and/or concentrations of pollutants in discharge?	___	___	_____
• Major products manufactured or services supplied?	___	___	_____
*• Residuals generated by IU's disposal methods?	___	___	_____
*• Locations of discharge points?	___	___	_____
• Description of existing pretreatment facilities and practices?	___	___	_____
(2) Is the information current within the last 3 years?	___	___	_____
*(3) Does the questionnaire require the signature of an authorized company representative?	___	___	_____
D. Follow-Up Procedures			
(1) Did the POTW follow up the questionnaire (with additional written requests, telephone calls or site visits) to obtain a complete and accurate response?	___	___	_____
E. Summary Information			
(1) Were the users classified by industrial category and/or SIC code?	___	___	_____
(2) Has the POTW correctly characterized the waste discharged from each industrial user or industrial type?	___	___	_____
(3) Does the information obtained demonstrate sufficient characterization of the IU's waste discharges to the POTW?	___	___	_____

Technical Information Checklist (Continued)

Name of POTW _____
Date _____

	Yes	No	Section of POTW's Submission
PART II. Methodology for Establishing Discharge Limitations [403.5(c)]			
A. POTW Operating Problems and Plant History			
(1) Did the POTW adequately document instances of:			
• Inhibition/upset?	___	___	_____
• Pass-through?	___	___	_____
• Sludge contamination?	___	___	_____
B. Developmental Sampling Program			
(1) Has the POTW recently sampled and analyzed:			
• Treatment plant influent?	___	___	_____
• Treatment plant unit operations?	___	___	_____
• Plant effluent?	___	___	_____
• Sludge?	___	___	_____
*• Industrial effluents?	___	___	_____
(2) Did this analysis include pollutants of concern identified in the survey?	___	___	_____
(3) Were appropriate sampling locations chosen?			
• In the treatment system?	___	___	_____
• In the collection system?	___	___	_____
• At the industries?	___	___	_____
(4) Was the appropriate type of sampling performed for each pollutant type (composite or grab)?	___	___	_____
*(5) Was the sampling frequency sufficient to give an accurate characterization?	___	___	_____
C. Need for Locally Developed Discharge Limitations			
(1) Did the POTW assess whether or not pollutants are present in the influent in amounts that inhibit treatment processes used by the POTW?	___	___	_____
(2) Did the POTW assess whether or not toxic pollutants are present in the POTW effluent in amounts known to exceed water quality criteria?	___	___	_____
(3) Are sludge disposal methods acceptable in view of pollutant load?	___	___	_____
D. Methodology for Setting Local Discharge Limits (refer to Appendix L)			
(1) Is the methodology appropriate?	___	___	_____
(2) Were relevant numbers used for:			
• Inhibition/upset concentrations?	___	___	_____
• Background concentrations?	___	___	_____
• Removal efficiencies?	___	___	_____
• Water quality criteria/standards?	___	___	_____
• Land application criteria?	___	___	_____

Technical Information Checklist (Continued)

Name of POTW _____
Date _____

	Yes	No	Section of POTW's Submission
• Non-secured landfill disposal (including ash disposal)?	___	___	_____
E. Appropriateness of Locally Developed Discharge Limitations			
(1) Are local limitations at least as stringent as national pretreatment standards for the appropriate categories?	___	___	_____
(2) Do local limitations enable the POTW to meet NPDES permit limits?	___	___	_____
(3) Will State water quality standards be met once local discharge limits are complied with?	___	___	_____
(4) Will State sludge disposal guidelines/ regulations be complied with?	___	___	_____
F. Multijurisdictional Submissions			
Were data from IUs and treatment plants in all jurisdictions considered in developing this technical information?	___	___	_____

*Indicates item is recommended, but not mandatory.

I have reviewed this submission in detail and have determined the technical information to be:

(_____) Adequate (_____) Inadequate

Date:_____ Reviewed by:_____
(Name)

Program Implementation Procedures Checklist

Name of POTW _____
Date _____

	Yes	No	Section of POTW's Submission
PART I. Updating the Industrial Waste Survey [403.8(f)(2)(i) and (ii)]			
A. Are procedures identified for updating (periodically) the waste survey information for existing users?	___	___	_____
B. Do procedures require new industries to supply discharge information or otherwise ensure that it will be collected?	___	___	_____
PART II. Notification of Appropriate Federal, State, and/or Local Standards or Limitations [403.8(f)(2)(iii)]			
A. Are there procedures for keeping abreast of existing and newly promulgated standards and requirements?	___	___	_____
B. Is there a mechanism to identify and notify industrial users of standards, limitations, or other requirements?	___	___	_____
PART III. Receipt and Analysis of Self-Monitoring Reports and Other Notices [403.8(f)(2)(iv)]			
A. Are there procedures for determining what self-monitoring and other reports are due?	___	___	_____
B. Are values reported by industries compared to discharge standards or compliance schedules?	___	___	_____
C. Are problems referred to appropriate authorities for technical evaluation and follow-up?	___	___	_____
PART IV. POTW Compliance Sampling and Analysis [403.8(f)(2)(v)]			
A. Does the description of the monitoring program include procedures for periodic random sampling of significant industrial dischargers?	___	___	_____
B. Are sampling and monitoring parameters identified for each firm or group of industries?	___	___	_____
C. Is the POTW sampling for the significant pollutants identified by the Industrial Waste Survey or by the priority pollutant/industry matrix? (Appendix D)	___	___	_____
D. Do the sampling and monitoring procedures conform to EPA requirements? (40 CFR 136,"Standard Methods")	___	___	_____
E. Is the frequency adequate to determine compliance independent of information supplied by IUs (at least annually)?	___	___	_____

Program Implementation Procedures Checklist (Continued)

Name of POTW _____
Date _____

	Yes	No	Section of POTW's Submission
PART V. Noncompliance Investigations and Enforcement [403.8(f)(2)(vi)]			
A. Are follow-up activities described that include provisions to:			
(1) Cover emergency situations?	___	___	_____
(2) Notify industrial users of violations?	___	___	_____
(3) Allow for response by industrial users?	___	___	_____
(4) Abate and control problem discharges?	___	___	_____
(5) Verify that corrective actions have worked?	___	___	_____
(6) Obtain compliance through legal means if necessary?	___	___	_____
(7) Assess penalties for noncompliance?	___	___	_____
B. Are procedures for quick response sampling and analysis included (demand sampling)?	___	___	_____
C. Are chain-of-custody and quality control provisions specified?	___	___	_____
PART VI. Public Participation			
A. Do procedures include at least annual notice of violations published in local newspapers? [403.8(f)(2)(vii)]	___	___	_____
B. Is notice and opportunity to respond provided, both to the industrial users and the general public, on the process of developing local industrial effluent limitations? [403.5(c)(3)]	___	___	_____
*C. Are program records available to the public?	___	___	_____
PART VII. Multijurisdictional Submissions			
A. Are there procedures to coordinate monitoring, enforcement, and implementation activities between the jurisdictions involved?	___	___	_____
B. Has the NPDES permit holder assumed lead responsibility in program implementation?	___	___	_____

*Indicates item is recommended, but not mandatory.

I have reviewed this submission in detail and have determined the implementation procedures to be:

(____) Adequate (____) Inadequate

Date: _____ Reviewed by: _____
(Name)

Resources Checklist

Name of POTW _____
Date _____

	Yes	No	Section of POTW's Submission
PART I. Organization and Staffing [403.8(f)(3) and 403.9(b)(3)]			
A. Is the description of the POTW organization clear and appropriate?	___	___	_____
B. Are mechanisms identified for delegating pretreatment tasks to other local government agencies?	___	___	_____
C. Are personnel or positions identified that are responsible for:			
(1) Technical review?	___	___	_____
(2) Monitoring?	___	___	_____
(3) Laboratory analysis?	___	___	_____
(4) Legal assistance and enforcement?	___	___	_____
(5) Administration?	___	___	_____
D. Have appropriate staffing levels been determined based on the program description?	___	___	_____
PART II. Equipment			
A. Does the POTW have adequate sampling equipment or other provisions to conduct necessary sampling?	___	___	_____
B. Does the POTW have adequate analytical capabilities to perform analyses for:			
(1) Nutrients and other non-conventionals?	___	___	_____
(2) Metals?	___	___	_____
(3) Toxic organics?	___	___	_____
C. If not, are other arrangements made to do so (e.g., contract with private laboratory, other agency)?	___	___	_____
PART III. Funding Estimates and Sources			
A. Does the POTW present an itemized estimate of pretreatment implementation costs?	___	___	_____
B. Is there an account of revenue sources that will cover the annual costs of the pretreatment program?	___	___	_____

Resources Checklist

Name of POTW _____
Date _____

	Yes	No	Section of POTW's Submission
PART IV. Multijurisdictional Submissions			
A. Does each jurisdiction participate in funding the pretreatment program?	___	___	_____
B. Are the relationships between the staff (personnel) of the participating jurisdictions adequately described and documented?	___	___	_____

I have reviewed this submission in detail and have determined the resources to be:

(____) Adequate (____) Inadequate

Date: _____ Reviewed by: _____

APPENDIX H

SAMPLE INDUSTRIAL WASTE SURVEY QUESTIONNAIRE

WASTEWATER SURVEY FOR NONRESIDENTIAL ESTABLISHMENTS:
APPLICATION FOR WASTEWATER DISCHARGE PERMIT

SECTION A - GENERAL INFORMATION

A.1. Company name, mailing address, and telephone number:

_____

_____

_____

Zip Code_____Telephone No.( )_____

A.2. Address of production or manufacturing facility. (If same as above, check[].)

_____

_____

Zip Code_____Telephone No.( )_____

A.3. Name, title, and telephone number of person authorized to represent this firm in official dealings with the Sewer Authority and/or City:

_____

_____

A.4. Alternate person to contact concerning Information provided herein
Name_____ Title _____Tel. No._____

A.5. Identify the type of business conducted (auto repair, machine shop, electroplating, warehousing, painting, printing, meat packing, food processing, etc.).

_____

Note to Signing Official: In accordance with Title 40 of the Code of Federal Regulations Part 403 Section 403.14, information and data provided in this questionnaire which identifies the nature and frequency of discharge shall be available to the public without restriction. Requests for confidential treatment of other information shall be governed by procedures specified in 40 CFR Part 2. Should a discharge permit be required for your facility, the information in this questionnaire will be used to issue the permit.

This is to be signed by an authorized official of your firm after adequate completion of this form and review of the information by the signing official.

I have personally examined and am familiar with the information submitted in this document and attachments. Based upon my inquiry of those individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment.

_____ _____

Date Signature of Official
(Seal if applicable)

A.6. Provide a brief narrative description of the manufacturing, production, or service activities your firm conducts.

_____

_____

_____

_____

A.7. Standard Industrial Classification Number(s) (SIC Code) for your facilities:

_____ _____ _____ _____ _____ _____ _____ _____

A.8. This facility generates the following types of wastes (check all that apply):

		Average gallons per day		
1.	[ ] Domestic wastes (restrooms, employee showers, etc.)	_____	[ ] estimated	[ ] measured
2.	[ ] Cooling water, non-contact	_____	[ ] estimated	[ ] measured
3.	[ ] Boiler/Tower blowdown	_____	[ ] estimated	[ ] measured
4.	[ ] Cooling water, contact	_____	[ ] estimated	[ ] measured
5.	[ ] Process	_____	[ ] estimated	[ ] measured
6.	[ ] Equipment/Facility Washdown	_____	[ ] estimated	[ ] measured
7.	[ ] Air Pollution Control Unit	_____	[ ] estimated	[ ] measured
8.	[ ] Storm water runoff to sewer	_____	[ ] estimated	[ ] measured
9.	[ ] Other (describe)	_____	[ ] estimated	[ ] measured
	_____			
	Total A.8.1 - A.8.9	_____		

A.9. Wastes are discharged to (check all that apply):

	Average Gallons per day		
[ ] Sanitary sewer	_____	[ ] estimated	[ ] measured
[ ] Storm sewer	_____	[ ] estimated	[ ] measured
[ ] Surface water	_____	[ ] estimated	[ ] measured
[ ] Ground water	_____	[ ] estimated	[ ] measured
[ ] Waste haulers	_____	[ ] estimated	[ ] measured
[ ] Evaporation	_____	[ ] estimated	[ ] measured
[ ] Other (describe)	_____	[ ] estimated	[ ] measured

Provide name and address of waste hauler(s), if used.

_____

_____

A.10. Is a Spill Prevention Control and Countermeasure Plan prepared for the facility?

[] yes [] no

Note: If your facility did not check one or more of the items listed in A.8.4 through A.8.9 above, then you do not need to complete any further sections in this survey/application. If any items A.8.4 through A.8.9 were checked, complete the remainder of this survey/application.

SECTION B - FACILITY OPERATION CHARACTERISTICS

B.1 Number of employee shifts worked per 24-hour day is _____.
Average number of employees per shift is _____.

B.2 Starting times of each shift: 1st ____ am/pm 2nd ____ am/pm 3rd ____ am/pm

Note: The following information in this section must be completed for each product line.

B.3 Principal product produced: _____

B.4 Raw materials and process additives used:

_____

_____

B.5 Production process is:
[ ] Batch [ ] Continuous [ ] Both _____%batch _____%continuous
Average number of batches per 24-hour day _____

B.6 Hours of operation: _____ a.m. to _____ p.m. [ ] continuous

B.7 Is production subject to seasonal variation? [ ] yes [ ] no
If yes, briefly describe seasonal production cycle.

_____

_____

B.8 Are any process changes or expansions planned during the next three years?
[ ] yes [ ] no
If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

SECTION C - WASTEWATER INFORMATION

C.1 If your facility employs processes in any of the 34 industrial categories or business activities listed below and any of these processes generate wastewater or waste sludge, place a check beside the category or business activity (check all that apply).

A. 34 Industrial Categories

1. [ ] Adhesives
2. [ ] Aluminum Forming
3. [ ] Auto & Other Laundries
4. [ ] Battery Manufacturing
5. [ ] Coal Mining
6. [ ] Coil Coating
7. [ ] Copper Forming
8. [ ] Electric & Electronic Components
9. [ ] Elecroplating
10. [ ] Explosives Manufacturing
11. [ ] Foundries
12. [ ] Gum & Wood Chemicals
13. [ ] Inorganic Chemicals
14. [ ] Iron & Steel
15. [ ] Leather Tanning & Finishing
16. [ ] Mechanical Products
17. [ ] Nonferrous Metals
18. [ ] Ore Mining
19. [ ] Organic Chemicals
20. [ ] Paint & Ink
21. [ ] Pesticides
22. [ ] Petroleum Refining
23. [ ] Pharmaceuticals
24. [ ] Photographic Supplies
25. [ ] Plastic & Synthetic Materials
26. [ ] Plastics Processing
27. [ ] Porcelain Enamel
28. [ ] Printing & Publishing
29. [ ] Pump & Paper
30. [ ] Rubber
31. [ ] Soaps & Detergents
32. [ ] Steam Electric
33. [ ] Textile Mills
34. [ ] Timber

B. Other Business Activity

[ ] Dairy Products

[ ] Slaughter/Meat Packing/Rendering

[ ] Food/Edible Products Processor

[ ] Beverage Bottler

C.2 Pretreatment devices or processes used for treating wastewater or sludge (check as many as appropriate)

[ ] Air flotation
[ ] Centrifuge
[ ] Chemical precipitation
[ ] Chlorination
[ ] Cyclone
[ ] Filtration
[ ] Flow Equalization
[ ] Grease or oil separation, type _____
[ ] Grease trap
[ ] Grit Removal
[ ] Ion Exchange
[ ] Neutralization, pH correction
[ ] Ozonation
[ ] Reverse Osmosis
[ ] Screen
[ ] Sedimentation
[ ] Septic tank
[ ] Solvent separation
[ ] Spill protection
[ ] Sump
[ ] Biological treatment, type_____
[ ] Rainwater diversion or storage_____
[ ] Other chemical treatment, type_____
[ ] Other physical treatment, type_____
[ ] Other, type_____
[ ] No pretreatment provided

C.3 If any wastewater analyses have been performed on the wastewater discharge(s) from your facilities, attach a copy of the most recent data to this questionnaire. Be sure to include the date of the analysis, name of laboratory performing the analysis, and location(s) from which sample(s) were taken (attach sketches, plans, etc., as necessary).

C.4 Priority Pollutant Information: Please indicate by placing an "x" in the appropriate box by each listed chemical whether it is "Suspected to be Absent," "Known to be Absent," "Suspected to be Present," or "Known to be Present" in your manufacturing or service activity or generated as a by-product.

