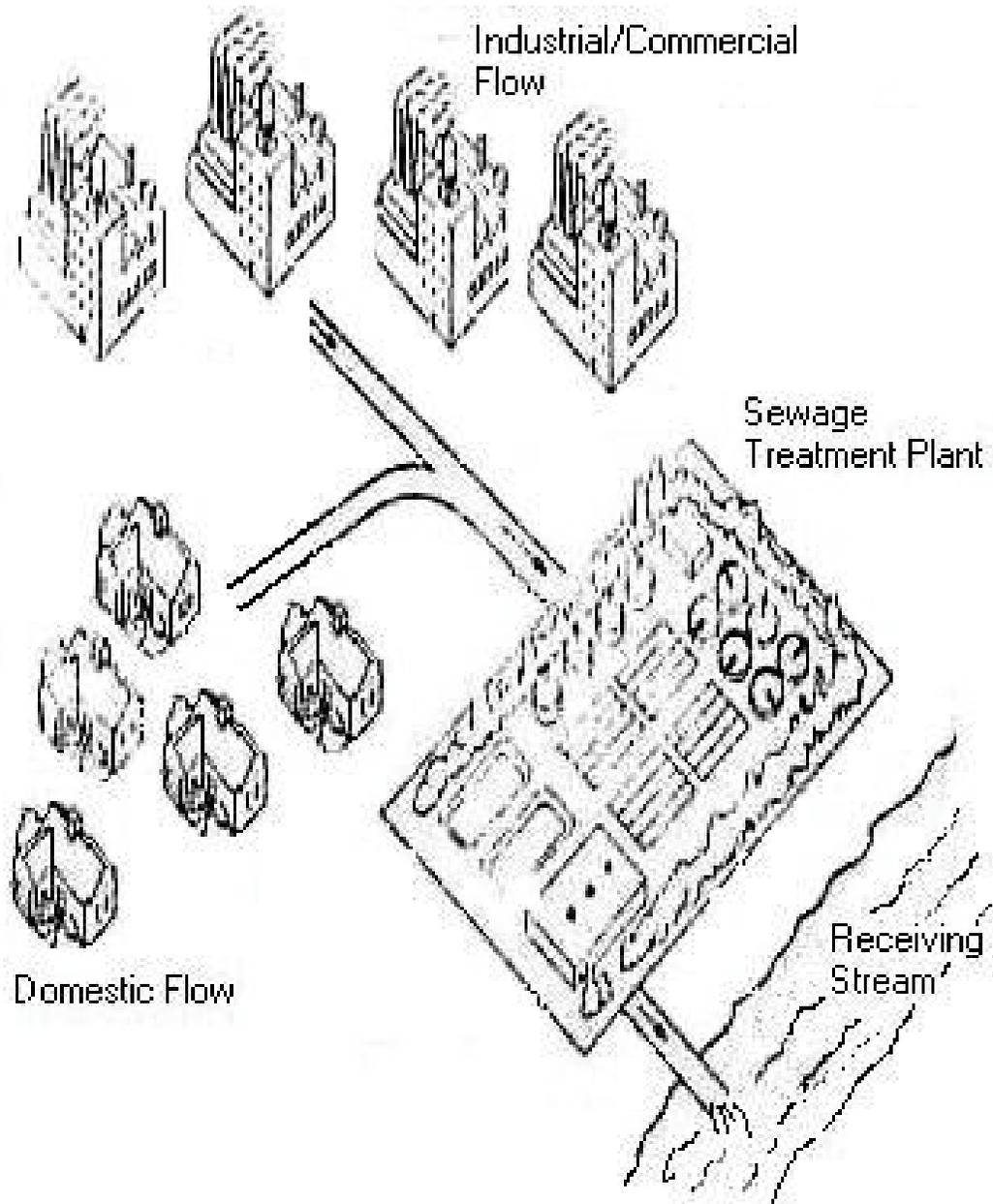


Guidance Manual For Pretreatment Program Compliance for Non-Delegated Local Agencies

Division of Water Quality
Bureau of Pretreatment and Residuals



Draft - September 2003
New Jersey Department of Environmental Protection

TABLE OF CONTENTS

INTRODUCTION

USER SURVEYS AND ANNUAL REPORTING

REPORT CONTENTS

- I. General Information
- II. Industrial Inventory
- III. POTW Trucked-in Waste Survey

LOCAL LIMITS AND SEWER USE ORDINANCE

- I. Local Limits Evaluation
- II. Sewer Use Ordinance

Appendix A: Forms AR-1, AR-2, and AR-3

Appendix B: Sample Completed Forms

Appendix C: Frequently Asked Questions

Appendix D: Indirect Discharger Questionnaire

Appendix E: Federal Categorical Pretreatment Standards

Appendix F: Overview of Local Limits Development

Appendix G: Contents of the Local Ordinance

Appendix H: Additional Resources – Bibliography

DISCLAIMER

THIS DOCUMENT IS A BRIEF SUMMARY OF REGULATORY AND GUIDANCE MATERIAL PROVIDED FOR THE READER'S CONVENIENCE. IT DOES NOT SUPERSEDE ANY EXISTING GUIDANCE DOCUMENT, REGULATORY REQUIREMENT OR CONDITION OF ANY EXISTING PERMIT ISSUED BY THE DEPARTMENT.

SOME INCLUDED MATERIAL IS RELEVANT ONLY TO FACILITIES DISCHARGING WITHIN THE STATE OF NEW JERSEY

Provided by:

**The New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Pretreatment and Residuals
PO Box 029
Trenton NJ 08619

(609) 633-3823**

INTRODUCTION

This document is directed toward publicly owned treatment works (POTW) personnel responsible for implementing industrial pretreatment program (IPP) requirements for a Non-Delegated Local Agency (NLA). These requirements are intended to protect the POTW from discharges - not necessarily only those from manufacturing industries - which may adversely affect plant operations or permit compliance. This document reflects pretreatment program requirements found in current regulations and recently issued permits. If additional or conflicting requirements are found in your permit(s), those permit requirements continue to be enforceable.

Pursuant to the provisions of 40 CFR Part 403, the Federal General Pretreatment Regulations, the New Jersey Department of Environmental Protection (NJDEP) has delegated its authority to certain local agencies to implement an Industrial Pretreatment Program (IPP) and to regulate discharge of non-domestic wastewater into their sewage treatment plant(s). These agencies are called Delegated Local Agencies (DLA's). A DLA must implement its IPP in accordance with Federal and State regulations.

Other agencies are classified as Non-Delegated Local Agencies (NLA's). NJDEP assumes the responsibility for implementing the IPP requirements set forth in 40 CFR Part 403. However, NLA status does not relieve a POTW of the responsibility of identifying and appropriately characterizing certain existing and proposed industrial and commercial discharges and developing defensible local discharge requirements when necessary.

The IPP in a non-delegated area is a cooperative effort between the POTW and NJDEP. NJDEP will regulate major non-domestic dischargers (or Significant Indirect Users) in the service area and take enforcement actions when problems are discovered. In order for the NJDEP to regulate dischargers in a non-delegated area, an NLA is required to provide information to the NJDEP sufficient to carry out these responsibilities. Therefore, an NLA is required to:

- identify any Significant Indirect Users (SIUs) discharging, or proposing to discharge, into its sanitary sewer system;
- submit an Annual IPP Report listing these users;
- evaluate and develop legally defensible local limits or demonstrate that they are not necessary; and
- submit a copy of the local sewer use ordinance or equivalent document (e.g., sewerage authority rules and regulations), hereafter "SUO", as well as any modification to it.

The New Jersey Statute, under N.J.S.A. 58:10A-6.h(1), mandates that any permit issued by the Department for a discharge from a municipal treatment works must require the permittee to notify the Department of the quality and quantity of all new introductions of pollutants into the treatment works, and any substantial change in pollutants introduced into the treatment works by an existing user.

To implement this requirement, permits issued to NLAs include language based upon N.J.A.C. 7:14A-19.3(b)(2)(ii) in the NJPDES Regulations requiring these agencies to submit, on an annual basis, a listing of indirect users discharging into the agency's treatment works. The listing should include all dischargers with the potential to impact POTW performance or compliance, not just manufacturing industries. As a minimum, users meeting the definition of Significant Indirect User (see Appendix C) must be listed, whether or not they currently hold permits. This listing, along with information regarding the users' current activities and flow data, will be utilized by the Department in determining which facilities will or may need new or modified NJPDES SIU permits from the Department.

This guidance document is intended to assist NLAs in identifying these indirect users, evaluating their impact, implementing a framework for their regulation and reporting the necessary information to the Department.

USER SURVEYS AND ANNUAL REPORTING

In an effort to ensure that a local agency identifies all SIUs in its service area, the local agency may and should use a variety of sources. These sources include, but are not limited to, results of user surveys, existing sewer authority files, water use and billing records, utility company records, sewer connection permits, business license records, Chamber of Commerce rosters, the local telephone directory, property tax records, industrial directories, newspapers, advertisements, world wide web, and drive-bys. Once a potential discharger has been identified, the local agency should, if it is uncertain of the operations of that facility, at least send the user an Indirect Discharger Questionnaire in order to better evaluate the users' potential of being classified as an SIU. A sample questionnaire is included as Appendix D of this document. The questionnaire should request at least the information requested in the sample, but may include additional questions the local agency finds useful. Alternatively, the local agency may conduct inspections of some or all such facilities (which should be authorized in the local sewer use ordinance or equivalent legal document), and answer the relevant questions in the form of a written inspection report.

Two copies of the Annual Report must be submitted on standard-size 8½ x 11 inch paper. Use of legal-size paper or large-size computer printouts is discouraged. Submission of computer printouts reduced to standard size is satisfactory. Forms may be altered or adapted to fit any word processing / data processing capabilities of the local agency, as long as the same information is included.

Failure to submit the Annual Report is a violation of the Water Pollution Control Act and the implementing New Jersey Pollutant Discharge Elimination System (NJPDES) regulations (N.J.A.C. 7:14A-1 et seq.) and may subject the permittee to civil administrative penalties.

ANNUAL REPORT CONTENTS

An NLA that has reviewed dischargers in its service area and wishes to certify that there are no Significant Indirect Users in its service area must indicate "No Known Users" on Form AR-2 of the report. Local agencies with known or possible Significant Indirect Users must indicate such users as noted below.

I. General Information Page (Form AR-1): This standard page provides basic information on the local agency submitting the Annual Report, including the person to contact regarding information contained in the report. The official signing the certification on this page must be the Executive Director or General Manager of the local agency, or a person of equivalent or higher position.

When completing Form AR-1, please note that "Base Flow" is the average flow during the three consecutive months for which this number was lowest (normally dry weather or "off season" in resort areas). The "% industrial" should reflect the total percent of wastewater which is not household domestic sewage or the equivalent. These numbers allow the Department to estimate local discharge limitations when developing SIU permits for users (if the local agency has yet to develop them in conformance with relevant guidance) and/or to determine if there is reason to update existing local discharge limitations.

II. Industrial Inventory (Form AR-2): A complete listing of all known significant indirect users (SIUs) of each POTW must be provided. Local agencies operating more than one plant will need at least one form per plant. If a plant has no SIUs, indicate "No Known Users" in the first row of the table. For purposes of the inventory, a significant indirect user, including trucked or hauled waste dischargers, is any user who meets the SIU definition under N.J.A.C. 7:14A-1.2. See Appendix C of this document for the definition of SIU. All

industries subject to Federal Categorical Pretreatment Standards including Pretreatment Standards for New Sources (PSNS) or Pretreatment Standards for Existing Sources (PSES) including limits (see Appendix E) should be initially considered SIUs unless there is no potential to discharge wastewaters into the POTW.

This listing must be arranged alphabetically by facility name. Since facility names may change, it is recommended that an unchanging identification number or "Reference Number" be assigned to each site. The Department has assigned "Site IDs" to regulated sites, and will make them available to local agencies for this use.

Average Daily Flow is the total amount of wastewater of all types (including sanitary wastewater, non-contact cooling water, etc.) discharged on an average day during which discharge occurs. For example, a facility operating 255 days per year (i.e., weekdays only with five annual holidays) and discharging 2,550,000 gallons annually would be discharging 10,000 gallons daily. Process flow excludes sanitary wastewater and also may exclude non-contact cooling water, boiler blowdown, etc. if these wastestreams contain negligible levels of pollutants.

Computerized listings imitating Form AR-2 in this manual may be acceptable. Prior to initial submittal of such listings, the permittee should contact the Department to assure that the proposed format includes all necessary information and will not create processing problems. *The Department is also evaluating the possibility of accepting user listings and updates, as well as other forms, electronically.*

Since most analytical data is submitted by each sewage treatment plant as a requirement of its own NJPDES permit, the Department is not specifying a form for submittal of analytical data regarding users or sewage treatment plant influent, effluent or sludge as part of the annual IPP report. If analytical data exists which has not been submitted to the Department, but which is used to develop local limits or characterize a user's proposed or existing discharge, a summary may either be attached to the annual report or submitted separately.

III. POTW Questionnaire (Form AR-3): This form includes two general questions that must be responded to by the local agency regarding trucked-in waste. In cases where the Department must develop local limits for SIUs, this information will be helpful in understanding all of the sources contributing wastewater to the local agency treatment works.

Generators of trucked-in waste are also SIUs if they meet any criterion in the definition at N.J.A.C. 7:14A-1.2.

LOCAL LIMITS AND SEWER USE ORDINANCE

I. Local Limits Evaluation

Unlike Federal Categorical Pretreatment Standards, which apply to specific industries throughout the nation, local limits address the specific needs and concerns of a local agency to protect against pass-through and interference. Local limits are developed for pollutants (e.g. metals, cyanide, BOD₅, TSS, oil and grease, organics, ammonia, phosphorus) that may cause interference, pass through, sludge contamination, and/or worker health and safety problems if discharged in excess of the receiving treatment plant's capabilities and/or receiving water quality standards. Typically, local limits are developed to regulate the discharge from all users, and are usually imposed at the "end-of-pipe" discharge from a user (i.e., at the point of connection to the collection system). In evaluating the need for local limit development, it is recommended that local agencies:

- conduct an industrial waste survey to identify all users that might be subject to the pretreatment program;

- determine the character and volume of pollutants contributed to the POTW by these users;
- determine which pollutants have a reasonable potential for pass through, interference, or sludge contamination;
- conduct a technical evaluation to determine the maximum allowable POTW treatment plant headworks (influent) loading for these pollutants; and
- determine contributions from unpermitted sources to determine the maximum allowable treatment plant headworks loading from “controllable” industrial sources.

The first two of these issues are generally addressed under "User Surveys and Annual Reporting", above. However, the user survey for purposes of limits development may need to include facilities that are not SIUs, but that may collectively impact treatment works performance.