CHEMICAL COMPOUND	Known Present	Suspected Present	Known Absent	Suspected Absent	Known or Suspected Concentration (av
I. METALS & INORGANICS					
1. Antimony	[ ]	[ ]	[ ]	[ ]	___
2. Arsenic	[ ]	[ ]	[ ]	[ ]	___
3. Asbestos	[ ]	[ ]	[ ]	[ ]	___
4. Beryllium	[ ]	[ ]	[ ]	[ ]	___
5. Cadmium	[ ]	[ ]	[ ]	[ ]	___
6. Chromium	[ ]	[ ]	[ ]	[ ]	___
7. Copper	[ ]	[ ]	[ ]	[ ]	___
8. Cyanide	[ ]	[ ]	[ ]	[ ]	___
9. Lead	[ ]	[ ]	[ ]	[ ]	___
10. Mercury	[ ]	[ ]	[ ]	[ ]	___
11. Nickel	[ ]	[ ]	[ ]	[ ]	___
12. Selenium	[ ]	[ ]	[ ]	[ ]	___
13. Silver	[ ]	[ ]	[ ]	[ ]	___
14. Thallium	[ ]	[ ]	[ ]	[ ]	___
15. Zinc	[ ]	[ ]	[ ]	[ ]	___
II. PHENOLS AND CRESOLS					
16. Phenol(s)	[ ]	[ ]	[ ]	[ ]	___
17. Phenol, 2-chloro	[ ]	[ ]	[ ]	[ ]	___
18. Phenol, 2,4-dichloro	[ ]	[ ]	[ ]	[ ]	___
19. Phenol, 2,4,6-trichloro	[ ]	[ ]	[ ]	[ ]	___
20. Phenol, pentachloro	[ ]	[ ]	[ ]	[ ]	___
21. Phenol, 2-nitro	[ ]	[ ]	[ ]	[ ]	___
22. PHenol, 4-nitro	[ ]	[ ]	[ ]	[ ]	___
23. Phenol, 2,4-dinitro	[ ]	[ ]	[ ]	[ ]	___
24. Phenol, 2,4-dimethyl	[ ]	[ ]	[ ]	[ ]	___
25. m-Cresol, p-chloro	[ ]	[ ]	[ ]	[ ]	___
26. o-Cresol, 4,6-dinitro	[ ]	[ ]	[ ]	[ ]	___
III. MONOCYCLIC AROMATICS (EXCLUDING PHENOLS, CRESOLS AND PHTHALATES)					
27. Benzene	[ ]	[ ]	[ ]	[ ]	___
28. Benzene,chloro	[ ]	[ ]	[ ]	[ ]	___
29. Benzene, 1,2-dichloro	[ ]	[ ]	[ ]	[ ]	___
30. Benzene, 1,3-dichloro	[ ]	[ ]	[ ]	[ ]	___
31. Benzene, 1,4-dichloro	[ ]	[ ]	[ ]	[ ]	___
32. Benzene, 1,2,4-trichloro	[ ]	[ ]	[ ]	[ ]	___
33. Benzene,hexachloro	[ ]	[ ]	[ ]	[ ]	___
34. Benzene, ethyl	[ ]	[ ]	[ ]	[ ]	___
35. Benzene, nitro	[ ]	[ ]	[ ]	[ ]	___
36. Toluene	[ ]	[ ]	[ ]	[ ]	___
37. Toluene, 2,4-dinitro	[ ]	[ ]	[ ]	[ ]	___
38. Toluene, 2,6-dinitro	[ ]	[ ]	[ ]	[ ]	___
IV. PCBs & RELATED COMPOUNDS					
39. PCB-1016	[ ]	[ ]	[ ]	[ ]	___
40. PCB-1221	[ ]	[ ]	[ ]	[ ]	___
41. PCB-1232	[ ]	[ ]	[ ]	[ ]	___
42. PCB-1242	[ ]	[ ]	[ ]	[ ]	___
43. PCB-1248	[ ]	[ ]	[ ]	[ ]	___
44. PCB-1254	[ ]	[ ]	[ ]	[ ]	___
45. PCB-1260	[ ]	[ ]	[ ]	[ ]	___
46. 2-Chloronaphthalene	[ ]	[ ]	[ ]	[ ]	___
V. ETHERS					
47. Ether, bis(chloromethyl)	[ ]	[ ]	[ ]	[ ]	___
48. Ether, bis(2-chloroethyl)	[ ]	[ ]	[ ]	[ ]	___
49. Ether, bis(2-chlorosopropyl)	[ ]	[ ]	[ ]	[ ]	___
50. Ether, 2-chloroethyl vinyl	[ ]	[ ]	[ ]	[ ]	___
51. Ether, 4-bromophenyl phenyl	[ ]	[ ]	[ ]	[ ]	___
52. Ether, 4-chlorophenyl phenyl	[ ]	[ ]	[ ]	[ ]	___
53. Bis(2-chloroethoxy) methane	[ ]	[ ]	[ ]	[ ]	___
VI. NITROSAMINES AND OTHER NITROGEN-CONTAINING COMPOUNDS					
54. Nitrosamine, dimethyl	[ ]	[ ]	[ ]	[ ]	___
55. Nitrosamine, diphenyl	[ ]	[ ]	[ ]	[ ]	___
56. Nitrosamine, di-n-propyl	[ ]	[ ]	[ ]	[ ]	___
57. Benzidine	[ ]	[ ]	[ ]	[ ]	___
58. Benzidine, 3,3'-dichloro	[ ]	[ ]	[ ]	[ ]	___
59. Hydrazine, 1,2-diphenyl	[ ]	[ ]	[ ]	[ ]	___
60. Acrylonitrile	[ ]	[ ]	[ ]	[ ]	___

CHEMICAL COMPOUND	Known Present	Suspected Present	Known Absent	Suspected Absent	Known or Suspected Concentration (av
VII. HALOGENATED ALIPHATICS					
61. Methane, bromo-	[ ]	[ ]	[ ]	[ ]	___
62. Methane, chloro-	[ ]	[ ]	[ ]	[ ]	___
63. Methane, dichloro	[ ]	[ ]	[ ]	[ ]	___
64. Methane, chlorodibromo	[ ]	[ ]	[ ]	[ ]	___
65. Methane, dichlorobromo	[ ]	[ ]	[ ]	[ ]	___
66. Methane, tribromo	[ ]	[ ]	[ ]	[ ]	___
67. Methane, trichloro	[ ]	[ ]	[ ]	[ ]	___
68. Methane, tetrachloro	[ ]	[ ]	[ ]	[ ]	___
69. Methane, trichlorofluoro	[ ]	[ ]	[ ]	[ ]	___
70. Methane, dichlorodifluoro	[ ]	[ ]	[ ]	[ ]	___
71. Ethane, 1,1-dichloro	[ ]	[ ]	[ ]	[ ]	___
72. Ethane, 1,2-dichloro	[ ]	[ ]	[ ]	[ ]	___
73. Ethane, 1,1,1-trichloro	[ ]	[ ]	[ ]	[ ]	___
74. Ethane, 1,1,2-trichloro	[ ]	[ ]	[ ]	[ ]	___
75. Ethane, 1,1,2,2-tetrachloro	[ ]	[ ]	[ ]	[ ]	___
76. Ethane, hexachloro	[ ]	[ ]	[ ]	[ ]	___
77. Ethene, chloro	[ ]	[ ]	[ ]	[ ]	___
78. Ethene, 1,1-dichloro	[ ]	[ ]	[ ]	[ ]	___
79. Ethene, trans-dichloro	[ ]	[ ]	[ ]	[ ]	___
80. Ethene, trichloro	[ ]	[ ]	[ ]	[ ]	___
81. Ethene, tetrachloro	[ ]	[ ]	[ ]	[ ]	___
82. Propane, 1,2-dichloro	[ ]	[ ]	[ ]	[ ]	___
83. Propene, 2,4-dichloro	[ ]	[ ]	[ ]	[ ]	___
84. Butadiene, hexachloro	[ ]	[ ]	[ ]	[ ]	___
85. Cyclopentadiene, hexachloro	[ ]	[ ]	[ ]	[ ]	___
VIII. PHTHALATE ESTERS					
86. Phthalate, di-c-methyl	[ ]	[ ]	[ ]	[ ]	___
87. Phthalate, di-n-ethyl	[ ]	[ ]	[ ]	[ ]	___
88. Phathalate, di-n-butyl	[ ]	[ ]	[ ]	[ ]	___
89. Phthalate, di-n-octyl	[ ]	[ ]	[ ]	[ ]	___
90. Phthalate, bis(2-ethylhexyl)	[ ]	[ ]	[ ]	[ ]	___
91. Phthalate, butyl benzyl	[ ]	[ ]	[ ]	[ ]	___
IX. POLYCYCLIC AROMATIC HYDROCARBONS					
92. Acenaphthene	[ ]	[ ]	[ ]	[ ]	___
93. Acenaphthylene	[ ]	[ ]	[ ]	[ ]	___
94. Anthracene	[ ]	[ ]	[ ]	[ ]	___
95. Benzo (a) anthracene	[ ]	[ ]	[ ]	[ ]	___
96. Benzo (b) fluoranthene	[ ]	[ ]	[ ]	[ ]	___
97. Benzo (k) fluoranthene	[ ]	[ ]	[ ]	[ ]	___
98. Benzo (ghi) perylene	[ ]	[ ]	[ ]	[ ]	___
99. *Benzo (a) pyrene*	[ ]	[ ]	[ ]	[ ]	___
100. Chrysene	[ ]	[ ]	[ ]	[ ]	___
101. Dibenzo (a,n,) anthracene	[ ]	[ ]	[ ]	[ ]	___
102. Fluoranthene	[ ]	[ ]	[ ]	[ ]	___
103. Fluorene	[ ]	[ ]	[ ]	[ ]	___
104. Indeno (1,2,3-cd) pyrene	[ ]	[ ]	[ ]	[ ]	___
105. Naphthalene	[ ]	[ ]	[ ]	[ ]	___
106. Phenanthrene	[ ]	[ ]	[ ]	[ ]	___
107. Pyrene	[ ]	[ ]	[ ]	[ ]	___
X. PESTICIDES					
108. Acrolein	[ ]	[ ]	[ ]	[ ]	___
109. Aldrin	[ ]	[ ]	[ ]	[ ]	___
110. BHC (Alpha)	[ ]	[ ]	[ ]	[ ]	___
111. BHC (Beta)	[ ]	[ ]	[ ]	[ ]	___
112. BHC (Gamma) or Lindane	[ ]	[ ]	[ ]	[ ]	___
113. BHC (Delta)	[ ]	[ ]	[ ]	[ ]	___
114. Chlordane	[ ]	[ ]	[ ]	[ ]	___
115. DDD	[ ]	[ ]	[ ]	[ ]	___
116. DDE	[ ]	[ ]	[ ]	[ ]	___
117. DDT	[ ]	[ ]	[ ]	[ ]	___
118. Dieldrin	[ ]	[ ]	[ ]	[ ]	___
119. Endosulfan (Alpha)	[ ]	[ ]	[ ]	[ ]	___
120. Endosulfan (Beta)	[ ]	[ ]	[ ]	[ ]	___
121. Endosulfan Sulfate	[ ]	[ ]	[ ]	[ ]	___
122. Endrin	[ ]	[ ]	[ ]	[ ]	___
123. Endrin aldehyde	[ ]	[ ]	[ ]	[ ]	___
124. Heptachlor	[ ]	[ ]	[ ]	[ ]	___
125. Heptachlor epoxide	[ ]	[ ]	[ ]	[ ]	___
126. Isophorone	[ ]	[ ]	[ ]	[ ]	___
127. TCDD (or Dioxin)	[ ]	[ ]	[ ]	[ ]	___
128. Toxaphene	[ ]	[ ]	[ ]	[ ]	___

C.5 If you are unable to identify the chemical constituents of products you use that discharged in your wastewater, attach copies of the materials safety data sheets for such products.

SECTION D - OTHER WASTES

D.1 Are any liquid wastes or sludges from this firm disposed of by means other than discharge to the sewer system?

[ ] yes [ ] no

If "no," skip remainder of Section D.
If "yes," complete items 2 and 3.

D.2 These wastes may best be described as:

	Estimated Gallons or Pounds/Year
[ ] Acids and Alkalies	_____
[ ] Heavy Metal Sludges	_____
[ ] Inks/Dyes	_____
[ ] Oil and/or Grease	_____
[ ] Organic Compounds	_____
[ ] Paints	_____
[ ] Pesticides	_____
[ ] Plating Wastes	_____
[ ] Pretreatment Sludges	_____
[ ] Solvents/Thinners	_____
[ ] Other Hazardous Wastes (specify)	_____
_____	_____
_____	_____
[ ] Other wastes(specify)	
_____	_____
_____	_____

D.3 For the above checked wastes, does your company practice:

[ ] on-site storage
[ ] off-site storage
[ ] on-site disposal
[ ] off-site disposal

Briefly describe the method(s) of storage or disposal checked above.

APPENDIX I

EPA MODEL ORDINANCE

EPA MODEL ORDINANCE

ORDINANCE NO. _____

SECTION 1 GENERAL PROVISIONS

1.1 Purpose and Policy

This ordinance sets forth uniform requirements for direct and indirect contributors into the wastewater collection and treatment system for the City of _____ and enables the City to comply with all applicable State and Federal laws required by the Clean Water Act of 1977 and the General Pretreatment Regulations (40 CFR, Part 403).

The objectives of this ordinance are:

(a) To prevent the introduction of pollutants into the municipality wastewater system which will interfere with the operation of the system or contaminate the resulting sludge;

(b) To prevent the introduction of pollutants into the municipal wastewater system which will pass through the system, inadequately treated, into receiving waters or the atmosphere or otherwise be incompatible with the system;

(c) To improve the opportunity to recycle and reclaim wastewaters and sludges from the system; and

(d) To provide for equitable distribution of the cost of the municipal wastewater system.

This ordinance provides for the regulation of direct and indirect contributors to the municipal wastewater system through the issuance of permits to certain non-domestic users and through enforcement of general requirements for the other users, authorizes monitoring and enforcement activities, requires user reporting, assumes that existing customer's capacity will not be preempted, and provides for the setting of fees for the equitable distribution of costs resulting from the program established herein.

This ordinance shall apply to the (City of _____) and to persons outside the (City) who are, by contract or agreement with the (City), Users of the (City) POTW. This ordinance is a supplement to Ordinance No. _____ as amended. Except as otherwise provided herein, the (Superintendent) of the (City) POTW shall administer, implement, and enforce the provisions of this ordinance.

1.2 Definitions

Unless the context specifically indicates otherwise, the following terms and phrases, as used in this ordinance, shall have the meanings hereinafter designated:

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

(2) Approval Authority. 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.

(3) Authorized Representative of Industrial User. An authorized representative of an Industrial User may be: (1) A principal executive officer of at least the level of vice-president, if the Industrial User is a corporation; (2) A general partner or proprietor if the industrial user is a partnership or proprietorship, respectively; (3) A duly authorized representative of the individual designated above if such representative is responsible for the overall operation of the facilities from which the indirect discharge originates.

(4) Biochemical Oxygen Demand (BOD). The quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure, five (5) days at 20° centigrade expressed in terms of weight and concentration (milligrams per liter (mg/l)).

(5) Building Sewer. A sewer conveying wastewater from the premises of a User to the POTW.

(6) Categorical Standards. National Categorical Pretreatment Standards or Pretreatment Standard.

(7) City. The City of _____ or the City Council of _____.

(8) Cooling Water. The water discharged from any use such as air conditioning, cooling or refrigeration, or to which the only pollutant added is heat.

(9) Control Authority. The term "control authority" shall refer to the "Approval Authority", defined hereinabove; or the Superintendent if the City has an approved Pretreatment Program under the provisions of 40 CFR, 403.11.

(10) Direct Discharge. The discharge of treated or untreated wastewater directly to the waters of the State of _____.

(11) Environmental Protection Agency, or EPA. The U.S. Environmental Protection Agency, or where appropriate the term may also be used as a designation for the Administrator or other duly authorized official of said agency.

(12) Grab Sample. A sample which is taken from a waste stream on a one-time basis with no regard to the flow in the waste stream and without consideration of time.

(13) Holding tank waste. Any waste from holding tanks such as vessels, chemical toilets, campers, trailers, septic tanks, and vacuum-pump tank trucks.

(14) Indirect Discharge. The discharge or the introduction of nondomestic pollutants from any source regulated under section 307(b) or (c) of the Act, (33 U.S.C. 1317), into the POTW (including holding tank waste discharged into the system).

(15) Industrial User. A source of Indirect Discharge which does not constitute a "discharge of pollutants" under regulations issued pursuant to section 402, of the Act. (33 U.S.C. 1342).

(16) Interference. The inhibition or disruption of the POTW treatment processes or operations which contributes to a violation of any requirement of the City's NPDES Permit. The term includes prevention of sewage sludge use or disposal by the POTW in accordance with 405 of the Act, (33 U.S.C. 1345) 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.

(17) National Categorical Pretreatment Standard or Pretreatment Standard. Any regulation containing pollutant discharge limits promulgated by the EPA in accordance with section 307(b) and (c) of the Act (33 U.S.C. 1347) which applies to a specific category of Industrial Users.

(18) National Prohibitive Discharge Standard or Prohibitive Discharge Standard. Any regulation developed under the authority of 307(b) of the Act and 40 CFR, Section 403.5.

(19) New Source. Any source, the construction of which is commenced after the publication of proposed regulations prescribing a section 307(c) (33 U.S.C. 1317) 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.

(20) National Pollution Discharge Elimination System or NPDES Permit. A permit issued pursuant to section 402 of the Act (33 U.S.C. 1342).

(21) Person. Any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity or any other legal entity, or their legal representatives, agents or assigns. The masculine gender shall include the feminine, the singular shall include the plural where indicated by the context.

(22) pH. The logarithm (base 10) of the reciprocal of the concentration of hydrogen ions expressed in grams per liter of solution.

(23) Pollution. The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

(24) Pollutant. Any dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt and industrial, municipal, and agricultrual waste discharged into water.

(25) Pretreatment or Treatment. 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, or process changes other means, except as prohibited by 40 CFR Section 403.6(d).

(26) Pretreatment Requirements. Any substantive or procedural requirement related to pretreatment, other than a National Pretreament Standard imposed on an industrial user.

(27) Publicly Owned Treatment Works (POTW). A treatment works as defined by section 212 of the Act, (33 U.S.C. 1292) which is owned in this instance by the City. This definition includes any sewers that convey wastewater to the POTW treatment plant, but does not include pipes, sewers or other conveyances not connected to a facility providing treatment. For the purposes of this ordinance, "POTW" shall also include any sewers that convey wastewaters to the POTW from persons outside the (city) who are, by contract or agreement with the (city), users of the (city's) POTW.

(28) POTW Treatment Plant. That portion of the POTW designed to provide treatment to wastewater.

(29) Shall is mandatory: May is permissive.

(30) Significant Industrial User. Any Industrial User of the City's wastewater disposal system who (i) has a discharge flow of 25,000 gallons or more per average work day, or (ii) has a flow greater than 5% of the flow in the City's wastewater treatment system, or (iii) has in his wastes toxic pollutants as defined pursuant to Section 307 of the Act of (State) Statutes and rules or (iv) is found by the City, (State Control Agency) or the U.S. Environmental Protection Agency (EPA) to have significant impact, either singly or in combination with other contributing industries, on the wastewater treatment system, the quality of sludge, the system's effluent quality, or air emissions generated by the system.

(31) State. State of _____.

(32) Standard Industrial Classification (SIC). A classification pursuant to the Standard Industrial Classification Manual issued by the Executive Office of the President, Office of Management and Budget, 1972.

(33) Storm Water. Any flow occurring during or following any form of natural precipitation and resulting therefrom.

(34) Suspended Solids. The total suspended matter that floats on the surface of, or is suspended in, water, wastewater or other liquids, and which is removable by laboratory filtering.

(35) Superintendent. The person designated by the City to supervise the operation of the publicly owned treatment works and who is charged with certain duties and responsibilities by this article, or his duly authorized representative.

(36) Toxic Pollutant. Any pollutant or combination of pollutants listed as toxic in regulations promulgated by the Administrator of the Environmental Protection Agency under the provision of CWA 307(a) or other Acts.

(37) User. Any person who contributes, causes or permits the contribution of wastewater into the City's POTW.

(38) Wastewater. The liquid and water-carried industrial or domestic wastes from dwellings, commercial buildings, industrial faciltities, and institutions, together with may be present, whether treated or untreated, which is contributed into or permitted to enter the POTW.

(39) Waters of the State. All streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the State or any portion thereof.

(40) Wastewater Contribution Permit. As set forth in section 4.2 of this ordinance.

1.3 Abbreviations

The following abbreviations shall have the designated meanings:

- BOD - Biochemical Oxygen Demand.
- CFR - Code of Federal Regulations.
- COD - Chemical Oxygen Demand.
- EPA - Environmental Protection Agency
- l - Liter.
- mg - Milligrams.
- mg/l - Milligrams per liter.

- NPDES - National Pollutant Discharge Elimination System.
- POTW - Publicly Owned Treatment Works.
- SIC - Standard Industrial Classification.
- SWDA - Solid Waste Disposal Act, 42 U.S.C. 6901, et. seq.
- USC - United States Code.
- TSS - Total Suspended Solids.

SECTION 2 - REGULATIONS

2.1 General Discharge Prohibitions

No User shall contribute or cause to be contributed, directly or indirectly, any pollutant or wastewater which will interfere with the operation or performance of the POTW. These general prohibitions apply to all such Users of a POTW whether or not the User is subject to National Categorical Pretreatment Standards or any other National, State, or local Pretreatment Standards or Requirements. A user may not contribute the following substances to any POTW:

a) Any liquids, solids or gases which by reason of their nature or quantity are, or may be, sufficient either alone or by interaction with other substances to cause fire or explosion or be injurious in any other way to the POTW or to the operation of the POTW. At no time, shall two successive readings on an explosion hazard meter, at the point of discharge into the system (or at any point in the system) be more than five percent (5%) nor any single reading over ten percent (10%) of the Lower Explosive Limit (LEL) of the meter. Prohibited materials include, but are not limited to, gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides and sulfides and any other substances which the City, the State or EPA has notified the User is a fire hazard or a hazard to the system.

b) Solid or viscous substances which may cause obstruction to the flow in a sewer or other interference with the operation of the wastewater treatment facilities such as, but not limited to: grease, garbage with particles greater than one-half inch (½") in any dimension, animal guts or tissues, paunch manure, bones, hair, hides or

fleshings, entrails, whole blood, feathers, ashes, cinders, sand, spent lime, stone or marble dust, metal, glass, staw, shavings, grass clippings, rags, spent grains, spent hops, waste paper, wood, plastics, gas, tar, asphalt residues, residues from refining, or processing of fuel or lubricating oil, mud, or glass grinding or polishing wastes.

c) Any wastewater having a pH less than 5.0, unless the POTW is specifically designed to accommodate such wastewater, or wastewater having any other corrosive property capable of causing damage or hazard to structures, equipment, and/or personnel of the POTW.

d) Any wastewater containing toxic pollutants in sufficient quantity, either singly or by interaction with other pollutants, to injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, create a toxic effect in the receiving waters of the POTW, or to exceed the limitation set forth in a Categorical Pretreatment Standard. A toxic pollutant shall include but not be limited to any pollutant identified pursuant to Section 307(a) of the Act.

e) Any noxious or malodorous liquids, gases, or solids which either singly or by interaction with other wastes are sufficient to create a public nuisance or hazard to life or are sufficient to prevent entry into the sewers for maintenance and repair.

f) Any substance which may cause the POTW's effluent or any other product of the POTW such as residues, sludges, or scums, to be unsuitable for reclamation and reuse or to interfere with the reclamation process. In no case, shall a substance discharged to the POTW cause the POTW to be in non-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, the Clean Air Act, the Toxic Substances Control Act, or State criteria applicable to the sludge management method being used.

g) Any substance which will cause the POTW to violate its NPDES and/or State Disposal System Permit or the receiving water quality standards.

h) Any wastewater with objectionable color not removed in the treatment process, such as, but not limited to, dye wastes and vegetable tanning solutions.

i) Any wastewater having a temperature which will inhibit biological activity in the POTW treatment plant resulting in Interference, but in no case wastewater with a temperature at the introduction into the POTW which exceeds 40°C (104°F) unless the POTW treatment plant is designed to accommodate such temperature.

j) Any pollutants, including oxygen demanding pollutants (BOD, etc.) released at a flow rate and/or pollutant concentration which a user knows or has reason to know will cause Interference to the POTW. In no case shall a slug load have a flow rate or contain concentration or qualities of pollutants that exceed for any time period longer than fifteen (15) minutes more than five (5) times the average twenty-four (24) hour concentration, quantities, or flow during normal operation.

k) Any wastewater containing any radioactive wastes or isotopes of such halflife or concentration as may exceed limits established by the Superintendent in compliance with applicable State or Federal regulations.

l) Any wastewater which causes a hazard to human life or creates a public nuissance.

When the Superintendent determines that a User(s) is contributing to the POTW, any of the above enumerated subtances in such amounts as to Interfere with the operation of the POTW, the Superintendent shall: 1) Advise the User(s) of the impact of the contribution on the POTW; and 2) Develop effluent limitation(s) for such User to correct the Interference with the POTW.

2.2 Federal Categorical Pretreatment Standards

Upon the promulgation of the Federal Categorical Pretreatment Standards for a particular industrial subcategory, the Federal Standard, if more stringent than limitations imposed under this Ordinance for sources in that sub-

category, shall immediately supersede the limitations imposed under this Ordinance. The Superintendent shall notify all affected Users of the applicable reporting requirements under 40 CFR, Section 403.12.

2.3 Modification of Federal Categorical Pretreatment Standards

Where the City's wastewater treatment system achieves consistent removal of pollutants limited by Federal Pretreatment Standards, the City may apply to the Approval Authority for modification of specific limits in the Federal Pretreatment Standards. "Consistent Removal" shall mean reduction in the amount of a pollutant or alteration of the nature of the pollutant by the wastewater treatment system to a less toxic or harmless state in the effluent which is achieved by the system 95 percent of the samples taken when measured according to the procedures set forth in Section 403.7(c)(2) of (Title 40 of the Code of Federal Regulations, Part 403) - "General Pretreatment Regulations for Existing and New Sources of Pollution" promulgated pursuant to the Act. The City may then modify pollutant discharge limits in the Federal Pretreatment Standards if the requirements contained in 40 CFR, Part 403, Section 403.7, are fulfilled and prior approval from the Approval Authority is obtained.

2.4 Specific Pollutant Limitations (optional)

No person shall discharge wastewater containing in excess of:

_____ mg/l arsenic
_____ mg/l cadmium
_____ mg/l copper
_____ mg/l cyanide
_____ mg/l lead
_____ mg/l mercury
_____ mg/l nickel
_____ mg/l silver
_____ mg/l total chromium
_____ mg/l zinc
_____ mg/l total identifiable chlorinated hydrocarbons
_____ mg/l phenolic compounds which cannot be removed by the City's wastewater treatment processes.

2.5 State Requirements

State requirements and limitations on discharges shall apply in any case where they are more stringent than Federal requirements and limitations or those in this ordinance.

2.6 City's Right of Revision

The City reserves the right to establish by ordinance more stringent limitations or requirements on discharges to the wastewater disposal system if deemed necessary to comply with the objectives presented in Section 1.1 of this Ordinance.

2.7 Excessive Discharge

No User shall ever increase the use of process water or, in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in the Federal Categorical Pretreatment Standards, or in any other pollutant-specific limitation developed by the City or State. (Comment: Dilution may be an acceptable means of complying with some of the prohibitions set forth in Section 2.1, e.g. the pH prohibition.)

2.8 Accidental Discharges

Each User shall provide protection from accidental discharge of prohibited materials or other substances regulated by this Ordinance. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the owner or user's own cost and expense. Detailed plans showing facilities and operating procedures to provide this protection shall be submitted to the City for review, and shall be approved by the City before construction of the facility. All existing Users shall complete such a plan by January 1, 1983. No user who commences contribution to the POTW after the effective date of this ordinance shall be permitted to introduce pollutants into the system until accidental discharge procedures have been approved by the City. Review and approval of such plans and operating procedures shall not relieve the industrial user from the responsibility to modify the user's facility as necessary to meet the requirements of this Ordinance. In the case of an accidental discharge, it is the responsibility of the user to immediately telephone and notify the POTW of the incident. The notification shall include location of discharge, type of waste, concentration and volume, and corrective actions.

Written Notice Within five (5) days following an accidental discharge; the User shall submit to the Superintendent a detailed written report describing the cause of the discharge and the measures to be taken by the User to prevent similar future occurrences. Such notification shall not relieve the user of any expense, loss, damage,

or other liability which may be incurred as a result of damage to the POTW, fish kills, or any other damage to person or property; nor shall such notification relieve the user of any fines, civil penalties, or other liability which may be imposed by this article or other applicable law.

Notice to Employees: A notice shall be permanently posted on the User's bulletin board or other prominent place advising employees whom to call in the event of a dangerous discharge. Employers shall insure that all employees who may cause or suffer such a dangerous discharge to occur are advised of the emergency notification procedure.

SECTION 3 - FEES

3.1 Purpose

It is the purpose of this chapter to provide for the recovery of costs from Users of the City's wastewater disposal system for the implementation of the program established herein. The applicable charges or fees shall be set forth the City's Schedule of Charges and Fees.

3.2 Charges and Fees

The City may adopt charges and fees which may include:

a) fees for reimbursement of costs of setting up and operating the City's Pretreatment Program;

b) fees for monitoring, inspections and surveillance procedures;

c) fees for reviewing accidental discharge procedures and construction;

d) fees for permit applications;

e) fees for filing appeals;

f) fees for consistent removal (by the City) of pollutants otherwise subject to Federal Pretreatment Standards;

g) other fees as the City may deem necessary to carry out the requirements contained herein.

These fees relate solely to the matters covered by this Ordinance and are separate from all other fees chargeable by the City.

SECTION 4 - ADMINISTRATION

4.1 Wastewater Dischargers

It shall be unlawful to discharge without a (city) permit to any natural outlet within the (City of _____), or in any area under the jurisdiction of said (city), and/or to the POTW any wastewater except as authorized by the Superintendent in accordance with the provisions of this Ordinance.

4.2 Wastewater Contribution Permits

4.2.1 General Permits

All significant users proposing to connect to or to contribute to the POTW shall obtain a Wastewater Discharge Permit before connecting to or contributing to the POTW. All existing significant users connected to or contributing to the POTW shall obtain a Wastewater Contribution Permit within 180 (optional) days after the effective date of this Ordinance.

4.2.2 Permit Application

Users required to obtain a Wastewater Contribution Permit shall complete and file with the City, an application in the form prescribed by the City, and accompanied by a fee of _____. Existing users shall apply for a Wastewater Contribution Permit within 30 (optional) days after the effective date of this Ordinance, and proposed new users shall apply at least 90 (optional) days prior to connecting to or contributing to the POTW. In support of the application, the user shall submit, in units and terms appropriate for evaluation, the following information:

a) Name, address, and location, (if different from the address);

b) SIC number according to the Standard Industrial Classification Manual, Bureau of the Budget, 1972, as amended;

c) Wastewater constituents and characteristics including but not limited to those mentioned in Section 2 of this Ordinance as determined by a reliable analytical laboratory; sampling and analysis shall be performed in accordance with procedures established by the EPA pursuant to Section 304(g) of the Act and contained in 40 CFR, Part 136, as amended;

d) Time and duration of contribution;

e) Average daily and 30 minute peak wastewater flow rates, including daily, monthly and seasonal variations if any;

f) Site plans, floor plans, mechanical and plumbing plans and details to show all sewers, sewer connections, and appurtenances by the size, location and elevation;

g) Description of activities, facilities and plant processes on the premises including all materials which are or could be discharged;

h) Where known, the nature and concentration of any pollutants in the discharge which are limited by any City, State, or Federal Pretreatment Standards, and a statement regarding whether or not the pretreatment standards are being met on a consistent basis and if not, whether additional Operation and Maintenance (O&M) and/or additional pretreatment is required for the User to meet applicable Pretreatment Standards;

i) If additional pretreatment and/or O&M will be required to meet the Pretreatment Standards; the shortest schedule by which the 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:

The following conditions shall apply to this schedule:

(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 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 (1) shall exceed 9 months.

(3) Not later than 14 days following each date in the schedule and the final date for compliance, the User shall submit a progress report to the Superintendent 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 User to return the construction to the schedule established. In no event shall more than 9 months elapse between such progress reports to the Superintendent.

j) Each product produced by type, amount, process or processes and rate of production;

k) Type and amount of raw materials processed (average and maximum per day);

l) Number and type of employees, and hours of operation of plant and proposed or actual hours of operation of pretreatment system;

m) Any other information as may be deemed by the City to be necessary to evaluate the permit application.

The City will evaluate the data furnished by the user and may require additional information. After evaluation and acceptance of the data furnished, the City may issue a Wastewater Contribution Permit subject to terms and conditions provided herein.

4.2.3 Permit Modifications

Within 9 months of the promulgation of a National Categorical Pretreatment Standard, the Wastewater Contribution Permit of Users subject to such standards shall be revised to require compliance with such standard within the time frame prescribed by such standard. Where a User, subject to a National Categorical Pretreatment Standard, has not previously submitted an application for a Wastewater Contribution Permit as required by 4.2.2, the User shall apply for a Wastewater Contribution Permit within 180 days after the promulgation of the Applicable National Categorical Pretreatment Standard. In addition, the User with an existing Wastewater Contribution Permit shall submit to the Superintendent within 180 days after the promulgation of an

applicable Federal Categorical Pretreatment Standard the information required by paragraph (h) and (i) of Section 4.2.2.

4.2.4 Permit Conditions

Wastewater Discharge Permits shall be expressly subject to all provisions of this Ordinance and all other applicable regulations, user charges and fees established by the City. Permits may contain the following:

a) The unit charge or schedule of user charges and fees for the wastewater to be discharged to a community sewer;

b) Limits on the average and maximum wastewater constituents and characteristics;

c) Limits on average and maximum rate and time of discharge or requirements for flow regulations and equalization.

d) Requirements for installation and maintenance of inspection and sampling facilities;

e) Specifications for monitoring programs which may include sampling locations, frequency of sampling, number, types and standards for tests and reporting schedule;

f) Compliance schedules;

g) Requirements for submission of technical reports or discharge reports (see 4.3);

h) Requirements for maintaining and retaining plant records relating to wastewater discharge as specified by the City, and affording City access thereto;

i) Requirements for notification of the City or any new introduction of wastewater constitutents or any substantial change in the volume or character of the wastewater constitutents being introduced into the wastewater treatment system.

j) Requirements for notification of slug discharges as per 5.2;

l) Other conditions as deemed appropriate by the City to ensure compliance with this Ordinance.

4.2.5 Permits Duration

Permits shall be issued for a specified time period, not to exceed five (5) (optional) years. A permit may be issued for a period less than a year or may be stated to expire on a specific date. The user shall apply for permit reissuance a minimum of 180 days prior to the expiration of the user's existing permit. The terms and conditions of the permit may be subject to modification by the City during the term of the permit as limitations or requirements as identified in Section 2 are modified or other just cause exists. The User shall be informed of any proposed changes in his permit at least 30 days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

4.2.6 Permit Transfer

Wastewater Discharge Permits are issued to a specific User for a specific operation. A wastewater discharge permit shall not be reassigned or transferred or sold to a new owner, new User, different premises, or a new or changed operation without the approval of the City. Any succeeding owner or User shall also comply with the terms and conditions of the existing permit.

4.3 Reporting Requirements for Permittee

4.3.1 Compliance Date Report

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 User subject to Pretreatment Standards and Requirements shall submit to the Superintendent 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 User facility 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&M and/or pretreatment is necessary to bring the User into compliance with the applicable Pretreatment Standards or Requirements. This statement shall be signed by an authorized representative

of the Industrial User, and certified to by a qualified professional.

4.3.2 Periodic Compliance Reports

(1) Any 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 Superintendent during the months of June and December, unless required more frequently in the Pretreatment Standard or by the superintendent, 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 superintendent and in consideration of such factors as local high or low flow rates, holidays, budget cycles, etc., the superintendent may agree to alter the months during which the above reports are to be submitted.

(2) The Superintendent may impose mass limitations on 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 User. These reports 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 Superintendent, 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 therto, or with any other sampling and analytical procedures approved by the Administrator.)