The pretreatment program requirements being incorporated in NLA permits mandate that the facility "perform a headworks analysis in order to develop local limits or demonstrate that local limits are not necessary." Additionally, the permit language indicates that the headworks analysis be conducted in accordance with the *Guidance Manual on the Development and Implementation of Local Discharge Limitations under the Pretreatment Program* (EPA, 12/87 or an updated version). Many permits require NLAs to perform this analysis once during the term of the permit, but is also appropriate in response to a significant change in influent quality or quantity. The relevant language is usually contained in Part IV.F.3.a.i. of the NLA's Discharge to Surface Water permit. In order either to develop local limits or to demonstrate that local limits are not necessary, an evaluation of the treatment plant influent, effluent, and sludge data should be completed consistent with the guidance manual. As noted in the guidance manual, the need to proceed with a headworks analysis for particular pollutants is indicated when:

- The maximum concentration of the pollutant in the POTW's effluent is more than one-half the allowable effluent concentration required to meet water quality criteria/standards;
- the maximum sludge concentration is more than one-half the applicable sludge criteria guidelines;
- the maximum concentration of the pollutant in a grab sample from the POTW's influent is more than one-half the inhibition threshold;
- the maximum concentration of the pollutant in a 24-hour composite sample from the POTW's influent is more than one-fourth the inhibition threshold;
- the maximum concentration of the pollutant in the POTW's influent (in milligrams per liter) is numerically more than 1/500th of the applicable sludge use criteria (as milligrams per kilogram, dry basis); or
- the concentration of the pollutant in the plant influent exceeds water quality criteria adjusted through a simple dilution analysis.

Should any of the above criteria be met for a particular pollutant, the POTW should proceed with a headworks analysis for that particular pollutant. Appendix F provides a brief overview of the guidance manual regarding headworks analysis and the necessary calculations.

II. The Sewer Use Ordinance

Pursuant to N.J.S.A. 58-10A-6.i(1), "[a]ll local agencies shall prescribe terms and conditions, consistent with applicable State and federal law, or requirements adopted pursuant thereto by the department, upon which pollutants may be introduced into treatment works, and shall have the authority to exercise the ... right of entry,

inspection, sampling, and copying, and to impose ... remedies, fines and penalties, and to recover costs and compensatory damages..."

For proper performance of Pretreatment Program requirements, a local sewer use ordinance (SUO) or equivalent legal document is necessary. Most permits issued to NLA POTWs require submittal of a copy of the SUO shortly after the permit effective date, and within 30 days of any modification to the SUO. If local discharge limits have been developed in accordance with the preceding paragraph, a prohibition of discharge exceeding these limits should be included in the local SUO. Some local agencies may have additional criteria - which are not limits in the sense intended here - for determining user fees or other requirements. The language of the SUO should clearly distinguish between local limits (e.g., prohibited discharge concentrations), and any other criteria (e.g., concentrations above which a user is assessed a surcharge in addition to normal sewer use fees).

See appendix G for an overview of local ordinances.

APPENDIX A

FORMS AR-1, AR-2, and AR-3

Local Agency: _____

Report Date: _____

Period Covered by this Report: _____

Period Covered by Previous Report: _____

<u>Wastewater Treatment Plant(s)</u>	<u>NJPDES Permit Number</u>	<u>Base Flow (MGD)</u>	<u>% Industrial</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Person to contact concerning information in this report:

Name: _____

Title: _____

Mailing Address: _____

Telephone No: _____

Fax No. (if any): _____

E-mail (if any): _____

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information."

Date

Signature of Official

Title

Submit to: NJDEP-DWQ
Bureau of Pretreatment and Residuals
PO Box 029
Trenton, NJ 08625-0029

INDUSTRIAL INVENTORY

TREATMENT PLANT: _____

DEP Site ID	Facility Name and Street Address	Business Activity 40 CFR 4xx.xx SIC or NAICS Code(s)	Average Daily Flow (GPD) Average Process Flow (GPD)	Contact Phone

Local Agency: _____

During the 12-month period covered by this annual report, did this POTW accept any trucked-in wastewater?

- Yes No

If Yes, what type of trucked-in wastewater was/is accepted at the Plant? Please check all that apply.

- | | |
|--------------------------------------|--------------------------------------|
| <input type="checkbox"/> Backwash | <input type="checkbox"/> Leachate |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Septage |
| <input type="checkbox"/> Grease | <input type="checkbox"/> Sludge |
| <input type="checkbox"/> Groundwater | <input type="checkbox"/> Other _____ |

APPENDIX B

Sample Completed Forms

Local Agency: Anytown Utilities Authority

Report Date: May 13, 2002

Period Covered by this Report: to May 2001 to April 2002

Period Covered by Previous Report: May 2000 to April 2001

<u>Wastewater Treatment Plant(s)</u>	<u>NJPDES Permit Number</u>	<u>Base Flow (MGD)</u>	<u>%Industrial</u>
<u>Anytown Southern Plant</u>	<u>NJ0012345</u>	<u>5.25</u>	<u>2.7</u>
<u>Anytown Main Wastewater Facility</u>	<u>NJ0004321</u>	<u>4.18</u>	<u>4.1</u>

Person to contact concerning information in this report:

Name: John Q. Smith
Title: Executive Director
Mailing Address: Anytown Utilities Authority
1234 River Road
Anytown NJ 07000
Telephone No: (732) 555-1111
Fax No. (if any): (732) 555-0001
E-mail (if any): john.smith @ anytownua.com

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information."

May 16, 2002

Date



Signature of Official

Executive Director

Title

Submit to: NJDEP-DWQ
Bureau of Pretreatment and Residuals
PO Box 029
Trenton, NJ 08625-0029

INDUSTRIAL INVENTORY

TREATMENT PLANT: NJ0012345 (Southern)

DEP Site ID	Facility Name and Street Address	Business Activity 40 CFR 4xx.xx SIC or NAICS Code(s)	Average Daily Flow (GPD) Average Process Flow (GPD)	Contact Phone
00123456	Anytown Chemical and Plastic 1234 Man Street Anytown NJ 07000	Industrial Organic Chem. 40 CFR 414 SIC 2869	48,600	John Doe
			40,200 under 40 CFR 414 200 maintenance shop	(609) 555-1111
00345678	Anytown Metal Finishing East 1111 Industrial Way Anytown NJ 07000	Plated Metal Cabinet Hardware 40 CFR 433 SIC 3429	4,200	Al Smith
			4,200	(609) 555-1234

INDUSTRIAL INVENTORY

TREATMENT PLANT: NJ0004321 (Main)

DEP Site ID	Facility Name and Street Address	Business Activity 40 CFR 4xx.xx SIC or NAICS Code(s)	Average Daily Flow (GPD) Average Process Flow (GPD)	Contact Phone
00003456	Anytown Food Products 50 Broadway Anytown NJ 07000	Frozen Fruit Juices	140,600	N/A
		N/A SIC 2037	136,000	N/A

Local Agency: NJ0012345 (Southern)

During the 12-month period covered by this annual report, did this POTW accept any trucked-in wastewater?

- Yes No

If Yes, what type of trucked-in wastewater was/is accepted at the Plant? Please check all that apply.

- | | |
|---|---|
| <input type="checkbox"/> Backwash | <input type="checkbox"/> Leachate |
| <input type="checkbox"/> Industrial | <input checked="" type="checkbox"/> Septage |
| <input type="checkbox"/> Grease | <input type="checkbox"/> Sludge |
| <input checked="" type="checkbox"/> Groundwater | <input type="checkbox"/> Other _____ |

Local Agency: NJ0004321 (Main)

During the 12-month period covered by this annual report, did this POTW accept any trucked-in wastewater?

- Yes No

If Yes, what type of trucked-in wastewater was/is accepted at the Plant? Please check all that apply.

- | | |
|--------------------------------------|--------------------------------------|
| <input type="checkbox"/> Backwash | <input type="checkbox"/> Leachate |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Septage |
| <input type="checkbox"/> Grease | <input type="checkbox"/> Sludge |
| <input type="checkbox"/> Groundwater | <input type="checkbox"/> Other _____ |

APPENDIX C

Frequently Asked Questions

Non-Delegated Local Agency (NLA) Frequently Asked Questions

Who must file an Industrial Pretreatment Program Annual Report (IPPAR)?