4.4 Monitoring Facilities

The City shall require to be provided and operated at the User's own expense, monitoring facilities to allow inspection, sampling, and flow measurement of the building sewer and/or internal drainage systems. The monitoring facility should normally be situated on the User's premises, but the City may, when such a location would be impractical or cause undue hardship on the User, allow the facility to be constructed in the public street or sidewalk area and located so that it will not be obstructed by landscaping or parked vehicles.

There shall be ample room in or near such sampling manhole or facility to allow accurate sampling and preparation of samples for analysis. The facility, sampling, and measuring equipment shall be maintained at all times in a safe and proper operating condition at the expense of the user.

Whether constructed on public or private property, the sampling and monitoring facilities shall be provided in accordance with the City's requirements and all applicable local construction standards and specifications. Construction shall be completed within 90 days following written notification by the City.

4.5 Inspection and Sampling

The City shall inspect the facilities of any User to ascertain whether the purpose of this Ordinance is being met and all requirements are being complied with. Persons or occupants of premises where wastewater is created or discharged shall allow the City or their representative ready access at all reasonable times to all parts of the premises for the purposes of inspection, sampling, records examination or in the performance of any of their duties. The City, Approval Authority and (where the NPDES State is the Approval Authority). EPA shall have the right to set up on the User's property such devices as are necessary to conduct sampling inspection, compliance monitoring and/or

metering operations. Where a User has security measures in force which would require proper identification and clearance before entry into their premises, the User shall make necessary arrangements with their security guards so that upon presentation of suitable identification, personnel from the City, Approval Authority and EPA will be permitted to enter, without delay, for the purposes of performing their specific responsibilities.

4.6 Pretreatment

Users shall provide necessary wastewater treatment as required to comply with this Ordinance and shall achieve compliance with all Federal Categorical Pretreatment Standards within the time limitations as specified by the Federal Pretreatment Regulations. Any facilities required to pretreat wastewater to a level acceptable to the City shall be provided, operated, and maintained at the User's expense. Detailed plans showing the pretreatment facilities and operating procedures shall be submitted to the City for review, and shall be acceptable to the City before construction of the facility. The review of such plans and operating procedures will in no way relieve the user from the responsibility of modifying the facility as necessary to produce an effluent acceptable to the City under the provisions of this Ordinance. Any subsequent changes in the pretreatment facilities or method of operation shall be reported to and be acceptable to the City prior to the user's initiation of the changes.

The City shall annually publish in the _____ newspaper a list of the Users which were not in compliance with any Pretreatment Requirements or Standards at least once during the 12 previous months. The notification shall also summarize any enforcement actions taken against the user(s) during the same 12 months.

All records relating to compliance with Pretreatment Standards shall be made available to officials of the EPA or Approval Authority upon request.

4.7 Confidential Information

Information and data on a User obtained from reports, questionnaires, permit applications, permits and monitoring programs and from inspections shall be available to the public or other governmental agency without restriction unless the User specifically requests and is able to demonstrate to the satisfaction of the City that the release of such information would divulge information, processes or methods of production entitled to protection as trade secrets of the User.

When requested by the person furnishing a report, the portions of a report which might disclose trade secrets or secret processes shall not be made available for inspection by the public but shall be made available upon written request to governmental agencies for uses related to this Ordinance, the National Pollutant Discharge Elimination System (NPDES) Permit, State Disposal System permit and/or the Pretreatment Programs; provided, however, that such portions of a report shall be available for use by the State or any state agency in judicial review or enforcement proceedings involving the person furnishing the report. Wastewater constituents and characteristics will not be recognized as confidential information.

Information accepted by the City as confidential, shall not be transmitted to any governmental agency or to the general public by the City until and unless a ten-day notification is given to the User.

SECTION 5 - ENFORCEMENT

5.1 Harmful Contributions

The City may suspend the wastewater treatment service and/or a Wastewater Contribution Permit when such suspension is necessary, in the opinion of the City, in order to stop an actual or threatened discharge which presents or may present an imminent or substantial endangerment to the health or welfare of persons, to the environment, causes Interference to the POTW or causes the City to violate any condition of its NPDES Permit.

Any person notified of a suspension of the wastewater treatment service and/or the Wastewater Contribution Permit shall immediately stop or eliminate the contribution. In the event of a failure of the person to comply voluntarily with the suspension order, the City shall take such steps as deemed necessary including immediate severance of the sewer connection, to prevent or minimize damage to the POTW system or endangerment to any individuals. The City shall reinstate the Wastewater Contribution Permit and/or the wastewater treatment service upon proof of the elimination of the non-complying discharge. A detailed written statement submitted by the user describing the causes of the harmful contribution and the measures taken to prevent any future occurrence shall be submitted to the City within 15 days of the date of occurrence.

5.2 Revocation of Permit

Any User who violates the following conditions of this Ordinance, or applicable state and federal regulations, is subject to having his permit revoked in accordance with the procedures of Section 5 of this Ordinance:

a) Failure of a User to factually report the wastewater constituents and characteristics of his discharge;

b) Failure of the User to report significant changes in operations, or wastewater constituents and characteristics;

c) Refusal of reasonable access to the User's premises for the purpose of inspection or monitoring; or,

d) Violation of conditions of the permit.

5.3 Notification of Violation

Whenever the City finds that any User has violated or is violating this Ordinance, wastewater contribution permit, or any prohibition, limitation of requirements contained herein, the City may serve upon such person a written notice stating the nature of the violation. Within 30 days of the date of the notice, a plan for the satisfactory correction thereof shall be submitted to the City by the User.

5.4 Show Cause Hearing

5.4.1

The City may order any User who causes or allows an unauthorized discharge to enter the POTW to show cause before the City Council why the proposed enforcement action should not be taken. A notice shall be served on the User specifying the time and place of a hearing to be held by the City Council regarding the violation, the reasons why the action is to be taken, the proposed enforcement action, and directing the User to show cause before the City Council why the proposed enforcement action should not be taken. The notice of the hearing shall be served personally or by registered or certified mail (return receipt requested) at least (ten) days before the hearing. Service may be made on any agent or officer of a corporation.

5.4.2

The City Council may itself conduct the hearing and take the evidence, or may designate any of its members or any officer or employee of the (assigned department) to:

a) Issue in the name of the City Council notices of hearings requesting the attendance and testimony of witnesses and the production of evidence relevant to any matter involved in such hearings;

b) Take the evidence;

c) Transmit a report of the evidence and hearing, including transcripts and other evidence, together with recommendations to the City Council for action thereon.

5.4.3

At any hearing held pursuant to this Ordinance, testimony taken must be under oath and recorded stenographically. The transcript, so recorded, will be made available to any member of the public or any party to the hearing upon payment of the usual charges thereof.

5.4.4

After the City Council has reviewed the evidence, it may issue an order to the User responsible for the discharge directing that, following a specified time period, the sewer service be discontinued unless adequate treatment facilities, devices or other related appurtenances shall have been installed on existing treatment facilities, devices or other related appurtenances are properly operated. Further orders and directives as are necessary and appropriate may be issued.

5.5 Legal Action

If any person discharges sewage, industrial wastes or other wastes into the city's wastewater disposal system contrary to the provisions of this Ordinance, Federal or State Pretreatment Requirements, or any order of the City, the City Attorney may commence an action for appropriate legal and/or equitable relief in the (Circuit) Court of this county.

SECTION 6 - PENALTY: COSTS

6.1 Civil Penalties

Any User who is found to have violated an Order of the City Council or who willfully or negligently failed to comply with any provision of this Ordinance, and the orders, rules, regulations and permits issued hereunder, shall be fined not less than (One Hundred Dollars) (optional) nor more than (One Thousand Dollars) (optional) for each offense. Each day on which a violation shall occur or continue shall be deemed a separate and distinct offense. In addition to the penalties provided herein, the City may recover reasonable attorneys' fees, court costs, court reporters' fees and other expenses of litigation by appropriate suit at law against the person found to have violated this Ordinance or the orders, rules, regulations, and permits issued hereunder.

6.2 Falsifying Information

Any person who knowingly makes any false statements, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this Ordinance, or Wastewater Contribution Permit, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this Ordinance, shall, upon conviction, be punished by a fine of not more than $1,000 or by imprisonment for not more than six (6) months, or by both.

SECTION 7 - SEVERABILITY

If any provision, paragraph, word, section or article of this Ordinance is invalidated by any court of competent jurisdiction, the remaining provisions, paragraphs, words, sections, and chapters shall not be affected and shall continue in full force and effect.

SECTION 8 - CONFLICT

All other Ordinances and parts of other Ordinances inconsistent or conflicting with any part of this Ordinance are hereby repealed to the extent of such inconsistency or conflict.

SECTION 9 - EFFECTIVE DATE

This Ordinance shall be in full force and effect (Option A) from and after its passage, approval and publication, as provided by law. (Option B) on the ___ day of _____, 19__.

INTRODUCED the ___ day of _____, 19 __.
FIRST READING: _____, 19__.
SECOND READING: _____, 19__.
PASSED this ___ day of _____, 19__.
AYES:
NAYS:
ABSENT:
NOT VOTING:
APPROVED by me this __ day of _____, 19__.

_____
MAYOR, CITY OF _____

ATTEST:_____ (Seal) City Clerk
Published the __ day of _____, 19__.

SECTION 10 - INDUSTRIAL SEWER CONNECTION APPLICATION

To the (city or town) of _____:
The undersigned being the _____ of the property located at _____

_____

does hereby request a permit to _____ an industrial sewer connection serving _____, which company is engaged in _____

_____

at said location.

1. A plan to the property showing accurately all sewers and drains now existing is attached hereunto as Exhibit "A".

2. Plans and specifications covering any work proposed to be performed under this permit is attached hereunto as Exhibit "B".

3. A complete schedule of all process waters and industrial wastes produced or expected to be produced at said property, including a description of the character of each waste, the daily volume and maximum rates of discharge, representative analyses, and compliance with any applicable Pretreatment Standard or Requirements, is attached hereunto as Exhibit "C".

4. The name and address of the person or firm who will perform the work covered by this permit is _____.

In consideration of the granting of this permit the undersigned agrees:

1. To furnish any additional information relating to the installation or use of the industrial sewer for which this permit is sought as may be requested by the City.

2. To accept and abide by all provisions of Ordinance No. _____ of the City of _____, and of all other pertinent Ordinances or regulations that may be adopted in the future.

3. To operate and maintain any waste pretreatment facilities, as may be required as a condition of the acceptance into the wastewater treatment system of the industrial wastes involved, in an efficient manner at all times, and at no expense to the City.

4. To cooperate at all times with the City and his representatives in their inspecting, sampling, and study of the industrial wastes, and any facilities provided for pretreatment.

5. To notify the City immediately in the event of any accident, or other occurrence that occasions contributor to the wastewater treatment system of any wastewater or substances prohibited or not covered by this permit.

Date:_____ Signed_____

$_____ inspection fee paid _____

_____

Application approved and permit granted:

Date:_____ Signed_____

APPENDIX J

SAMPLE SEWER USE PERMIT

City of _____

Department of Public Works

WASTEWATER DISCHARGE PERMIT

Permit No. _____

In accordance with all terms and conditions of the _____ City Code, Part ___, Article ___, _____, Section _____, et. seq., and also with any applicable provisions of Federal or state law or regulation;

Permission Is Hereby Granted To _____

_____

Classified by SIC No. _____

For the contribution of _____

into the City of _____ sewer lines at _____

_____

This permit is granted in accordance with the application filed on _____, 19___ in the office of the _____ ( ) and in conformity with plans, specifications and other data submitted to the ( ) in support of the above application, all of which are filed with and considered as part of this permit, together with the following named conditions and requirements.

Effective this ___ day of _____, 19__

To Expire ___ day of _____, 19__

_____

Superintendent

Permit No. _____

Parameters (mg/l)	Limitations on Wastewater Strength: Maximum Conc. (mg/l) - 24 hour Flow Proportional Composite Sample	Limitations on Wastewater Strength: Maximum Instantaneous Concentration (mg/l) (Grab Sample)	Monitoring Requirements (E, SV, SC)
Aluminum-dissolved (Al)			
Antimony (Sb)			
Arsenic (As)			
Barium (Ba)			
Boron (B)			
Cadmium (Cd)			
Chromium-total (Cr)			
Chromium-hexavalent (Cr^{6+})			
Cobalt (Co)			
Copper (Cu)			
Cyanide (CN)			
Fluoride (F)			
Iron (Fe)			
Lead (Pb)			
Manganese (Mn)			
Mercury (Hg)			
Nickel (Ni)			
Phenols			
Selenium (Se)			
Silver (Ag)			
Titanium-dissolved (Ti)			
Zinc (Zn)			
Total Kjeldahl Nitrogen (TKN)			
Oil & Grease (Petroleum &/or mineral)			
MBAS			
Total Dissolved Solids			
Temperature-maximum (degrees C)			
pH-maximum (pH units)			
pH-minimum (pH units)			
Biochemical Oxygen Demand			
Chemical Oxygen Demand			
Suspended Solids			
Flow - (MGD)			

E - Enforcement Monitoring
SV - Surveillance Monitoring
SC - Surcharge Monitoring

Permit No. _____

ADDENDUM I

Monitoring Schedule

Permit No. _____

ADDENDUM II

Compliance Schedule

APPENDIX K

SAMPLE ATTORNEY'S STATEMENT

APPENDIX K

SAMPLE ATTORNEY'S STATEMENT

(Date)

(Name and Address)

Re: Legal Authority

Dear :

We are attorneys for the (Name of POTW), and the following statement is submitted pursuant to the requirements contained in the Code of Federal Regulations (CFR) Section 403.9(b)(1) regarding legal authority for the (Name of POTW) to implement the (Name of POTW) Pretreatment Program.

It is our opinion that the (Name of POTW) has adequate authority to carry out the program described in 40 CFR Section 403.8, based on authority granted to it by: (List all documents, such as State enabling statute, local Sewer Use Ordinance, Rules and Regulations, Codes, Regional or interagency agreements and any other documents that give the POTW the authority to implement the pretreatment program).

The following references to the legal authority requirements of 40 CFR 403.8(f)(1) are correlated with appropriate sections of the (Name of POTW) Ordinance which provide the required authority. Where the authority is not apparent from a reading of the Ordinance provision, an explanation is provided.

General -- Section _____ of the (POTW Ordinance) provides, that all connections of lateral or other sewerlines to the sewerage system of the POTW service area, whether within or without any city, shall be made subject to such terms and conditions as the (POTW Authority) may prescribe. Pursuant to this authority the (Name of POTW) Board of Directors has adopted its Ordinance No. _____ setting forth the terms and conditions upon which industrial users may connect to the system.

403.8(f)(1)(i) -- New contributions to the public sewerage system may not be made without an industrial user first obtaining a Sewer Use Permit (Section _____) which may contain various conditions and prohibitions (Section _____). Existing industrial users (those connected to the system prior to (Date) shall be required by the Engineer to obtain a Sewer Use Permit (Section _____). If there has been an increase or change in an industrial user's contribution to the system, the discharger is required to reapply for a permit to cover those changes (Section _____), and the Engineer may change the conditions of any Sewer Use Permit as circumstances may require (Section _____).

403.8(f)(1)(ii) -- In order to require compliance with applicable

Pretreatment Standards, (Name of POTW) must be able to require compliance with EPA's listed general prohibitions (403.5(a)), specific prohibitions (403.5(b)), local limits developed to implement the general and specific standards (403.6). Section _____ of the Ordinance prohibits any discharge to a sewer which will result in a nuisance, or contamination or pollution of receiving waters. Section _____ prohibits conditions which violate any statute, rule, regulation or ordinance of any public agency (including EPA). Section _____ prohibits those discharges prohibited by EPA regulations. These three sections empower (Name of POTW) to enforce the general and specific prohibitions contained in 40 CFR 403.5(a) and (b). When local discharge limits are developed pursuant to 403.5(c) and (d), they may be imposed by the Engineer as a permit condition pursuant to Ordinance Section _____. National categorical pretreatment standards may also be imposed as a permit condition per Ordinance Section _____, which empowers the Engineer to regulate discharges regulated by EPA.

403.8(f)(1)(iii) -- (Name of POTW) has control via a permit system authorized by Ordinance Section _____ (a permit application form appears in Appendix ___ of the (Name of POTW) Pretreatment Program).

403.8(f)(1)(iv)(A) -- The (Name of POTW) Engineer may, to remedy or avoid a violation of the ordinance or sewer use permit, require a user to develop a compliance schedule for installation of control technology under Ordinance Section _____. Additionally, the Engineer may require a compliance schedule as part of the required information under Ordinance Section _____, as a condition of obtaining a Sewer Use Permit.

403.8(f)(1)(iv)(B) -- The (Name of POTW) Engineer may require a user to submit all notices and self-monitoring reports required by EPA regulations through authority granted in Ordinance Section _____ and Section _____.

403.8(f)(1)(v) -- The (Name of POTW) Engineer may carry out inspection, surveillance and monitoring procedures under authority granted in Ordinance Section _____ and Section _____, subsection _____.

403.8(f)(1)(vi)(A) -- (Name of POTW) may seek remedies for noncompliance with pretreatment standards and requirements. As a matter of general law, (Name of POTW) may seek injunctive relief for noncompliance since any such noncompliance might result in irreparable harm to the treatment plant, to the health and safety of plant workers, and to the environment; and since damages at law would not be an adequate remedy. The Ordinance Section _____ provides that intentional violation of the ordinance is a misdemeanor which is punishable by a fine not to exceed $_____, imprisonment not to exceed ___ days, or both. Additionally, a civil liability is imposed by Ordinance Section _____ for intentional or negligent violation of (Name of POTW) requirements relating to (1) pretreatment of industrial wste which would otherwise be detrimental to the treatment works or its operation, and (2) the prevention of entry of such waste into the collection system or treatment works. The civil liability may equal a sum not to exceed $_____ per day per violation.