N.J.A.C. 7:14A-19.3(b) requires that all local agencies responsible for operation of public sewage treatment plants must file or cause to be filed, as a minimum, an annual listing of Significant Indirect Users (SIUs). The submission must contain necessary information to identify these users and indicate the reason they are SIUs.

When is the IPPAR Due?

The Department will normally state the due date in the permit issued to one plant operated by or on behalf of each local agency. In some cases, the Department inadvertently placed schedules in more than one permit held by the same agency. If you find that this has occurred, you should file a single report, covering all plants you operate, on the earliest due date indicated. (This is allowable because there is no penalty for early submittal of the other reports. The Department will correct this situation if it is brought to our attention.) When in doubt, please contact the Bureau of Pretreatment and Residuals at (609) 633-3823.

What is a Significant Indirect User (SIU)?

Relevant definitions are found in N.J.A.C. 7:14A-1.2 within the NJPDES Regulations. As of November, 2002, for discharges into Non-Delegated Local Agency POTW, "*Significant Indirect User*" or "*SIU*" includes:

- 1. Any user.. as defined in 40 CFR 403.3(t) but excluding municipal collection systems, who discharges wastewater into a local agency where:*
 - i. The user is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N [see Appendix E for a listing of Categorical Pretreatment Standards];*
 - ii. The user's average volume of process wastewater exceeds 25,000 gallons per day;*
 - iii. The amount of BOD, COD or Suspended Solids in the industrial process wastewater discharge exceeds the mass equivalent of 25,000 gallons per day of the domestic waste of the affected local agency;*
 - iv. The volume of industrial process wastewater in the discharge exceeds five percent or more of the average daily dry weather flow of the local agency;*
 - v. The user's discharge of process wastewater contributes, five percent or more of the daily mass loading of any of the pollutants listed in N.J.A.C. 7:14A-4, Appendix A Tables II through V;*
 - vi. The user is designated as an SIU by the [DEP] on the basis that the user has a reasonable potential for adversely affecting the local agency's operation;*
 - vii. The user is designated as an SIU by the [DEP] on the basis that the user has been in violation of any Federal, State, or local pretreatment standard or requirement, including, but not limited to, significant noncompliance as defined in 40 CFR 403.8(f)(2)(vii); or*
 - viii. The [DEP] determines it would be consistent with the intent of the Pretreatment Act or State Act to require a permit for the indirect user;*
 - ix. The user is determined to be a hazardous waste facility that received a permit in accordance with N.J.A.C. 7:26-12;*
 - x. The user's discharge consists of landfill leachate, which is either pure, treated, or diluted; or*
 - xi. The user's discharge consists of 25,000 gallons per day or more of process wastewater and/or polluted ground water which is pumped from the ground in order to decontaminate an aquifer...*

However the Department may determine, after review, that a user other than a CIU is not an SIU if it has "no potential impact" on the receiving sewage treatment plant.

Significant Indirect Users are required to hold permits issued by the Department. However, it is possible for a user to change activity or for new categorical standards to create new classes of SIUs. The local agency should not assume a user is not an SIU simply because they do not hold an appropriate permit.

Am I required to use the forms in this package?

Form AR-1 (adopted if necessary to your word-processing capabilities) is required for each agency, as is AR-3 for each plant. All data required on Form AR-2 must be submitted, but the Department will allow reasonable approximations in format (e.g., reports generated by a database program). We ask that you check with us regarding any such substitution, and reserve the right to require resubmittal if data is omitted or unclear.

Our permit, which was issued several years ago, requires submittal of a list of SIUs. What should we submit?

The form AR-2 (or a reasonable approximation, as noted above) will be construed as the required list. Please submit Form AR-1 in lieu of a cover letter, and attach AR-3 for clarification.

What if no Significant Indirect User discharges into my plant(s)?

If you are certain that this is the case, you must complete Form AR-1 and indicate on Form AR-2 (one form per plant, if operating multiple plants) "No Known Users."

What if we cannot determine if a user is an SIU?

You should initially be listing the user on Form AR-2 and supplying the best available data, preferably using the questionnaire form in Appendix D. The Department will contact the user if appropriate and advise you if they should be classified as an SIU when a determination is reached.

Our service area covers several municipalities. What must I file?

The local agency responsible for sewage treatment is responsible for filing the IPPAR, regardless of who owns or operates the collection system(s). For NLAs, the Department does not mandate the specific method by which the local agency obtains its information, but the local agency is responsible for obtaining and reporting accurate information. The relevant local ordinance (or other legal documents) should include authority and procedures sufficient to assure that the necessary information can be obtained in a timely manner, as well as a mechanism for allocating allowable headworks loadings of all pollutants of concern (see Appendix F) to the municipalities, or directly to users. This interpretation is consistent with N.J.S.A. 58-10A-6.h(2), requiring local agencies "[t]o establish an effective regulatory program, alone or in conjunction with the operators of sewage collection systems, that will assure compliance and monitor progress toward compliance by industrial users of the facilities with user charge and cost recovery requirements of the Federal Act or State law and toxicity standards adopted pursuant to P.L.1977, c. 74 and pretreatment standards.

Our permit does not presently contain a requirement to develop local limits or to demonstrate that they are not necessary. Are we required to do so?

For most sewage treatment plants, development of local discharge limitations is a regulatory requirement. However, there is no deadline expressed in the regulation, and deadlines are being set through the sewage treatment plants' regular NJPDES permit issuance/renewal process.

Local agencies should be aware that Department-issued SIU permits will generally not include limitations based solely upon local ordinance requirements of non-delegated local agencies, but will include appropriate, properly developed limitations. See N.J.A.C. 7:14A-19.7 and 21.10(a)2&3. Also, proper evaluation of local limits may avoid problems with compliance with a local agency's NJPDES permit(s).

APPENDIX D

Indirect Discharger Questionnaire

INDIRECT DISCHARGER QUESTIONNAIRE

I. GENERAL INFORMATION

A. Facility Name: _____

B. Facility Mailing Address: _____

C. Facility Street Address: _____

D. Facility Contact: _____
 Title or Position: _____
 Telephone No.: _____

II. PRODUCT OR SERVICE INFORMATION

Narrative description of the primary manufacturing or service activity at the facility (Include SIC or NAICS code(s)):

Year current operations began (estimate if not known): _____

III. WASTEWATER DISCHARGE INFORMATION

A. Is the facility connected / discharging to a public sewage treatment system / Publicly Owned Treatment Works (POTW), or is such a connection / discharge proposed?

Yes ___ No ___ Proposed ___ (If no, skip to Section IV.)

POTW Name*: _____

B. List wastewater discharges	Indicate gallons per day** for each discharge method:					
	<u>Sewage System</u>	<u>Storm Sewer</u>	<u>Surface Water</u>	<u>Ground Water</u>	<u>Septic System</u>	<u>Waste Hauler</u>
1. Process wastewater ***: _____	_____	_____	_____	_____	_____	_____
2. Sanitary: _____	_____	_____	_____	_____	_____	_____
3. Contaminated Stormwater: _____	_____	_____	_____	_____	_____	_____
4. Contaminated Ground Water: _____	_____	_____	_____	_____	_____	_____
5. Other (list source): _____	_____	_____	_____	_____	_____	_____

* From sewer bill if any – or attach photocopy

** Estimate if unknown

*** Include all wastewater except cooling and stormwater and sanitary wastewater like that discharged from a residence.

(OVER, PLEASE)

C. Attach any analytical data that you might have on the wastewater discharged or proposed to be discharged to public sewer from the facility.

___ Not available ___ Attached ___ Estimated

D. Does the existing / proposed discharge to a POTW include wastewaters subject to a Federal Categorical Pretreatment Standard (40 CFR Chapter I Subchapter N)?

___ Yes ___ No ___ To Be Determined

IV. OTHER PERMITS/REGISTRATIONS

- 1. ___ Local Sewer-Use Permit/Contract: Number _____ Issued By _____
- 2. ___ NJPDES: Specify type(s) _____ and Permit Number(s) NJ _____
- 3. ___ RCRA (___ Generator ___ Storage (90 days) ___ Treatment) ID No. NJD _____
- 4. ___ Underground Storage Tanks: UST # _____
- 5. ___ Air Pollution: Site ID Number _____
- 6. ___ Other: _____

V. WASTEWATER TREATMENT INFORMATION

Does your facility store, treat, recycle or reclaim wastewater? Yes ___ No ___
If yes, please give a brief description of the system equipment.

VI. SIGNATURE

Name (please print)	Signature
Title	Telephone Number

PLEASE RETURN THIS FORM, INCLUDING ANY ATTACHMENTS, TO:

[Local Agency Address]

NOTICE: THIS REQUEST IS IN CONFORMANCE WITH N.J.S.A. 58:10A-10.3. FALSE STATEMENTS, REPRESENTATIONS, OR CERTIFICATIONS IN ANY APPLICATION, RECORD, OR DOCUMENT ARE SUBJECT TO FINES AND PENALTIES PURSUANT TO THE WATER POLLUTION CONTROL ACT (N.J.S.A 58:10A-10F 2 AND 3)

APPENDIX E

Federal Categorical Pretreatment Standards

LIST OF INDUSTRIAL CATEGORIES

As of March 2003, the following is the list of industrial categories with pretreatment standards (i.e. pretreatment standards for existing sources (PSES) or pretreatment standards for new sources (PSNS)). Indirect dischargers under these standards are considered categorical industries (and, by definition, Significant Indirect Users). USEPA is developing additional pretreatment standards.

40 CFR PART	INDUSTRIAL ACTIVITY
412	Concentrated Animal Feeding Operations
413	Electroplating
414	Organic Chemicals, Plastics, Synthetic Fibers
415	Inorganic Chemicals
418	Fertilizer Mfg.
419	Petroleum Refining
420	Iron & Steel
421	Nonferrous Metal Mfg.
423	Steam Electric
425	Leather & Tanning
426	Glass Mfg.
428	Rubber Mfg.
429	Timber Products
430	Pulp & Paper
433	Metal Finishing
437	Centralized Waste Treatment
439	Pharmaceutical Mfg.
442	Transportation Equipment Cleaning
443	Paving and Roofing Materials
444	Waste Combustors
455	Pesticide Chemicals
458	Carbon Black Manufacturing
461	Battery Mfg.
464	Metal Molding & Casting
465	Coil Coating
466	Porcelain Enameling
467	Aluminum Forming
468	Copper Forming
469	Electrical & Electronic Mfg.
471	Nonferrous Forming

SUMMARY OF CATEGORICAL PRETREATMENT STANDARDS

The following list provides a description of industrial categories that are regulated, as of March, 2003, under Federal General Pretreatment Standards plus Federal Categorical Pretreatment Standards including numerical discharge standards. All such facilities are SIUs if wastewaters generated by the following processes have a reasonable potential to be discharged to a POTW.

In some cases, standards apply only to new sources and/or prohibit discharges from new sources. This is noted if applicable. Discharges from additional categories and subcategories are subject to federal standards when discharging to surface water.

ALUMINUM FORMING [40 CFR 467]

Aluminum Forming is a physical process by which aluminum or aluminum alloys are changed from their original size and shape to a desired size and shape. The processes by which such reformation is accomplished are described as rolling, extrusion, forging, and drawing. An example of aluminum forming is the manufacture of aluminum wire by extrusion. The aluminum or an aluminum alloy is heated and forced through a small hole (extrusion) changing its form from bulk to long, thin strands.

BATTERY MANUFACTURING [40 CFR 461]

This category encompasses the process by which a wide variety of consumer and industrial batteries are produced. This category does not include stores that sell batteries, only facilities that manufacture them.

CARBON BLACK MANUFACTURING [40 CFR 458] - NEW SOURCES ONLY

This category encompasses production of carbon black by the furnace process, thermal process, channel process and lamp process.

CENTRALIZED WASTE TREATING [40 CFR 437]

This category addresses wastewater from any facility that treats (for disposal, recycling or recovery of material) any hazardous or non-hazardous industrial wastes, hazardous or non-hazardous industrial wastewater, and/or used material received from off-site. The category includes facilities that treat waste received exclusively from off-site and facilities that treat waste generated on-site as well as waste received from off-site. For example, an organic chemical manufacturing plant may, in certain circumstances, be a Centralized Waste Treating (CWT) facility if it treats industrial wastes received from offsite as well as industrial waste generated at the organic chemical manufacturing plant. CWT facilities may also include re-refiners and may be owned by the federal government. This part applies to that portion of wastewater discharges from a CWT facility that results from treatment and recovery of hazardous or non-hazardous industrial metal-bearing wastes, oily wastes and organic-bearing wastes received from off-site or treatment of CWT wastewater.

COIL COATING [40 CFR 465]

The raw material of the coil coating process is long, thin strips of metal, known as coils. The Coil Coating category consists of processes that clean, surface, and apply an organic (paint) coating to the coil. An example of a coil coating operation is the manufacture of soft drink cans with names and logos painted on coils which are then sealed to form cans.

CONCENTRATED ANIMAL FEEDING OPERATIONS [40 CFR 412] - NEW SOURCES ONLY

Most subcategories under this regulation do not include pretreatment standards. New sources under Ducks and Horses subcategories are prohibited from indirect discharge except during intense storm events.

COPPER FORMING [40 CFR 468]

Copper Forming is the physical reforming of copper by processes similar to those described above under Aluminum Forming.

ELECTRICAL AND ELECTRONIC PRODUCTS [40 CFR 469]

The Electrical and Electronic Products category encompasses the manufacture of a broad array of electrical and electronic products. Major regulated products include the manufacture of semiconductors (transistors) and cathode ray tubes, such as television picture tubes.

ELECTROPLATING [40 CFR 413]

Most facilities formerly covered under the Electroplating Category are now regulated under Metal Finishing (see below). The Electroplating standard covers existing job shops (i.e., facilities which provide the service of plating things produced by other companies) and independent printed circuit board producers. Electroplating is a process by which metals in a solution are deposited on an object immersed in the solution by the use of electricity. The immersed object is known as the basis. An example of electroplating is gold plating. Instead of making an object entirely out of gold, it is made of another material and only coated with gold. This is done by immersing the object in a solution of gold. When electricity is passed through the solution and object, the gold is deposited in a thin layer on the object. In addition to the electroplating process, the federal regulations also apply to five other related operations: electroless plating, anodizing, coating, chemical etching and milling, and printed circuit board manufacturing. If a facility performs a metal finishing operation (i.e., painting, polishing, decreasing, welding, etc.) in addition to one of the six operations described above, these operations would also be subject to federal regulation and national pretreatment standards.

FERTILIZER MANUFACTURING [40 CFR 418] - NEW SOURCES ONLY

The provisions of this part are applicable to discharges resulting from the manufacture of sulfuric acid by sulfur burning, wet-process phosphoric acid, normal superphosphate, triple superphosphate and ammonium phosphate; discharges resulting from the manufacture of ammonia; discharges resulting from the manufacture of urea; discharges resulting from the manufacture of ammonium nitrate; discharges resulting from production of nitric acid in concentrations up to 68 percent; discharges resulting from the production of ammonium sulfate by the synthetic process and by coke oven by-product recovery and discharges resulting from production of mixed fertilizer and blend fertilizer.