403.8(f)(1)(vi)(B) -- The (Name of POTW) Engineer may, under Ordinance Section _____, temporarily suspend a Sewer Use Permit or impose temporary

restrictions on discharges where continued discharges would jeopardize the ability of the treatment system to meet water quality standards, threaten damage to the sewerage system, or cause a nuisance or an unsafe condition to occur. Usually, a 48-hour period must pass before a suspension or restriction is effective. The waiting period may be dispensed with in emergency situations relating to public health and safety or a significant impairment of the treatment process. Ordinance Section _____ requires compliance with restrictions or cessation of discharges at the effective time of such action.

403.8(f)(1)(vii) -- Confidentiality requirements are provided for in Ordinance Section _____, "Confidentiality of Information".

As stated above, (Name of POTW) will implement the requirements of its pretreatment program and apply pretreatment standards to individual industrial users through use of a sewer use permit system, and by direct enforcement of its sewer use ordinance. A description of the exact procedures to be used in implementing the pretreatment program is provided in the Program Procedures portion of the (Name of POTW) Pretreatment Program.

(Name of POTW) intends to ensure compliance with pretreatment standards and requirements through an inspection and sampling program authorized under Section _____ of the Ordinance, which would allow for the determination of noncompliance with discharge limitations and requirements independent of information supplied by the industrial user. The inspection and sampling program is described in the Program Procedures portion of this submission.

Those violating permit conditions will be ordered to "Cease and Desist" (Ordinance Section _____, Subsection ____), and are subject to having service terminated (Section _____, Subsection ____) and their permit revoked (Section _____). (Name of POTW) is prepared to take court action where necessary to enforce compliance with its ordinance, permits or orders.

Very truly yours,

(Signed by Legal Counselor)

APPENDIX L

DEVELOPMENT OF DISCHARGE LIMITS TO CONTROL INCOMPATIBLE POLLUTANTS

APPENDIX L

DEVELOPMENT OF DISCHARGE LIMITATIONS TO CONTROL INCOMPATIBLE POLLUTANTS

1.0 INTRODUCTION

A critical part of a municipality's task in developing a local pretreatment program is the development of defensible numerical effluent limitations for the discharge of incompatible pollutants. These limitations are often incorporated directly into a municipal ordinance or are applied through individual permits issued to nondomestic users of the sewerage system. Such limits are needed to enforce the prohibited discharge standards of the General Pretreatment Regulations and to implement the three fundamental objectives of the National Pretreatment Program:

- To prevent the introduction of pollutants into the POTW which could interfere with its operation
- To prevent the pass-through of untreated pollutants which could violate a POTW's NPDES permit limitations and applicable water quality standards
- To prevent the contamination of a POTW's sludge which would limit selected sludge uses or disposal practices.

Locally developed limits are also necessary in cases where categorical standards have not yet been promulgated for an industry, the industry is not covered by categorical standards, or categorical standards are not adequate to protect the municipal treatment plant, receiving stream, or sludge.

This Appendix is intended to assist POTWs in calculating limits to implement these three objectives. The first section of the Appendix outlines the general methodology for determining allowable pollutant loadings, choosing the appropriate level of protection, and allocating these loadings to dischargers. Sections 2, 3, and 4 present equations and guideline data that can be used to calculate the limiting pollutant concentrations at the influent of the municipal treatment plant which will protect the wastewater treatment processes, the receiving water, and sludge disposal options. Section 5 discusses

considerations for allocation of pollutant loadings to individual industrial users. Section 6 demonstrates the calculation of a discharge limit for one pollutant, copper, using a hypothetical example.

The methodology described here for determining allowable influent concentrations and setting industrial effluent limits is widely known and accepted. The basis for some of the material that appears in this Appendix is a document originally prepared by the State of Indiana and the EPA Region V Office. The original document has been reorganized and expanded to facilitate a better understanding of the material.

1.1 GENERAL METHODOLOGY

An incompatible pollutant's effect on a POTW must be evaluated simultaneously from three perspectives -- impact on the treatment plant, impact on the receiving water, and impact on sludge described above. The limit for that pollutant can then be set to ensure that all pretreatment program objectives are met. It should be pointed out that the limiting factor which meets the most restrictive of the three objectives may vary from pollutant to pollutant. For example, at a particular POTW, constraints on the land application of sludge may limit the allowable influent concentration of cadmium, while the effects on the receiving water may limit the influent concentration of copper. The hypothetical example provided at the end of this document will demonstrate the effect of these limiting factors on the influent pollutant limit for copper.

As a general procedure, influent concentration limits should be calculated for a particular pollutant based on each of the three factors (i.e., treatment processes, water quality, and sludge). The most stringent of the three will determine the influent limit to be used for that pollutant. The POTW will then have to translate that influent limit into discharge limits for its industrial users that discharge the pollutant into its sewage system.

Although this document provides some specific data on only cyanide and nine metallic pollutants, a POTW may receive other industrial pollutants with

toxic characteristics. Industrial waste surveys and/or POTW sampling, if done properly, should identify the existence of such pollutants. Calculation of limits for such pollutants would follow the same general methodology discussed in this Appendix, although inhibition and removal data would have to be developed from other sources. It should be noted that this methodology does not account for any cumulative, synergistic, or antagonistic effects that may occur when several toxic pollutants are present simultaneously. Figure 1 shows an overview of the steps used in developing pollutant discharge limitations. Table 1 presents the two basic formulae used to determine local discharge limitations. The back calculation formula is used to calculate allowable POTW influent concentrations based on threshold concentrations from various in-plant criteria. The mass conversion formula allows for the determination of a mass loading (in lbs/day) if the flow and concentration of the wastewater are known.

FIGURE 1

BASIC STEPS IN DEVELOPING
POLLUTANT DISCHARGE LIMITATIONS

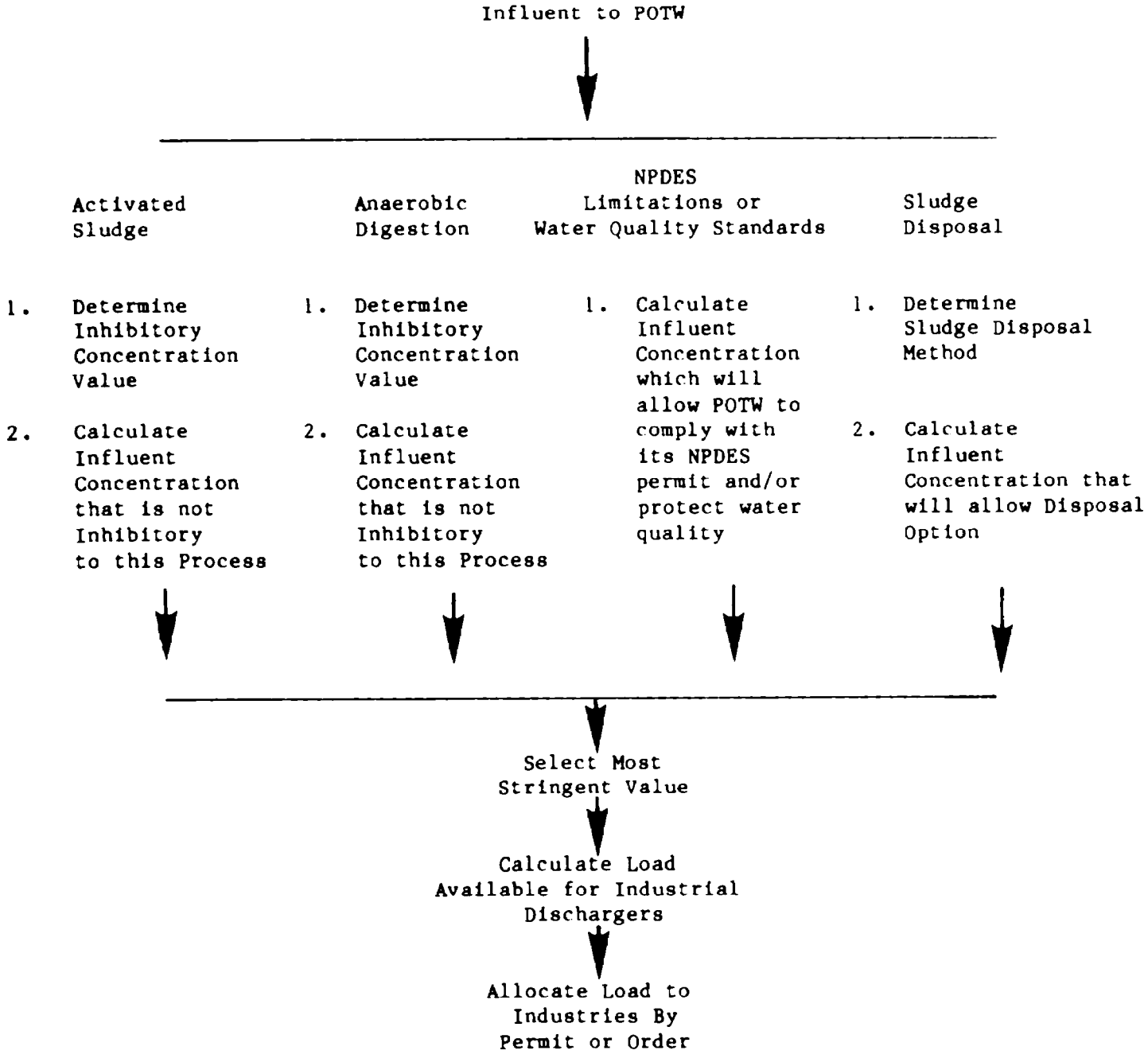

TABLE 1

BACK CALCULATION FORMULA

$$Lp = \frac{Li}{1-Ep}$$

Where: Lp = Allowable POTW influent concentration (in mg/l)

Li = Threshold concentration for the appropriate unit operation or appropriate permit limitation (in mg/l)

Ep = Reduction in upstream unit processes (expressed as a decimal)

****

MASS CONVERSION FORMULA

$$L = Q \times C \times 8.34$$

Where: L = Mass loading (in lbs/day)

Q = Wastewater flow (in MGD)

C = Concentration (in mg/l)

8.34 = Conversion factor $\left(\frac{\text{lbs/day}}{(\text{mg/l})(\text{MGD})}\right)$

2.0 PREVENTION OF INHIBITION OF TREATMENT PROCESSES

One of the primary objectives of the National Pretreatment Program is to prevent the discharge to a POTW of incompatible pollutants that would interfere with or inhibit the POTW's operation. In the case of cyanides, "heavy" metals, and other toxic pollutants, treatment plant upsets could result if the pollutant's toxicity is great enough to inhibit the microbial activity of the biological treatment system and cause a decrease in the pollution removal efficiency of the municipal treatment facility. Pollutant discharge limits should be set to maintain the concentration of each toxic pollutant below the inhibition threshold of the treatment unit.

2.1 ACTIVATED SLUDGE PROCESS

To calculate a discharge limit that will prevent inhibition of an activated sludge process, it is necessary to determine if an inhibition or upset condition exists. This determination can be made by examining POTW operating records for disruptions or changes (e.g., settling characteristics of secondary sludge, bacterial species populations in the mixed liquor of the aeration basin, etc.). If, after examining various operating parameters, no inhibition or upset conditions can be found, but a POTW protection criteria is desired, current levels of pollutants of concern should be used as threshold concentrations to determine maximum allowable influent loadings based on prevention of activated sludge inhibition. If, however, inhibition or upset conditions are found, the POTW must first determine the concentration of each pollutant of concern entering the activated sludge process. Care should be taken to include all recycle and return lines which may be sources of these pollutants, e.g., return activated sludge (RAS).

After this concentration has been determined, it should be compared with various inhibitory concentration values that can be found in the technical literature. Table 2 lists threshold concentrations for inhibitory effects of several metallic pollutants and cyanide on activated sludge processes, nitrification processes, and anaerobic sludge digestion. These inhibitory values are taken from technical literature and the experience of States and municipalities.

TABLE 2

THRESHOLD CONCENTRATIONS* OF TOXIC POLLUTANTS
THAT COULD INHIBIT BIOLOGICAL TREATMENT PROCESSES

Toxic Pollutant	Threshold of Inhibitory Effect on Activated Sludge	Threshold of Inhibitory Effect on Nitrification	Threshold of Inhibitory Effect on Anaerobic Sludge Digestion
Arsenic	0.05 mg/l	---	1.5 mg/l
Cadmium	1.0 mg/l	---	0.02 mg/l
Chromium (total)	10.0 mg/l	---	100.0 mg/l
Chromium (hex)	1.0 mg/l	---	50.0 mg/l
Copper	1.0 mg/l	0.1 mg/l	10.0 mg/l
Cyanide	0.1 mg/l	0.5 mg/l	4.0 mg/l
Lead	0.1 mg/l	0.5 mg/l	---
Mercury	0.1 mg/l	---	---
Nickel	1.0 mg/l	0.5 mg/l	10.0 mg/l
Zinc	1.0 mg/l	0.1 mg/l	20.0 mg/l

*Concentrations are specified at influent of the unit process in dissolved form.

References: (1), (3), and (5)

Some qualifications to the data in Table 2 should be noted. The concentrations reported in Table 2 are for the dissolved form of each metal and should be used only for comparison purposes and preliminary calculations if the actual proportion of dissolved to total metal is unknown. In addition, concentrations reported in this table reflect the minimum concentration which showed an inhibitory effect for all bench-scale and full-scale studies regardless of test conditions. The result is that many of the values are contradictory, with the same concentration having no inhibitory effects, some inhibitory effects, or total upset effects. Thus, in using the data in Table 2, it should be noted that these inhibitory concentrations are not absolute and all other possibilities should be examined prior to adopting a value from this table as a threshold concentration.

Using an established threshold concentration, a maximum allowable influent concentration to the POTW (Lp) is calculated for each pollutant of concern using the back calculation formula from Table 1, as follows:

$$Lp = \frac{Li}{(1-Ep)}$$

Where: Lp = Maximum allowable influent concentration to the POTW (in mg/l)

Li = Established threshold concentration for the pollutant of concern (in mg/l)

Ep = Reduction of the pollutant of concern through the primary treatment processes (expressed as a decimal)

Table 3 presents typical removal rates through primary and secondary treatment processes for several metals, but should only be used for comparison purposes and preliminary calculations. Plant-specific data are more valid and should always be used by the POTW for final calculations.

If, after maximum allowable influent concentrations have been calculated for all possible in-plant criteria, the activated sludge is selected as a controlling in-plant criteria (i.e., having the lowest maximum allowable influent concentration), the maximum allowable influent concentration for

TABLE 3

TYPICAL POTW REMOVAL RATES
FOR INCOMPATIBLE POLLUTANTS

Toxic Pollutant	Percent Removal Through Primary Treatment	Percent Removal Through Primary and Secondary Units
	Median Value[1]	Median Value[2]
Cadmium	7	50
Chromium	16	71
Copper	18	82
Cyanide	--	56
Lead	20	57
Mercury	22	51
Nickel	6	32
Zinc	26	76

[1]Reference: (1)

[2]Reference: (2)

sludge is converted to a mass loading (L) prior to the allocation procedure (see Section 5.0), using the mass conversion formula from Table 1 as follows:

$$L = Q \times C \times 8.34$$

Where: L = Maximum allowable mass loading to the POTW (in lbs/day)

Q = Design flow (in MGD) of the POTW

C = Maximum allowable influent concentration (in mg/l)

8.34 = Conversion factor

2.2 ANAEROBIC DIGESTION

To calculate a discharge limit that will prevent inhibition of anaerobic sludge digestion, the same basic procedure utilized for the activated sludge process is followed. First, it must be determined if an inhibition or upset condition exists by examining POTW operation records for disruption or changes in such operating parameters as digester supernatant volume and methane gas production. If no inhibition or upset conditions are found, a POTW can adopt current concentration levels of pollutants of concern entering the digestor as threshold concentrations, if a POTW protection criteria is desired. If an inhibition condition does exist, the POTW must determine the concentration of the pollutant of concern entering the digester, and only then compare the actual value to the data contained in Table 2, being sure to take into account all limitations of these literature data.

After establishing a threshold concentration, the POTW must determine the maximum allowable mass loading to the digester, using the mass conversion formula, as follows:

$$L = Q \times C_X \times 8.34$$

Where: L = Maximum mass loading to the digestor (in lbs/day)

Q = Sludge flow to the digester (in MGD)

C_X = Established threshold concentration for the anaerobic digestion process (in mg/l)

8.34 = Conversion factor

After a maximum allowable loading to the digester is determined, the maximum allowable influent concentration to the POTW (C) is calculated, using another form of the mass conversion formula, as follows:

$$C = \frac{L}{Q \times 8.34}$$

Where: C = Maximum allowable influent concentration (in mg/l)

L = Maximum allowable mass loading to digester (in lbs/day)

Q = Design wastewater flow of the POTW (in MGD)

8.34 = Conversion factor

However, the amount of a pollutant of concern in the sludge is limited by the amount of pollutant removed from the wastewater. In the case of metals, all metals removed from the wastewater are generally deposited in the sludge. Therefore, the maximum allowable influent concentration for metals must be adjusted for the amount of metals which remain in the final effluent as follows:

$$C^* = \frac{C}{Ep}$$

Where: C^* = Adjusted maximum allowable influent concentration (in mg/l)

C = Unadjusted maximum allowable influent concentration (in mg/l)

Ep = Reduction of pollutant of concern through the <u>entire</u> POTW (expressed as a decimal)

The final result is that the POTW maximum allowable influent concentration is allowed to increase by a factor of (1-Ep) to account for the pollutant of concern (metal) in the final effluent. For other types of pollutants, other removal mechanisms such as air stripping of volatile pollutants (which would reduce the amount of pollutant in the sludge) must be similarly considered. Assuming that anaerobic digestion is selected as the controlling in-plant criteria, the adjusted maximum allowable influent concentration to the POTW is converted to a mass loading prior to the allocation procedure.

This is performed using the mass conversion formula found in Table 1 as follows:

$$L = Q \times C^* \times 8.34$$

Where: L = Maximum allowable influent mass loading (in lbs/day)

Q = Design wastewater flow of POTW (in MGD)

C* = Adjusted maximum allowable influent concentration (in mg/l)

8.34 = Conversion factor

3.0 PREVENTION OF POLLUTANT PASS-THROUGH

The second objective of the National Pretreatment Program is to prevent the pass-through of incompatible pollutants, which could violate a POTW's NPDES permit requirements and applicable water quality standards. Two procedures are presented below. The first assists the POTW in developing pollutant discharge limits to ensure that NPDES permit limitations or any applicable State or local discharge limits are not violated. The second provides the POTW with a methodology for developing pollutant discharge limits to protect water quality criteria if desired, in the absence of specific national, State, or local discharge limitations.

3.1 COMPLIANCE WITH THE POTW NPDES PERMIT

There is only a single step involved in determining the maximum allowable influent concentration to the POTW required for that POTW to comply with its NPDES permit requirement for a particular pollutant of concern. Using the back calculation formula, the maximum allowable influent concentration is determined as follows:

$$Lp = \frac{Li}{1-Ep}$$

Where: Lp = Maximum allowable influent concentration (in mg/l)

Li = NPDES permit limitation for the pollutant of concern (in mg/l)

Ep = Reduction of pollutant of concern through the entire POTW (expressed as a decimal)

If the NPDES compliance in-plant criteria controls, the maximum allowable influent concentration is converted to a mass loading prior to the allocation procedure, as shown in previous sections.

3.2 PROTECTION OF RECEIVING STREAM'S WATER QUALITY

EPA and State publications contain information on the effects of toxic pollutants on receiving water quality. The main problems caused by toxic pollutants are the restriction of domestic and industrial uses of surface

water, toxicity to aquatic organisms, and the accumulation of toxics in the food chain. Also, there has been recent concern about trace organics that are carcinogenic to humans. For these reasons, a POTW can, in the absence of specific toxic pollutant effluent discharge limitations, develop specific local discharge limitations to protect the receiving stream's quality by using established national water quality criteria. However, it should be noted that the establishment of water quality standards for a particular receiving stream is the responsibility of the NPDES authority and the POTW is under no obligation to develop these standards. In addition, any effluent discharge limitations based on water quality criteria that are developed by a POTW would still be subject to revision by the NPDES authority and would require corresponding revisions to a POTW's local discharge limitations.

Exhibit A summarizes water quality criteria for 21 priority pollutants contained in EPA's Ambient Water Quality Criteria, Series (1), as published in the November 28, 1980, Federal Register. These new criteria have replaced those formerly established in the 1976 edition of Quality Criteria for Water (the "Red Book"). The criteria were derived by using "guidelines," which, theoretically, would ensure protection of aquatic health and human health. Officially, the criteria are only recommended values; they are not enforceable as water quality standards. However, they do provide useful documentation in the interpretation of State water quality standards.

To calculate the maximum allowable pollutant loading to the POTW's treatment plants that will protect the receiving water quality from degradation, the POTW has to determine the in-stream water quality standard (C_{wq}) for the pollutant of interest. This may be available from the State water quality agency. Otherwise, data from Exhibit A may need to be used even though they are not specific and may be too stringent. The maximum allowable pollutant concentration in the POTW's effluent (C_{eff}) can then be calculated, taking into account the dilution factor of the receiving stream, as follows:

$$C_{eff} = (C_{wq})(\text{Dilution factor})$$

Where: C_{eff} = Maximum allowable pollutant concentration (in mg/l) at the POTW effluent to protect receiving stream's water quality

C_{wq} = In-stream water quality standard (in mg/l)

$$\text{Dilution Factor} = \frac{Q_{str} + Q_{eff}}{Q_{eff}}$$

Where: Q_{str} = Critical low flow of receiving stream (in mgd)

Q_{eff} = POTW actual effluent flow (in mgd)

Calculation of the dilution factor involves determining the total volume of effluent discharged by the POTW into the receiving stream, either by actual flow measurement or by estimation, using the actual POTW influent flow and subtracting other sources of wastewater leaving the POTW, such as sludge flow. Once the maximum allowable pollutant effluent concentration (C_{eff}) is determined, the maximum allowable influent concentration to the POTW based on protection of water quality is calculated using another version of the back calculation formula, as follows:

$$Lp = \frac{C_{eff}}{1-Ep}$$

Where: Lp = Maximum allowable influent concentration to the POTW (in mg/l)

C_{eff} = Maximum allowable pollutant concentration at the POTW effluent (in mg/l)

Ep = Reduction of pollutant of concern through the entire POTW (expressed as a decimal)

If water quality is selected as a controlling in-plant criteria, the maximum allowable influent concentration is converted to a mass loading prior to the allocation procedure, as shown in previous sections.

4.0 PROTECTION OF SLUDGE QUALITY

The last major objective of the National Pretreatment Program is the generation of sludge that is compatible with the overall sludge management program and consistent with the selected disposal option of the POTW. Pollutant discharge limits should be calculated so that the POTW sludge remains compatible with the selected disposal option. There are three basic methods which POTWs utilize for sludge disposal at the present time:

- Incineration
- Landfilling
- Land application.

Each of these methods has different costs and benefits associated with its use. For this reason, the required sludge quality and degree of pretreatment needed will also vary.

4.1 INCINERATION

Incineration of sludges with high concentrations of priority pollutants can volatilize organics and metals. Little information exists on the release of these pollutants into the air during incineration. What is known about incineration is that it is very expensive to operate and requires an air pollution control permit. If incineration is the disposal option used, the POTW should sample and analyze the resulting ash to determine if the ash quality is compatible with its disposal method.

4.2 LANDFILL DISPOSAL

The determining factor for landfill disposal is whether the sludge is classified as a hazardous waste. To ensure that a particular sludge is not a hazardous waste, the EP (extraction procedure) toxicity test must be performed. When landfill disposal is used by the POTW, the sludge leachate should be sampled and analyzed when there is a possibility that the leachate may contaminate or degrade groundwater or surface water resources.

4.3 LAND APPLICATION

To predict the sludge quality needed for land application, plant operational data should be analyzed, and land quality and quantity should be determined. The POTW should know the general soil type and Cation Exchange Capacity (CEC) of the land application site. Table 4 provides Federal guidelines on loading limitations for land application of metal-bearing sludges. In addition, each State may have its own land application limitations. Both Federal and State rules should be evaluated to determine necessary sludge quality and allowable pollutant loads to the municipal treatment plant. These limitations should be utilized by the POTW to find the maximum cumulative pollutant loading (L) for a specific contaminant. Two procedures are described below. The first procedure is designed to assist the POTW in assessing sludge disposal impacts while the second will help in establishing local discharge limitations which will allow the POTW to dispose of its sludge properly and economically.

4.3.1 Procedure to Assess Sludge Disposal Impacts

In order to evaluate the impacts of possible sludge contamination, a POTW must first analyze its final sludge product for each pollutant of concern. Units of this analysis are generally in terms of milligrams of pollutant per kilogram of sludge on a dry weight basis. (If data are provided on a wet weight basis, be sure to convert to dry weight using the sludge percent solids.) After converting from mg/kg dry to lbs/dry ton (by multiplying by 0.002), a maximum cumulative loading (L) for the appropriate pollutant of concern is chosen based on the particular characteristics of the soil (Table 4 or applicable State or local loading limitations). Using these two values, the maximum amount of sludge which can be applied per acre is determined, as follows:

$$AR = \frac{L}{C}$$

Where: AR = Maximum allowable amount of sludge applied per acre (in dry tons/acre)

TABLE 4

REQUIREMENTS FOR SLUDGE APPLICATION TO AGRICULTURAL LAND

PRIMARY REQUIRMENT - NITROGEN

1. Sludge application rates should provide total plant available nitrogen fertilizer requirement of the crop growth, and the requirement to prevent nitrate pollution of groundwater.

ADDITIONAL REQUIREMENTS - TRACE METAL ELEMENTS

1. Maximum annual Cd loading:

   - Jan. 1, 1981 to Dec. 31, 1985 1.25 kg/ha
   - Beginning Jan. 1, 1986 0.50 kg/ha

2. Soil/sludge pH control

   - pH of sludge amended soil should be maintained at 6.5 or greater

3. Total cumulative metal loadings (kg/ha)

Element	Cation Exchange Capacity (meq/100 gm) 0-5	5-15	>15
Pb	500	1000	2000
Zn	250	500	1000
Cu	125	250	500
Ni	50	100	200
Cd	5	10	20

4. Cd/Zn ratio of sludge applied should be less than 0.015 in naturally acidic soils.

Derived from Reference (7).

L = Maximum cumulative loading (in lbs/acre)

C = Pollutant concentration in sludge (in lbs/dry ton)

Using the maximum amount of sludge which can be applied per acre and the available acreage for sludge application, the total amount of sludge that can be applied is calculated as follows:

$$TA = AR \times A$$

Where: TA = Total amount of sludge allowable for disposal on available acreage (in dry tons)

AR = Maximum allowable amount of sludge applied per acre (in dry tons/acre)

A = Available acreage for sludge disposal (in acres)

This total amount of sludge allowable for disposal on available acreage is next divided by the POTW's current sludge generation rate to determine the lifetime of the available acreage based on the amount of pollutant in the sludge, as follows:

$$T^* = \frac{TA}{SG}$$

Where: T^* = Adjusted site lifetime (in years)

TA = Total amount of sludge allowable for disposal on available acreage (in dry tons)

SG = POTW's current sludge generation rate (in dry tons/yr)

This adjusted site lifetime can then be compared to the original lifetime of the available acreage. If the site lifetime is not reduced significantly, the POTW may decide to set a threshold concentration at current pollutant levels as a POTW protection criteria. However, if the site lifetime is reduced significantly, the POTW must establish a local discharge limitation which will allow an acceptable disposal site lifetime.

4.3.2 Procedure to Establish Local Discharge Limitations to Protect POTW Sludge Disposal Options

The maximum cumulative pollutant loading per acre (L, previously determined using the soil characteristics of the sludge disposal site), the amount of available site acreage (A), and the original site lifetime (T) are used to calculate the maximum allowable pollutant mass loading in the sludge to comply with the maximum cumulative pollutant loading per acre and still maintain the original site lifetime, as follows:

$$ML = \frac{L \times A}{T \times 365}$$

Where: ML = Maximum allowable pollutant mass loading (in lbs/day)

L = Maximum cumulative pollutant loading per acre (in lbs/acre)

A = Available acreage (in acres)

T = Original site lifetime (in years)

365 = Conversion factor (in days per year)

Next, the maximum allowable pollutant mass loading (ML^*) to the influent of the treatment plant, to ensure appropriate sludge quality for land application, can be calculated by adjusting ML for removal through the entire plant, as follows:

$$ML^* = \frac{ML}{Ep}$$

Where: ML* = Adjusted maximum allowable pollutant mass loading (in lbs/day)

ML = Unadjusted maximum allowable pollutant mass loading (in lbs/day)

Ep = Pollutant reduction through the entire POTW treatment system

The maximum allowable pollutant concentration at the influent of the plant (C) can be found by converting the adjusted maximum allowable influent pollutant mass loading using the mass conversion formula, as follows:

$$C = \frac{ML^*}{Q \times 8.34}$$

Where: L = Maximum allowable pollutant concentration (in mg/l)

ML* = Adjusted maximum allowable influent mass loading (in lbs/day)

Q = POTW design flow (in MGD)

8.34 = Conversion factor

This concentration is used as the sludge disposal in-plant criteria in determining which in-plant criteria controls. If the sludge disposal criteria controls, the adjusted maximum allowable influent mass loading (ML*) is used to begin the allocation procedure.

5.0 ALLOCATION OF THE POLLUTANT LOAD TO INDUSTRY

The final step in the process of setting effluent limitations is to allocate the maximum pollutant loading to the treatment plant to the individual industrial dischargers. This may be accomplished in several ways, as discussed below.

5.1 ALTERNATIVE METHODS

- Single concentration or mass limit: A single concentration or mass limitation can be established, which no industrial user (IU) can exceed, and, when domestic contribution is taken into account, will not exceed the allowable influent loading. This method corresponds to the example calculation shown in Section 6 of the Appendix. A single limit for all users may be easier to regulate and enforce.

- Proportionate: Allocation can be accomplished proportionately, using various IU characteristics such as mass loading or flow rate to divide up the allowable pollutant discharge. The preferred method of allocation is the one based on mass loadings. However, if concentration data is not available for each IU, the mass loading ratio may not be used, and proportionality will have to be based on another characteristic such as IU flow. However, if the flow is based on water usage, this method penalizes the industrial user that recycles or reuses some portion of its wastewater. This method may be desirable when there are only a few dischargers of a given pollutant in the entire industrial community.

- Technology-based: Technology-based limitations are developed by considering wastewater treatment systems for each particular industrial user that are best suited to that IU's wastewater. Information on state-of-the-art treatment system performance can be obtained from EPA Development Documents supporting effluent limitations guidelines and standards.

5.2 OTHER CONSIDERATIONS

- Growth: Expansion should also be considered in the POTW service area when allocating pollutant loading. Expansion can include domestic contributions where future population growth can cause overloads of compatible pollutants, as well as future industrial contribution. If land has been zoned for industrial parks or other developments, POTWs must allocate a certain portion of the allowable influent loading to this planned expansion.

- Design: Proposed or planned design changes in the municipal treatment plant should be taken into account when developing and setting industrial effluent limitations. For example, nitrification is a more

sensitive process than activated sludge for some pollutants. A POTW planning to upgrade would need to develop protection criteria for this process if it is the limiting factor for some pollutants. Industrial discharge limits might then have to be made more stringent to protect the new design. Industrial users should be kept informed of such plans and developments so that pretreatment technologies are appropriate over time.

5.3 PROCEDURE FOR ALLOCATION OF POLLUTANT LOADINGS TO INDUSTRY

After determining the controlling in-plant criteria and converting the maximum allowable influent concentration to mass (lbs/day), the uncontrollable fraction of the maximum allowable influent loading should be subtracted prior to allocation. For most POTWs, the uncontrollable fraction will be the pollutants contributed by domestic wastewaters, and is determined by sampling a typical domestic sewer interceptor where no industry exists. Table 5 presents data on typical background concentrations of various pollutants found in raw sewage and other nonindustrial sources, but should only be used for comparison purposes and preliminary calculations.

Once the uncontrollable fraction of a pollutant is subtracted from the maximum allowable influent loading, the controllable or allocatable fraction remains. After considerations such as expansion have been considered, allocation of the controllable fraction is performed using one of the three methods specified. Procedures for single concentration and proportionate allocation method follow.

Single concentration allocation is performed by adding together the flows of all current and future IUs contributing a specified pollutant of concern and then applying the mass conversion formula, as follows:

Single Concentration Limitation

$$C\ (mg/l) = \frac{\text{Allocatable Fraction (lbs/day)}}{(Q_1 + Q_2 + Q_3 \ldots) \times 8.34}$$

Where: $(Q_1 + Q_2 + Q_3)$ = Sum of all IUs' flows which discharge the specific pollutant of concern

TABLE 5

TYPICAL BACKGROUND CONCENTRATIONS OF
TOXIC POLLUTANTS IN NONINDUSTRIAL SEWAGE
(INCLUDES DOMESTIC AND COMMERCIAL SEWAGE)*

Toxic Pollutant	"Background" Concentration
Arsenic	0.003 mg/l
Cadmium	0.003 mg/l
Chromium (total)	0.05 mg/l
Copper	0.061 mg/l
Cyanide	0.041 mg/l
Lead	0.050 mg/l
Nickel	0.021 mg/l
Zinc	0.175 mg/l

*Concentrations are total pollutants except where otherwise indicated.

References: (9)

Proportionate allocation is based on a particular characteristic of each industrial user. For example, using each IU's mass loading or wastewater flow to establish the appropriate proportion, the allocation is performed as follows:

Proportionate Allocation Method 1 (Mass):

$$\text{Proportionate Concentration Limitation For IU \#1} = \frac{\text{Allocatable Fraction (lbs/day)} \times \frac{(L_1)}{(L_t)}}{Q_1 \times 8.34}$$

Where: L_1 = Current mass loading from IU #1 for a specific pollutant (lbs/day)

L_t = Total mass loading from all industrial users for a specific pollutant (lbs/day)

Q_1 = Wastewater flow of IU #1 (MGD)

8.34 = Conversion factor

This is the preferred method of proportionate allocation, if industrial user's pollutant concentrations are known. If they are not, the next method may be used.

Proportionate Allocation Method 2 (Flow):

$$\text{Proportionate Concentration Limitation For IU \#1} = \frac{\text{Allocatable Fraction (lbs/day)} \times \frac{(Q_1)}{(Q_t)}}{Q_1 \times 8.34}$$

Where: Q_1 = Wastewater flow of IU #1 (MGD)

Q_t = Sum of wastewater flows for all IUs which discharge a specific pollutant of concern

8.34 = Conversion factor

The above procedures would be repeated for all industrial users discharging that particular pollutant of concern.

6.0 A HYPOTHETICAL POTW EXAMPLE

For reasons of brevity and simplicity, this example calculation of allowable influent loading to a POTW addresses only one pollutant, copper. The methodology presented here, however, will be equally applicable for calculating limits for other pollutants discharged by electroplaters or other industries. Our hypothetical POTW utilizes an activated sludge unit for secondary treatment and anaerobic digestion of sludge. POTW sludge is applied on nearby farmland.