GLASS MANUFACTURING [40 CFR 426] - NEW SOURCES ONLY

This category addresses discharges resulting from the process by which raw materials are melted in a furnace and mechanically processed into glass containers; discharges resulting from the process by which raw materials are melted in a furnace and processed into television picture tube envelopes; discharges resulting from the processes by which (a) raw materials are melted in a furnace and mechanically processed into incandescent lamp envelopes or (b) incandescent lamp envelopes are etched with hydrofluoric acid to produce frosted envelopes; and discharges resulting from the process by which raw materials are melted in a furnace and processed by hand into pressed or blown glassware. This includes those plants which: (a) produce leaded glass and employ hydrofluoric acid finishing techniques, (b) produce non-leaded glass and employ hydrofluoric acid finishing techniques, or (c) produce leaded or non-leaded glass and do not employ hydrofluoric acid finishing techniques.

GRAIN MILLS [40 CFR 406] - NEW SOURCES ONLY - CORN WET MILLING SUBCATEGORY

The provisions of this subpart are applicable to discharges resulting from the process in which shelled corn is steeped in a dilute solution of sulfurous acid and then processed by wet means into such products as animal feed, regular and modified starches, corn oil, corn syrup, and dextrose.

INK FORMULATING [40 CFR 447] - NEW SOURCES ONLY - NO PROCESS WATER DISCHARGE

The provisions of this subpart are applicable to discharges resulting from the production of oil-based ink where the tank washing system uses solvents.

INORGANIC CHEMICALS MANUFACTURING [40 CFR 415]

Inorganic Chemicals Manufacturing encompasses the manufacture of all chemical compounds not containing any carbon. The number of such chemicals manufactured is vast, however, federal regulations of inorganic chemicals manufacture has focused on 66 subcategories of chemicals. Known or suspected manufacturers of any inorganic compounds such as hydrochloric acid, sulfuric acid, chrome pigments, or iodine should be identified by this category until additional information can be collected to determine the applicability of the regulation.

IRON AND STEEL [40 CFR 420]

The Iron and Steel category includes all processes used in the manufacture of iron and those additional processes used to manufacture steel, including forming and casting processes used to create a finished product.

LEATHER TANNING AND FINISHING [40 CFR 425]

The Leather Tanning and Finishing category includes facilities that convert animal hides and skins into leather. Facilities that purchase leather for the manufacture of leather products are not to be included in this category.

METAL FINISHING [40 CFR 433]

Most facilities formerly regulated under the Electroplating category are now regulated under metal finishing. The regulated processes are substantially the same, but usually occur as part of a more inclusive operation. For example, a company which assembles and sells metal cabinets which include parts electroplated at the same site could fall under this category. However, metal finishing processes which occur at a facility subject to another standard (e.g., Metal Molding and Casting) may be covered under that standard instead.

METAL MOLDING AND CASTING [40 CFR 464]

The raw materials in this category are aluminum, copper, iron, lead, magnesium, or zinc. These metals are melted and poured or forced into a mold which, when cooled, produces a cast intermediate or final product. Foundries are an example of the type of industry that would be grouped in this category.

NONFERROUS METAL FORMING [40 CFR 471]

The Nonferrous Metals Forming category includes two major groups: forming and production. The category includes forming of all metals and alloys that do not contain iron as the primary metal and that are not covered by a specific regulation (i.e., aluminum forming and copper forming). The forming processes used in this category are similar to those described under Aluminum Forming. The category also includes the production of metal powders through mechanical means such as milling.

NONFERROUS METAL MANUFACTURING [40 CFR 421]

This category is made up of facilities that produce metals from ore concentrates or that recover metals from recycled metallic wastes, such as aluminum cans or lead batteries.

ORGANIC CHEMICALS, PLASTICS AND SYNTHETIC FIBERS [40 CFR 414] This category covers the manufacture of an exceptionally broad range of industrial organic chemicals (chemicals containing at least one carbon molecule), plastics, and synthetic fibers. Generally, the manufacture of organic chemicals, plastics, and synthetic fibers can be assumed to be covered by this category when the manufacturing facility is identified by SIC codes 2865, 2869, 2821, 2823, and 2824.

PAINT FORMULATING [40 CFR 446] - NEW SOURCES ONLY - NO PROCESS WATER DISCHARGE

The provisions of this subpart are applicable to discharges resulting from the production of oil-based paint where the tank cleaning is performed using solvents.

PAVING AND ROOFING MATERIALS [40 CFR 443] - NEW SOURCES ONLY

This category addresses discharges resulting from the production of asphalt paving and roofing emulsions, asphalt concrete, asphalt roofing materials and linoleum and printed asphalt felt floor coverings.

PESTICIDE CHEMICALS [40 CFR 455]

The Pesticide Chemicals category includes the manufacture, formulation, and packaging of chemicals whose primary purpose is to control or destroy undesirable plants and animals. The pesticide chemicals category is broader than most categories in that it includes formulation and packaging of pesticides and is not limited to manufacture.

PETROLEUM REFINING [40 CFR 419]

The Petroleum Refining category includes facilities that produce petroleum products such as gasoline, heating oil, diesel fuel, and asphalt from crude oil by physical separation and/or chemical reaction processes.

PHARMACEUTICAL MANUFACTURING [40 CFR 439]

The Pharmaceutical Manufacturing category includes the manufacture of all chemicals of feed or medicinal grade that have a therapeutic value. The manufacture of such chemicals is included within the category regardless of whether it was produced by chemical synthesis, fermentation, extraction from natural sources, or other processes.

PORCELAIN ENAMELING [40 CFR 466]

Porcelain enameling is the process by which a ceramic or fused silicate finish is applied to a basis metal product. The Porcelain Enameling category regulates processes including the operations by which the metal basis is prepared for enameling and the operations by which the ceramic or fused silicate is applied to the basis. Examples of basis materials include bathtubs, sinks, and other bathroom items.

PULP, PAPER AND PAPERBOARD AND BUILDERS' PAPER AND BOARD MILLS [40 CFR 430]

These categories are defined as including industries identified by one of the following four SIC classifications: 2611 facilities engaged in making pulp (a mixture of wood or other fibers with water which is used as a raw material for most paper manufacture); 2621 paper mills (facilities that produce paper) that do not primarily manufacture building paper; 2631 mills manufacturing paperboard (e.g., cardboard, chipboard, and pressboard); and 2661 building paper and board mills including production of paper and paperboard used in building.

RUBBER MANUFACTURING [40 CFR 428] - NEW SOURCES ONLY

This category is applicable to process wastewater discharges resulting from the production of molded, extruded, and fabricated rubber products, foam rubber backing, rubber cement-dipped goods, and retreaded tires; water discharges resulting from the production of reclaimed rubber; process wastewater discharges resulting from the manufacture of latex-dipped, latex-extruded, and latex-molded products with the exception of those discharges from textile plants; and process wastewater discharges resulting from the manufacture of latex foam.

SOAP AND DETERGENT MANUFACTURING [40 CFR 417] - NEW SOURCES ONLY - SOME WASTESTREAMS PROHIBITED

This category is applicable to manufacture of spray dried detergents, including but not limited to assembly and storage of raw materials, crutching, spray drying, blending (including tumble spraying of additives) and packaging; manufacture of liquid detergents, commencing with the blending of ingredients, to and including

bottling or packaging finished products; the manufacture of detergents by means of the blending of dry ingredients, including, but not limited to, blending and subsequent packaging; manufacture of detergents by drum drying, including, but not limited to, drying of formulations on heated drums or rollers, conversion of dried detergents to powders or flakes, and packaging of finished products.

STEAM ELECTRIC [40 CFR 423] The Steam Electric Power Generating category includes facilities engaged in the production of steam to generate electricity for distribution and sale. This category does not pertain to facilities that generate electricity for onsite use.

TIMBER PRODUCTS PROCESSING [40 CFR 429]

The Timber Products Processing category includes a broad range of facilities which produce lumber, wood, and basic board materials. It includes saw mills, millwork and finishing plants, veneer and plywood plants, and wood processing plants (plants at which creosote or other materials are saturated into the wood as a preservative). The category also includes facilities that manufacture particleboard, hardwood, and insulation board.