The treatment plant has a design flow of 10.0 MGD (9.9 MGD average). The POTW is required to develop a pretreatment program because it has an electroplating facility manufacturing printed circuit boards contributing copper to its system. The POTW pumps 0.2 MGD of raw sludge, thickens it from 1 percent to 5 percent solids, and then pumps to anaerobic digesters.

For the purpose of this example calculation, we will assume that the electroplating facility discharges only copper. The POTW has determined, through its sampling program, that the average removal of copper through the activated sludge portion of the treatment system is 83 percent with primary treatment achieving an average of 25 percent removal. The POTW has an NPDES effluent limitation for copper of 1.0 mg/l.

The POTW has documented upset and inhibition conditions at its treatment plant caused by high copper concentrations. The threshold copper concentrations at the influent to each appropriate unit operation for this example are as follow:

Activated sludge - 1.0 mg/l
Anaerobic digestion - 10.0 mg/l

6.1 CALCULATING MAXIMUM ALLOWABLE POLLUTANT LOAD TO THE POTW FOR COPPER

6.1.1 Preventing Inhibition of Treatment Plant Processes

To determine the influent concentration of copper that will not inhibit treatment plant process, the POTW must calculate in-plant criteria for both the activated sludge process and the anaerobic digestion process to find the controlling in-plant criteria concentration.

(1) Activated Sludge

Using the back caluclation formula presented in Table 1, the in-plant criteria for the activated sludge process can be determined, as shown below:

$$Lp = \frac{1.0 \text{ mg/l}}{1-0.25} = 1.3 \text{ mg/l}$$

Where: Activated sludge copper threshold concentration = 1.0 mg/l
POTW % removal through primary treatment = 25% (or 0.25)

(2) Anaerobic Digestion

Determining the allowable influent copper concentration for proper anaerobic digestion is slightly more complicated. The allowable amount of copper, in lbs/day, in the anaerobic digester is determined by first calculating the flow of sludge to the anaerobic digester, and then applying the mass conversion formula shown in Table 1, using the anaerobic digestion copper threshhold concentration and the calculated flow rate, as follows:

$$\frac{0.2 \text{ MGD}}{5} = 0.04 \text{ MGD (concentrated by extracting water from 1\% to 5\%)}$$

Allowable Cu mass loading to digester = (0.04 MGD)(10 mg/l)(8.34)
= 3.34 lbs/day

Using the allowable amount of copper to the digester, an allowable influent concentration can be calculated, using another form of the mass conversion formula and the POTW design flow, as follows:

$$\text{Allowable influent Cu concentration} = \frac{3.34 \text{ lbs/day}}{(10 \text{ MGD})(8.34)} = 0.04 \text{ mg/l}$$

However, only 83 percent removal of copper is achieved through the entire treatment system and, therefore, only this portion of the influent copper reaches the digester. Consequently, the allowable influent concentration is adjusted using another form of the back calculation formula as follows:

$$\text{Allowable influent Cu concentration} = \frac{0.04 \text{ mg/l}}{0.83} = 0.048 \text{ mg/l}$$

6.1.2 NPDES Permit Compliance

Using the back calculation formula presented in Table 1, the in-plant criteria to meet the POTW NPDES permit requirement is calculated as follows:

$$Lp = \frac{1.0 \text{ mg/l}}{1-0.83} = 5.88 \text{ mg/l}$$

Where: NPDES permit limitation = 1.0 mg/l
Reduction of copper through the entire POTW = 83% (or 0.83)

6.1.3 Determination of Possible Sludge Disposal Impacts

In addition to the possible impacts mentioned above, sludge disposal options may be limited for this hypothetical POTW because of the amount of copper in its digested sludge, which it intends to apply to surrounding farmland. In order to evaluate this possibility, the POTW has analyzed its digested sludge and found it to contain 525 mg/kg (dry weight) of copper. Converting to pounds per ton:

Copper content of digested sludge = 525 mg/kg (dry weight) x 0.002 = 1.05 lbs/dry ton

Using the most stringent total cumulative metal loading option from Table 4 (125 kg/ha), and converting to lbs/acre:

$$\frac{\text{Total cumulative metal loading}}{\text{Copper content of digested sludge}} = \frac{111 \text{ lbs/acre}}{105 \text{ lbs/ton}} = 106 \text{ dry tons/acre}$$

yields the maximum amount of sludge which can be applied in dry tons/acre.

The hypothetical POTW applies approximately 45 dry tons/month of dewatered digester sludge to about 410 acres of surrounding pasture and farmland. Using the maximum amount of sludge which can be applied per acre and the land available for application, the total amount of sludge which can be applied for the lifetime of the sites can be calculated:

$$\text{Total sludge allowable for disposal on available acreage} = \frac{106 \text{ dry tons} \times 410 \text{ acres}}{\text{acre}} = 43{,}460 \text{ dry tons}$$

Using this total site lifetime application and the current sludge disposal rate (45 dry tons/month), the lifetime of the sites available for application is calculated:

$$\text{Lifetime of available acreage for sludge disposal} = \frac{43{,}460 \text{ dry tons}}{45 \text{ dry tons/months}} = 966 \text{ months or } 80 \text{ years}$$

Therefore, unless the original lifetime expectancy of the sludge disposal sites is well over 80 years, this POTW's sludge disposal options will not be affected by the current amount of copper in its sludge. In addition, any reduction of the POTW plant influent copper concentration due to other local limitations will further lower the amount of copper in the sludge and extend the useable lifetime of the sludge disposal sites.

6.1.4 Determination of Controlling In-Plant Criteria

Reviewing the in-plant criteria for each condition:

Activated sludge - 1.3 mg/l
Permit conditions - 5.88 mg/l
Anaerobic digestion - 0.048 mg/l

It can be seen that anaerobic digestion is the controlling in-plant criteria. Therefore, it is possible that a POTW can be substantially below its permit condition for a toxic pollutant and still experience inhibition and interference severe enough to prevent proper plant operation from that same pollutant.

6.2 ALLOCATION OF LOCAL LIMITS FOR COPPER

After calculating an allowable influent concentration of 0.048 mg/l of copper as an in-plant criteria for proper anaerobic digestion, the POTW must allocate the required reduction to attain this concentration among its industrial users. The POTW has identified an electroplating facility as the only major industrial user discharging copper to its system. This facility has a flow of 0.050 MGD and currently averages 7.0 mg/l copper in its effluent.

Using the allowable influent concentration, the allowable pollutant mass loading is calculated:

$$\text{Allowable lbs/day} = (10.0\ \text{MGD})(0.048\ \text{mg/l})(8.34) = 4.0\ \text{lbs/day}$$

After sampling at a number of domestic interceptors, the POTW has determined the copper concentration in domestic wastewater to be 0.025 mg/l. Calculating the current domestic copper mass loading:

$$\text{Domestic lbs/day} = (9.85\ \text{MGD})(0.025\ \text{mg/l})(8.34) = 2.1\ \text{lbs/day}$$

The allowable copper which can be allocated to industry is then calculated by subtracting the domestic background loading:

Allowable lbs/day = 4.0 lbs/day - 2.1 lbs/day = 1.9 lbs/day

The current electroplating mass discharge is:

Electroplating lbs/day = (0.050 MGD)(7.0 mg/l)(8.34) = 2.92 lbs/day

This particular electroplating facility is subject to a categorical standard of 4.8 mg/l for copper. When compliance with this categorical standard is achieved, the electroplating mass discharge will be:

Electroplating lbs/day = (0.050 MGD)(4.8 mg/l)(8.34) = 2.00 lbs/day

The POTW has two future contributions to its system planned. One is a housing project which will house approximately 500 people. At an estimate of 150 gallons per person daily, the total wastewater flow increase is 0.075 MGD. However, because of the high cost of copper, builders are planning to use PVC pipe instead of copper pipe, which the POTW believes is the major source of domestic copper contribution. Therefore, the POTW is assuming a negligible amount of copper in this additional flow. The second future addition is a brass plating operation, which will be a major discharger of copper. This facility will have a design flow of 0.025 MGD and is also subject to a categorical standard for copper of 4.8 mg/l. Knowing that the existing facility already exceeds the allocatable loading using the categorical standard, a more stringent single concentration local limitation is established:

$$\text{Allowable electroplating concentration} = \frac{1.90 \text{ lbs/day}}{(0.050 + 0.025 \text{ MGD})(8.34)} = 3.0 \text{ mg/l}$$

Therefore, a single concentration local limitation of 3.0 mg/l for both the existing and future electroplating facilities will allow the POTW to meet its allowable influent concentration and will not violate the controlling in-plant criteria.

REFERENCES

1. U.S. Environmental Protection Agency. Federal Guidelines - State and Local Pretreatment Programs. Vols. I, II, and III. EPA-430/9-76-017a, b, and c. January 1977.

2. U.S. Environmental Protection Agency. Fate of Priority Pollutants in Publicly Owned Treatment Works. EPA-440/1-82-303. September 1982.

3. Anthony, Richard M., and Breimhurst, Lawrence H. "Determining Maximum Influent Concentrations of Priority Pollutants for Treatment Plants." Journal of the Water Pollution Control Federation, Vol. 53. October 1981.

4. Dyer, Jon; Feiler, Howard; and Bernick, Arnold. Handbook of Industrial Waste Pretreatment, Water Management Series. New York: Garland Publishing Inc. 1981.

5. Eick, Richard W. "History of Priority Pollutants at the District and Determination of Prohibitive Discharge Limits (PDL)." 2nd Edition. Sanitary District of Rockford, Illinois. March 1982.

6. U.S. Environmental Protection Agency. Ambient Water Quality Criteria. EPA-440/5-80. October 1980.

7. U.S. Environmental Protection Agency. "Municipal Sludge Management-Environmental Factors." Federal Register, 41, No. 108, pp. 22531, 22543. June 1976.

8. JRB Associates. "How to Set Local Limits." Handout prepared for Pretreatment Seminars, sponsored by U.S. Environmental Protection Agency under Contract No. 68-01-5052. May 1982.

9. JRB Associates. "Assessment of the Impacts of Industrial Discharges on Publically Owned Treatment Works." Prepared for U.S. Environmental Protection Agency under Contract No. 68-01-5052. November 1981.

EXHIBIT A

This Exhibit presents a summary of national water quality criteria that have been generated by EPA. These numbers do not have any regulatory status; they are intended to serve as general guidelines for the preservation of the intended uses of water. The criteria numbers on this table are organized under two major headings: aquatic life and human health. The first heading is further subdivided into acute and chronic criteria. These two numbers represent pollutant concentrations which, if not exceeded, should protect most, but not necessarily all, aquatic life and its uses. The aquatic life criteria specify both acute (maximum) and chronic (24 hour average) concentrations. The combination of the two numbers is designed to provide adequate protection of aquatic life and its uses from acute and chronic toxicity and bioconcentration while being more flexible than a one number criterion.

The human health criteria are divided into two categories. The first group of numbers under water and organisms was generated assuming consumption of both drinking water and aquatic organisms (e.g., fish) by humans. The second group of criteria was derived assuming the consumption of aquatic organisms only. The criteria for human health are based on the carcinogenic, toxic or organoleptic (taste and odor) properties of the pollutants. The meanings and practical uses of these criteria values vary accordingly.

For carcinogenic substances, no scientific basis exists for estimating "safe" levels. Therefore, the criteria are expressed as ranges of values corresponding to incremental cancer risks of 10^{-7} to 10^{-5} (one additional case of cancer in a population ranging from ten million to 100,000, respectively). A detailed discussion of these criteria, how they were developed and qualifications regarding their use can be found in Reference 6.

Exhibit A
(Ref. 6)

PARAMETER	FRESHWATER AQUATIC LIFE TOXICITY		HUMAN HEALTH					
	ACUTE (Maximum)	CHRONIC (24. Hr. Ave.)	WATER & ORGANISMS			ORGANISMS		
			10^{-5}	10^{-6}	10^{-7}	10^{-5}	10^{-6}	10^{-7}
Acenapthene	1,700 ug/l	520 ug/l	(20 ug/l objectionable taste & odor)					
Acrolein	68 ug/l	21 ug/l	320 ug/l			780 ug/l		
Acrylonitrile	7,550 ug/l	2,600 ug/l	.58 ug/l	.058 ug/l	.0058 ug/l	6.5 ug/l	.65 ug/l	.065 ug/l
Aldrin/	(3 ug/l)	--	.74 ng/l	.074 ng/l	.0074 ng/l	.79 ng/l	.079 ng/l	.0079 ng/l
Dieldrin	(2.5 ug/l)	(.0019 ug/l)	.71 ng/l	.071 ng/l	.0071 ng/l	.76 ng/l	.076 ng/l	.0076 ng/l
Antimony	9,000 ug/l	1,600 ug/l	146 ug/l			45,000 ug/l		
Arsenic	(440 ug/l)	--	22 ng/l	2.2 ng/l	.22 ng/l	175 ng/l	17.5 ng/l	1.75 ng/l
Asbestos	--	--	300,000 fibers/l	30,000 fibers/l	3,000 fibers/l			
Benzene	5,300 ug/l	--	6.6 ug/l	.66 ug/l	.066 ug/l	400 ug/l	40 ug/l	4 ug/l
Benzidine	2,500 ug/l	--	1.2 ng/l	.12 ng/l	.012 ng/l	5.3 ng/l	.53 ng/l	.053 ng/l
Beryllium	130 ug/l	5.3 ug/l	68 ng/l	6.8 ng/l	.68 ng/l	1170 ng/l	117 ng/l	11.7 ng/l
Cadmium	$(e^{(1.05(\ln(\text{hardness}))-3.73)})_{ug/l}$	$(e^{(1.05(\ln(\text{hardness}))-8.53)})_{ug/l}$	10 ug/l				--	
Carbon Tetrachloride	35,200 ug/l	--	4 ug/l	.4 ug/l	.04 ug/l	69.4 ug/l	6.94 ug/l	.694 ug/l
Chlordane	(2.4 ug/l)	(.0043 ug/l)	4.6 ng/l	.46 ng/l	.046 ng/l	4.8 ng/l	.48 ng/l	.048 ng/l
Chlorinated Benzenes	250 ug/l							
Hexachlorobenzene			7.2 ng/l	.72 ng/l	.072 ng/l	7.4 ng/l	.74 ng/l	.074 ng/l
1,2,4,5-Tetrachlorobenzene				.38 ug/l		48 ug/l		
Pentachlorobenzene				74 ug/l		85 ug/l		
Trichlorobenzene				--		--		
Monochlorobenzene			(20 ug/l objectionable taste & odor)					

Exhibit A
(Ref. 6) (Continued)

PARAMETER	FRESHWATER AQUATIC LIFE TOXICITY		HUMAN HEALTH					
	ACUTE (Maximum)	CHRONIC (24. Hr. Ave.)	WATER & ORGANISMS			ORGANISMS		
			10^{-5}	10^{-6}	10^{-7}	10^{-5}	10^{-6}	10^{-7}
Chlorinated Ethanes								
1,2-Dichloroethane	118,000 ug/l	20,000 ug/l	9.4 ug/l	.94 ug/l	.094 ug/l	2430 ug/l	243 ug/l	24.3 ug/l
-Trichloroethane	18,000 ug/l	9,400 ug/l						
1,1,2 Trichloroethane			6 ug/l	.6 ug/l	.06 ug/l	418 ug/l	41.8 ug/l	4.18 ug/l
1,1,1 Trichloroethane				18.4 mg/l			1,030 mg/l	
-Tetrachloroethane	9,320 ug/l	2,400 ug/l						
1,1,2,2-Tetrachloroethane			1.7 ug/l	.17 ug/l	.017 ug/l	107 ug/l	10.7 ug/l	1.07 ug/l
Pentachlorethane	7,240 ug/l	1,100 ug/l						
Hexachloroethane	980 ug/l	540 ug/l	19 ug/l	1.9 ug/l	.19 ug/l	87.4 ug/l	8.74 ug/l	.874 ug/l
Chlorinated Napthalenes	1,600 ug/l							
Chlorinated Phenols								
4-Chloro-3-Methylphenol	30 ug/l							
2,4,6-Trichlorophenol		970 ug/l						
3-Monochlorophenol				(.1 ug/l objectionable taste and odor)				
4-Monochlorophenol				(.1 ug/l objectionable taste and odor)				
2,3-Dichlorophenol				(.4 ug/l objectionable taste and odor)				
2,5-Dichlorophenol				(.5 ug/l objectionable taste and odor)				
2,6-Dichlorophenol				(.2 ug/l objectionable taste and odor)				
3,4-Dichlorophenol				(.3 ug/l objectionable taste and odor)				
2,3,4,6-Tetrachlorophenol				(1.0 ug/l objectionable taste and odor)				
2,4,5-Trichlorophenol				(1.0 ug/l objectionable taste and odor)		12 ug/l		
2,4,6-Trichlorophenol			12 ug/l	1.2 ug/l (2.0 ug/l objectionable taste and odor)	.12 ug/l	36 ug/l	3.6 ug/l	.36 ug/l

Exhibit A
(Ref. 6) (Continued)

PARAMETER	FRESHWATER AQUATIC LIFE TOXICITY ACUTE (Maximum)	CHRONIC (24. Hr. Ave.)	HUMAN HEALTH WATER & ORGANISMS 10^{-5}	10^{-6}	10^{-7}	ORGANISMS 10^{-5}	10^{-6}	10^{-7}
2-Methyl-4-chlorophenol				(1,800 ug/l objectionable taste and odor)				
3-Methyl-4-Chlorophenol				(3,000 ug/l objectionable taste and odor)				
3-Methyl-6-Chlorophenol				(20 ug/l objectionable taste and odor)				
Chloroalkyl Ethers	238,000 ug/l							
bis-(chloro-methyl)-ether			.038 ng/l	.0038 ng/l	.00038 ng/l	18.4 ng/l	1.84 ng/l	.184 ng/l
bis-(2-chloro-ethyl) ether			.3 ug/l	.03 ug/l	.003 ug/l	13.6 ug/l	1.36 ug/l	.136 ug/l
bis-(2-chloro-isopropyl)-ether				34.7 ug/l			4.36 mg/l	
Chloroform	28,900 ug/l	1,240 ug/l	1.9 ug/l	.19 ug/l	.019ug/l	157 ug/l	15.7 ug/l	1.57 ug/l
2-Chlorophenol	4,380 ug/l			(.1 ug/l objectionable taste and odor)				
Chromium Hexavalent Chromium	(21 ug/l)	(.29 ug/l)		50 ug/l			--	
Trivalent Chromium	$(e^{(1.08(\ln(\text{hardness}))+3.48)}$ ug/l)	44 ug/l		170 mg/l			3,433 mg/l	
Copper	$(e^{(.94(\ln(\text{hardness}))-1.23)}$ ug/l)	(5.6 ug/l)		(1 mg/l objectionable taste & ordor)				
Cyanide Free Cyanide ($HCN+CN^-$, as CN)	(52 ug/l)	(3.5 ug/l)		200 ug/l				
DDT and Metabolites	(1.1 ug.l)	(.001 ug/l)	.24 ng/l	.024 ng/l	.0024 ng/l	.24 ng/l	.024 ng/l	.0024 ng/l
TDE	.6 ug/l							
DDE	1,050 ug/l							
Dichloro-benzenes	1,120 ug/l	763 ug/l		400 ug/l			2.6 mg/l	

Exhibit A
(Ref. 6) (Continued)

PARAMETER	FRESHWATER AQUATIC LIFE TOXICITY		HUMAN HEALTH					
	ACUTE (Maximum)	CHRONIC (24. Hr. Ave.)	WATER & ORGANISMS			ORGANISMS		
			10^{-5}	10^{-6}	10^{-7}	10^{-5}	10^{-6}	10^{-7}
Dichloro-benzidines			.103 ug/l	.0103 ug/l	.00103 ug/l	0.204 ug/l	.0204 ug/l	00204 ug/l
Dichloro-ethylenes 1,1-Dichloro-ethylene	11,600 ug/l		.33 ug/l	.033 ug/l	.0033 ug/l	18.5 ug/l	1.85 ug/l	.185 ug/l
2-4-Dichloro-phenol	2,020 ug/l	365 ug/l		(3.09 mg/l for protection of public health)				
Dichloropro-panes	23,000 ug/l	5,700 ug/l						
Dichloropro-penes	6,060 ug/l	244 ug/l		87 ug/l			14.1 mg/l	
2-4-Dimethyl-phenol	2,120 ug/l			(400 ug/l objectionable taste & ordor)				
2-4-Dinitro-toluene	330 ug/l	230 ug/l	1.1 ug/l	.11 ug/l	.011 ug/l	91 ug/l	9.1 ug/l	.91 ug/l
1,2-Diphenyl-hydrazine	270 ug/l		422 ng/l	42 ng/l	4 ng/l	5.6 ug/l	.56 ug/l	.056 ug/l
Endosulfan	(.22 ug/l)	(.056 ug/l)		74 ug/l			159 ug/l	
Endrin	(.18 ug/l)	(.0023 ug/l)		1 ug/l				
Ethylbenzene	32,000 ug/l			1.4 mg/l			3.28 mg/l	
Fluroanthene	3,980 ug/l			42 ug/l			54 ug/l	
Haloethers	360 ug/l	122 ug/l						
Halomethanes	11,000 ug/l		1.9 ug/l	.19 ug/l	.019 ug/l	157 ug/l	15.7 ug/l	1.57 ug/l
Heptachlor	(.52 ug/l)	(.0038 ug/l)	2.78 ng/l	.278 ng/l	.0278 ng/l	2.85 ng/l	.285 ng/l	.0285 ng/l
Hexachloro-butadiene	90 ug/l	9.3 ug/l	4.47 ug/l	.447 ug/l	.045 ug/l	500 ug/l	50 ug/l	5 ug/l

Exhibit A
(Ref. 6) (Continued)

PARAMETER	FRESHWATER AQUATIC LIFE TOXICITY		HUMAN HEALTH					
	ACUTE (Maximum)	CHRONIC (24. Hr. Ave.)	WATER & ORGANISMS			ORGANISMS		
			10^{-5}	10^{-6}	10^{-7}	10^{-5}	10^{-6}	10^{-7}
Hexachloro-cyclohexane								
Lindane	(2 ug/l)	(.08 ug/l)						
BHC	100 ug/l							
alpha-BHC			92 ng/l	9.2 ng/l	.92 ng/l	310 ng/l	31 ng/l	3.1 ng/l
beta-BHC			163 ng/l	16.3 ng/l	1.63 ng/l	547 ng/l	54.7 ng/l	5.4 ng/l
tech-BHC			123 ng/l	12.3 ng/l	1.23 ng/l	414 ng/l	41.4 ng/l	4.14 ng/l
gamma-BHC			186 ng/l	18.6 ng/l	1.86 ng/l	625 ng/l	62.5 ng/l	6.25 ng/l
Hexchloro-cyclopentadiene	7 ug/l	5.2 ug/l		(206 ug/l for protection of public health)				
Isophorone	117,000 ug/l			5.2 mg/l			520 mg/l	
Lead	$(e^{(1.22(\ln(\text{hardness}))-.47)})_{ug/l}$	$(e^{(2.35(\ln(\text{hardness})-9.48)})_{ug/l}$		50 ug/l				
Mercury	(4.1 ug/l)	(.2 ug/l)		144 ng/l			146 ng/l	
Napthalene	23,000 ug/l	620 ug/l						
Nickel	$(e^{(.76(\ln(\text{hardness}))+4.02)})_{ug/l}$	$(e^{(.76(\ln(\text{hardness}))+1.06)})_{ug/l}$		13.4 ug/l			100 ug/l	
Nitrobenzene	27,000 ug/l			(19.8 mg/l for protection of public health)				
Nitrophenols	230 ug/l							
4,6-Dinitro-o-cresol				13.4 ug/l			765 ug/l	
2,4-Dinitrophenol				70 ug/l			14.3 mg/l	
Nitrosamines	5,850 ug/l							
n-Nitroso-dimethylamine			14 ng/l	1.4 ng/l	.14 ng/l	160,000 ng/l	16,000 ng/l	1600 ng/l
n-Nitros-odiethylamine			8 ng/l	.8 ng/l	1.08 ng/l	12,400 ng/l	1,240 ng/l	124 ng/l
n-Nitrosodi-n-butylamine			64 ng/l	6.4 ng/l	.64ng/l	5,868 ng/l	586.8 ng/l	58.68 ng/l
n-Nitrosodi-phenylamine			49,000 ng/l	4,900 ng/l	490 ng/l	161,000 ng/l	16,100 ng/l	1,610 ng/l
n-Nitrosopyr-rolidine			160 ng/l	16 ng/l	1.6 ng/l	919,000 ng/l	91,000 ng/l	9190 ng/l

Exhibit A
(Ref. 6) (Continued)

PARAMETER	FRESHWATER AQUATIC LIFE TOXICITY		HUMAN HEALTH					
	ACUTE (Maximum)	CHRONIC (24. Hr. Ave.)	WATER & ORGANISMS			ORGANISMS		
			10^{-5}	10^{-6}	10^{-7}	10^{-5}	10^{-6}	10^{-7}
Pentachlorophenol	55 ug/l	3.2 ug/l		(1.01 mg/l for protection of public health)				
Phenol	10,200 ug/l	2,560 ug/l		(3.5 mg/l for protection of public health)				
Phthalate	940 ug/l	3 ug/l						
Dimethylphthalate				313 mg/l			2.9 g/l	
Diethylphthalate				350 mg/l			1.8 g/l	
Di-n-butylphthalate				34 mg/l			154 mg/l	
Bis-2-ethylhexylphthalate				15 mg/l			50 mg/l	
Polychlorinated Biphenyls		(.014 ug/l)	.79 ng/l	.079 ng/l	.0079 ng/l	0.79 ng/l	.079 ng/l	.0079 ng/l
Polynuclear Aromatic Hydrocarbons			28 ng/l	2.8 ng/l	.28 ng/l	311 ng/l	31.1 ng/l	3.11 ng/l
Selenium	(260 ug/l)	(35 ug/l)		10 ug/l				
Silver	$(e^{(1.72(\ln(\text{hardness}))-6.52)}$ ug/l)			50 ug/l				
Trichloroethylene	45,000 ug/l		27 ug/l	2.7 ug/l	0.27 ug/l	807 ug/l	80.7 ug/l	8.07 ug/l
Tetrachloroethylene	5,280 ug/l	840 ug/l	8 ug/l	.8 ug/l	.08 ug/l	88.5 ug/l	8.85 ug/l	.885 ug/l
Thallium	1,400 ug/l	40 ug/l		13 ug/l			48 ug/l	
Toluene	17,500 ug/l			14.3 mg/l			424 mg/l	
Toxaphene	(1.6 ug/l)	(.013 ug/l)	7.1 ng/l	.71 ng/l	.071 ng/l	7.3 ng/l	.73 ng/l	.073 ng/l
Vinyl Chloride			20 ug/l	2 ug/l	.2 ug/l	5246 ug/l	524.6 ug/l	52.46 ug/l
Zinc	$(e^{(.83(\ln(\text{hardness}))+1.95)}$ ug/l) (47 ug/l)			(5 mg/l objectionable taste and odor)				

APPENDIX M

SAMPLE COLLECTION AND PRESERVATION PROCEDURES

SAMPLE PRESERVATION

Various manuals and handbooks exist that outline procedures for the preservation of industrial wastewater samples. The intent of these procedures is to delay any changes (either chemical or biological) that may occur once the sample is taken from the wastestream. Preservation insures a sample representative of the wastestream at the time of collection. For example, heavy metal cations may absorb onto the sample container surface and some organic pollutants are easily oxidized by free chlorine. Correct preservation techniques would keep metal ions in a sample.

On December 3, 1979, EPA proposed to amend 40 CFR Part 136 with the addition of sample preservation procedures and maximum holding times as requirements for all pollutant parameters (including toxic organics). Thus the use of these preservation techniques would be mandatory whenever the analysis of wastewater is required under the Clean Water Act (i.e., pretreatment program compliance monitoring). These sample preservation procedures and holding times were selected because (1) they would retard significant sample degradation, and (2) the procedures would minimize monitoring costs by extending the holding times when possible. Table I shows the recommended preservatives and holding times, as stated in the regulations. It is recommended that POTW personnel adopt these procedures in their monitoring program.

The EPA also recommends that the preservation procedures "be used at the start of sample collection in the field and not after sample compositing is complete or when samples are received in the laboratory for analysis. Aliquots of composite samples, which would require multiple preservatives, should be preserved only by maintaining at 4°C until compositing and sample splitting are completed."[1]

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[1] Guidelines Establishing Test Procedures for the Analysis of Pollutants; Proposed Regulations. 40 CFR Part 136, December 3, 1979.

TABLE I.

CONTAINERS, PRESERVATION, AND HOLDING TIMES

Measurement[a]		Container[b]	Preservative[c]	Maximum Holding Time[d]
1	Acidity	P,G	Cool, 4°C	14 days
2	Alkalinity	P,G	Cool, 4°C	14 days
3	Ammonia	P,G	Cool, 4°C H_2SO_4 to pH<2	28 days
	BACTERIA			
4-7	Coliform, fecal and total	P,G	Cool, 4°C 0.008% $Na_2S_2O_3$[h]	6 hours
8	Fecal streptococci	P,G	Cool, 4°C 0.008% $Na_2S_2O_3$[h]	6 hours
9	Biochemical oxygen demand	P,G	Cool, 4°C	48 hours
10	Biochemical oxygen demand carbonaceous	P,G	Cool, 4°C	48 hours
11	Bromide	P,G	None required	28 days
12	Chemical oxygen demand	P,G	Cool, 4°C H_2SO_4 to pH<2	28 days
13	Chloride	P,G	None required	28 days
14	Chlorinated organic compounds	G, teflon-lined cap	Cool, 4°C 0.008% $Na_2S_2O_3$[h]	7 days (until extraction) 30 days (after extraction)
15	Chlorine, total residual	P,G	Determine onsite	2 hours
16	Color	P,G	Cool, 4°C	48 hours
17-18	Cyanide, total and amenable to chlorination	P,G P,G	Cool 4°C NaOH to pH>12 0.008% $Na_2S_2O_3$[h]	14 days
19	Dissolved oxygen			
	Probe	G bottle & top	Determine onsite	1 hour
	Winkler	G bottle & top	Fix onsite	8 hours

TABLE I. (Continued)

CONTAINERS, PRESERVATION, AND HOLDING TIMES

Measurement[a]		Container[b]	Preservative[c]	Maximum Holding Time[d]
20	Fluoride	P	None Required	28 days
21	Hardness	P,G	HNO_3 to pH<2	6 months
22	Hydrogen ion (pH)	P,G	Determine onsite	2 hours
23&92	Kjeldahl and organic nitrogen	P,G	Cool, 4°C H_2SO_4 to pH<2	28 days
	METALS[e]			
40-41	Chromium VI	P,G	Cool, 4°C	48 hours
58-90	Mercury	P,G	HNO_3 to pH<2 0.05% $K_2Cr_2O_7$	28 days
24-87	Metals except above	P,G	HNO_3 to pH<2	6 months
88	Nitrate	P,G	Cool, 4°C	48 hours
88(a)[i]	Nitrate-nitrite	P,G	Cool, 4°C H_2SO_4 to pH<2	28 days
89	Nitrite	P,G	Cool, 4°C	48 hours
90	Oil and grease	G	Cool, 4°C H_2SO_4 to pH<2	28 days
91	Organic Carbon	P,G	Cool, 4°C H_2SO_4 to pH<2	28 days
93-206	ORGANIC COMPOUNDS[f]			
	Extractables (including phthalates, nitrosamines organochlorine pesticides, PCB's, nitroaromatics, isophorone, polynuclear aromatic hydrocarbons, haloethers, chlorinated hydrocarbons and TCDD)	G, teflon-lined cap	Cool, 4°C 0.008% $Na_2S_2O_3$[h]	7 days (until extraction) 30 days (after extraction)

TABLE I. (Continued)

CONTAINERS, PRESERVATION, AND HOLDING TIMES

Measurement[a]		Container[b]	Preservative[c]	Maximum Holding Time[d]
	Extractables (phenols)	G, teflon-lined cap	Cool, 4°C H_2SO_4 to pH<2 0.008% $Na_2S_2O_3$[h]	7 days (until extraction) 30 days (after extraction)
	Purgeables (Halocarbons and Aromatics)	G, teflon-lined septum	Cool 4°C 0.008% $Na_2S_2O_3$[h]	14 days
	Purgeables (Acrolein and Acrylonitrite)	G, teflon-lined septum	Cool 4°C 0.008% $Na_2S_2O_3$[h]	3 days
207	Orthophosphate	P,G	Filter onsite Cool, 4°C	48 hours
208	Pesticides	G, teflon-lined cap	Cool, 4°C 0.008% $Na_2S_2O_3$[h]	7 days (until extraction) 30 days (after extraction)
209	Phenols	P,G	Cool, 4°C H_2SO_4 to pH<2	28 days
210	Phosphorus (elemental)	G	Cool, 4°C	48 hours
211	Phosphorus, total	P,G	Cool, 4°C H_2SO_4 to pH<2	28 days
	RADIOLOGICAL			
212-216	Alpha, beta, and radium	P,G	HNO_3 to pH<2	6 months
217	Residue, total	P,G	Cool 4°C	14 days
218	Residue, filterable	P,G	Cool 4°C	14 days
219	Residue, nonfilterable	P,G	Cool 4°C	7 days
220	Residue, settleable	P,G	Cool 4°C	7 days
221	Residue, volatile	P,G	Cool 4°C	7 days
73	Silica	P	Cool 4°C	28 days

TABLE I. (Continued)

CONTAINERS, PRESERVATION, AND HOLDING TIMES

Measurement[a]		Container[b]	Preservative[c]	Maximum Holding Time[d]
222	Specific conductance	P,G	Cool 4°C	28 days
223	Sulfate	P,G	Cool 4°C	28 days
224	Sulfide	P,G	Cool 4°C Zinc Acetate	28 days
225	Sulfite	P,G	Cool, 4°C	48 hours
226	Surfactants	P,G	Cool 4°C	48 hours
227	Temperature	P,G	Determine onsite	immediately
228	Turbidity	P,G	Cool, 4°C	48 hours

[a] Parameter numbers refer to List of Approved Procedures in 40 CFR, Part 136.

[b] Polyethylene (P) or Glass (G).

[c] Sample preservation should be performed immediately upon sample collection. For composite samples each aliquot should be preserved at the time of collection. When use of an automatic sampler makes it impossible to preserve each aliquot, then samples may be preserved by maintaining at 4°C until compositing and sample splitting is completed.

[d] Samples should be analyzed as soon as possible after collection. The times listed are the maximum times that samples may be held before analysis and still considered valid. Samples may be held for longer periods only if the permittee, or monitoring laboratory, has data on file to show that the specific types of samples under study are stable for the longer time.

Some samples may not be stable for the maximum time period given in the table. A permittee, or monitoring laboratory, is obligated to hold the sample for a shorter time if knowledge exists to show this is necessary to maintain sample stability.

[e] Samples should be filtered immediately onsite before adding preservative for dissolved metals.

[f] Guidance applies to samples to be analyzed by GC, LC, or GC/MS for specific organic compounds.

[g] This parameter not listed in Table I.

[h] Should only be used in the presence of residual chlorine.

[i] Not available in 40 CFR, Part 136.

Source: Guidelines Establishing Test Procedures for the Analysis of Pollutants; Proposed Regulations. 40 CFR, Part 136, December 18, 1979.

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