TRANSPORTATION EQUIPMENT CLEANING [40 CFR 442]

This category includes facilities that generate wastewater from cleaning the interior of tank trucks, rail tank cars, intermodal tank containers, tank barges, or ocean/sea tankers used to transport materials or cargos other than food grade products that come into direct contact with tank or container interior, except where such tank cleanings are performed in conjunction with other industrial, commercial, or POTW operations. Facilities are usually classified under SIC 7699, SIC 4741 and/or SIC 4491. Facilities that discharge less than 100,000 gallons per year of transportation equipment cleaning process wastewater are exempt.

WASTE COMBUSTORS [40 CFR 444]

This category includes facilities that generate wastewater attributable to commercial waste combustion operations, but includes only wastewater from air pollution control systems and water used to quench flue gas or slag generated as a result of commercial hazardous waste combustor operations. Such facilities burn RCRA hazardous wastes received from off-site for a fee or other remuneration in the following circumstances: the thermal unit is a commercial hazardous waste combustor if the off-site wastes are generated at a facility not under the same corporate structure or subject to the same ownership as the thermal unit and (1) the thermal unit is burning wastes that are not of a similar nature to wastes being burned from industrial processes on site or (2) there are no wastes being burned from industrial processes on site. Facilities include those which burn exclusively waste received from off-site; and those which burn both wastes generated on-site and wastes received from off-site. Facilities that may be covered include hazardous waste incinerators, rotary kiln incinerators, lime kilns, lightweight aggregate kilns, and boilers. A facility is not a commercial hazardous waste combustor if it burns RCRA hazardous waste exclusively for charitable organizations, or as a community service or as an accommodation to local, state or government agencies so long as the waste is burned for no fee or other remuneration.

APPENDIX F

Overview of Local Limits Development

Minimum Requirements for Local Limitations Evaluation

Introduction

New Jersey Pollutant Discharge Elimination System (NJPDDES) permits issued to sewage treatment plants usually include a requirement to develop local limits or demonstrate that such limits are not necessary.

This document is intended to clarify permit and regulatory requirements by briefly summarizing the process of local limits evaluation, and is based upon USEPA "Guidance Manual on the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program", December 1987, Office of Water Enforcement and Permits, Washington, DC 20460 and N.J.A.C. 7:14A-19 of the NJPDDES regulations. This document does not supersede either the EPA guidance manual or any portion of the NJPDDES regulations, which include significant additional requirements, guidance and information.

Purpose of Local Limits Evaluation

Limits should be developed by local agencies to address discharges of pollutants of concern to sewage treatment plants, i.e., pollutants which may (1) pass through or interfere with treatment works; (2) contaminate sludge; (3) create collection system problems; or (4) endanger worker health and safety. This brief overview addresses primarily the first two concerns.

The process of developing local limits can be divided into (1) headworks analysis and (2) calculation and implementation of limits. The headworks analysis entails (a) determining pollutants of concern, i.e., those which cause or have a reasonable potential to cause any problem noted in the previous paragraph; (b) determining appropriate locations to sample for these pollutants; and (c) conducting and documenting sampling and analysis.

For many sewage treatment plants, potential sludge contaminants and/or pollutants which may produce effluent toxicity include arsenic, cadmium, chromium, copper, cyanide, lead, mercury, molybdenum, nickel, selenium, silver and zinc. BOD₅, total suspended solids (TSS), phosphorus and ammonia generally are limited in treatment plant effluent. The plant operators should review permits and regulatory criteria, and evaluate plant performance, to determine if there may be additional pollutants of concern.

While pollutants of concern often derive from industrial sources, other commercial sources, remediation activities, and hauled wastes may also be issues. Local limits evaluation and development are required for several purposes:

◆ Water Quality Protection

Local agencies operating sewage treatment plants develop limits to prohibit indirect discharges in amounts that result in, or contribute to, a violation of water quality-based NJPDDES permit limits. These permit limits are often based on specific water quality standards and are generally expressed as numeric standards. Additionally, many NJPDDES permits include limitations based on bioassay results to prevent toxic discharges.

Local agencies should utilize toxicity-based approaches and chemical specific approaches involving applicable water quality standards or criteria in order to comply with such requirements. Water quality criteria are implemented as State standards, and are based on stream classification. See N.J.A.C. 7:9B.

In addition to developing local limits based on water quality standards/criteria, Local agencies may need to develop local limits that are based on reducing aquatic toxicity.

- ◆ Sludge Protection

Local agencies also develop limits to prohibit indirect discharges in amounts that cause, or contribute to, a violation of applicable sludge disposal or use regulations, or restrict the sewer plant from using its chosen sludge disposal or use option. Generally speaking, each sewer plant must meet the appropriate criterion for sludge management under 40 CFR Part 503, or the criteria for permissible feed to the selected incinerator.

- ◆ Prevention of Operational Problems

Receipt of some wastes may interfere with sewer plant operations, resulting in a violation of NJPDES permit conditions calling for specific removal efficiencies to be achieved and for the plant to be well-operated and maintained. Moreover, some discharges of pollutants, while not causing NJPDES permit violations or violations of sludge disposal regulations, can nevertheless disrupt operations, increase operation and maintenance costs, and may cause violations of specific prohibitions. For example, discharges that inhibit the sewer plant's biological treatment systems result in reduced efficiency and, as a result, increased operating costs. At worst, process inhibition may necessitate reseeded and stabilization of the treatment unit. In addition, process inhibition or upset may result in the production of sludges that require either special treatment before disposal, or disposal in a manner not generally practiced by the local agency. This would be considered interference.

- ◆ Protecting Worker Health and Safety

Flammable/explosive and/or fume toxic pollutants discharged to sewer plants can pose a threat to the health and safety of sewer plant workers. Local limits can be used to regulate the discharge of flammable/explosive and/or fume toxic pollutants. Workers may be susceptible to the inhalation of toxic gases that form or accumulate in collection systems. The vapors of volatile organic compounds are of major concern since they may be both toxic and carcinogenic, and may produce both acute and chronic health effects over various periods of exposure. Also of concern are the hazards associated with the toxic gases produced when certain inorganic discharges mix in the collection system. Acidic discharges, when combined with certain nonvolatile substances such as sulfide and cyanide, can produce toxic gases/vapors that are hazardous to humans (e.g., hydrogen sulfide and hydrogen cyanide gases). In response to the potential hazards to human health associated with toxic vapors, local agencies may establish local limits based on OSHA criteria and/or the maximum recommended volatile organic compound levels in air.

Explosion and fire hazards comprise an additional health and safety concern for sewer plant workers. Accumulation of volatile substances in the treatment works can produce an influent that ignites or explodes under the proper conditions, potentially injuring workers. Oxygen-activated sludge tanks and confined headworks are examples of areas of concern for fire and explosion hazards in treatment plants. Fire and explosion hazards are regulated under the specific prohibitions of 40 CFR 403.5(b).

Prerequisites to Local Limits Evaluation

- ◆ Identifying Non-Domestic Discharges

Local agencies cannot make informed decisions concerning potential problem discharges in the absence of a comprehensive database on non-domestic contributions to their systems. There are numerous sources that a

local agency can draw on to obtain information about its non-domestic users and the composition and quantities of their discharges.

Critical to a thorough evaluation of users is the performance and maintenance of a complete user survey. The survey is one of the most effective methods for obtaining comprehensive information about the users. All users, including commercial users such as gasoline stations, landfills, site remediation projects, and dry cleaners, should be included in the survey. The local agency should also be aware of normally unregulated sources which may contribute significantly to loadings, such as potable water treatment systems. A typical survey should require submission of the following information from each user:

- Name
- Address (physical location) and mailing address if other
- SIC Code, or, if available, North American Industrial Classification System (NAICS) code
- Wastewater flow
- Types and concentrations of pollutants in discharge(s)
- Major products manufactured and/or services rendered

When available, the following are also useful:

- Locations of discharge points
- Process diagram and/or descriptions
- An inventory of raw feedstocks, including periodically used solvents, surfactants, pesticides, etc.
- Results of inspections, including documentation of spills, compliance history, general practices
- Treatment processes
- Management practices such as spill prevention plans and solvent management plans
- Discharge practices, such as batch versus continuous, variability in waste concentrations, types, and volume

The flow data is necessary for proper calculation of local limits. A subset of this information regarding users that meet the definition of Significant Indirect User in N.J.A.C. 7:14A-1.2 is also required to be reported to the Department annually.

Many sewer plants have historically accepted hauled septage and instituted a charge for the waste accepted. However, in accepting hauled wastes, little consideration is generally given to the potential for non-domestic wastes being discharged along with domestic sewage. 40 CFR 403.5 of the Pretreatment Regulations applies Prohibited and Specific Discharge Standards “to all non-domestic sources introducing pollutants into a [sewer plant]”. All such users must be included in a user survey.

The acceptance by a local agency of Resource Conservation and Recovery Act (RCRA) defined hazardous wastes may require considerable resources for continued compliance with CWA and RCRA requirements. Hazardous wastes may be legally introduced into a sewer plant by one of two means -- either discharged to the collection system via a normal sewer connection, or transported to the treatment plant via truck, rail, or dedicated pipeline. A sewer plant which receives such wastes, except via the collection system, and which does not comply with all of its NJPDES permit limitations, may require a RCRA permit.

◆ Identifying regulatory requirements

The local agency must have available a current permit or permits, contracts, etc., which specify limitations applicable to sewer plant effluent and sludge.

Required Analysis for Particular Pollutants

Analysis of sludge and sewer plant influent for priority pollutants, and analysis of plant influent and effluent for BOD5, TSS, and Ammonia is needed to determine if further action is necessary. Much, but not all, of this data will be available as a result of annual or more frequent analyses conducted as part of periodic compliance monitoring. The need to proceed with a headworks analysis for particular pollutants is indicated when, for any pollutant:

- The maximum concentration of the pollutant in the sewer plant's effluent is more than one half the allowable effluent concentration (including water quality criteria/standards) or the maximum sludge concentration is more than one half the applicable sludge criteria guidelines; or
- The maximum concentration of the pollutant in a grab sample from the sewer plant's influent is more than half the inhibition threshold; or the maximum concentration of the pollutant in a 24-hour composite sample from the sewer plant's influent is more than one fourth the inhibition threshold; or
- The concentration of the pollutant in the plant influent exceeds water quality criteria adjusted through a simple dilution analysis.

EPA also recommends a headworks analysis if the maximum concentration of the pollutant in the sewer plant's influent is more than 1/500th of the applicable sludge use criteria. However, various states and EPA regions implement this guidance differently, and NJDEP is not including it, pending clarification.

Sampling Locations at the Treatment Plant

Additional sampling at the treatment plant is necessary when one or more pollutants meet the above noted criteria. This would be necessary in order to provide data on existing pollutant loadings, removal efficiencies across the various processes, and quantities of pollutants partitioning to the sludge and in the plant effluent. Locations that should be sampled at the treatment plant are listed below:

◆ Required locations:

- Raw sewage influent to the treatment plant
- Domestic wastewater in the collection system (to evaluate background pollutant levels)
- Effluent from treatment plant
- Influent to sludge digester if applicable
- Sludge disposal point

◆ Recommended additional locations

- Effluent from primary treatment (or influent to secondary treatment)
- Effluent from secondary treatment (or influent to tertiary treatment)

The chosen analytical method(s) should be sensitive enough to quantify pollutants of concern at all necessary sampling locations. Occasionally, a pollutant of concern is below the quantification limit of the usual analytical method, but will be identified in the user survey. Sometimes, plant effluent may exhibit toxicity of an undetermined cause. We suggest contacting the Department if you believe this to be the case.

Sampling should be conducted to obtain loading data for use in calculating treatment system removal efficiencies. **EPA recommends at least five consecutive days of sampling.** Plant influent sampling should be conducted at the headworks prior to combination with any recirculation flows.

Prior to conducting sampling, local agency personnel may want to discuss the sampling plan with the Department.

Effluent Toxicity

A toxic sewer plant effluent can be caused by one or more of several thousand toxic chemicals. This wide range of chemicals presents a practical challenge to determining which of these chemicals might be causing toxicity. For this reason, techniques have been developed that simplify the approach to determining the cause of toxicity. Formal approaches to these techniques are called toxicity reduction evaluations, or TREs. The purpose of a TRE is to determine the constituents of the sewer plant effluent that are causing toxicity, and/or to determine the effectiveness of pollution control actions such as local limits or sewer plant process modifications to reduce the effluent toxicity.

Toxicity identification evaluation (TIE) is one component of a TRE. The process involves sequential treatment or fractionation and analysis of the constituents of the sewer plant effluent. In this fractionation, the effluent is split into a number of parts. The effluent remaining after removal of each part is tested for toxicity. Hopefully, the removal of one part will reduce toxicity much more than the others, and this part removed can either be further fractionated and tested for toxicity or chemically analyzed to determine potentially toxic chemicals.

One typical approach to fractionation entails:

- ◆ Air stripping-- the effluent remaining after air stripping is tested for toxicity. If toxicity is reduced, volatiles have caused toxicity.
- ◆ Complexation-- a chelating agent is added to the effluent to bind metals in a nontoxic form. If toxicity is reduced in the effluent, metals are probably the cause of the toxicity.
- ◆ Resin column stripping--organics are removed from the whole effluent by passing it through a resin exchange column. Chemicals can be stripped from the column in fractions, using serial concentrations of a relatively non-toxic solvent (e.g., methanol). Further chemical analysis is then used to identify toxic constituents in a toxic fraction, if toxicity is found in this effluent fraction.

This series of steps indicates whether toxicants are likely to be inorganic, volatile, organics, or oxidants. If none of these treatments results in reduced toxicity of the effluent, more inventive approaches must be taken. Usually, however, one or more fractions contain the primary cause of the toxicity, and chemical analyses of that fraction identify the causative agents. Confirmatory toxicity tests can then be conducted on the isolated compounds to verify that they constitute the toxic agents and that other, unidentified compounds are not contributing substantially to toxicity. With these confirmatory tests, a logical, technically defensible argument is developed that is a strong basis for developing local limits.

Developing Local Limits

The local agency should compare existing local discharge limits (e.g., those currently noted in the local sewer use ordinance), if any, with limits derived from headworks analysis data, to determine if limits should be imposed or modified.

Local limits development using headworks analysis is a two-step procedure:

- ◆ Development of Maximum Allowable Headworks Loadings. Site specific treatment plant/environmental criteria pertaining to pollutant pass through, process inhibition/interference, and sludge quality are identified. The criteria used in local limits development include the sewer plant's NPDES permit limits, receiving stream water quality standards/criteria, biological process threshold inhibition levels, and sludge quality criteria.

A mass balance (input = output) approach is then used to convert each criterion into allowable headworks loadings. This approach traces the routes of each pollutant through the treatment process, taking into account pollutant removals in upstream units. For each pollutant, the criterion which results in the lowest allowable headworks loading should normally be used to develop the relevant local limitation. If the calculated results are very low or negative numbers, it is advisable to contact the Department before proceeding. Possible causes include: (1) excessive concentrations in potable water supplies (which are not necessarily above potable water standards); or (2) corrosion of water supply and/or sewer lines.

Removal rates should be calculated for each pollutant of concern and across each treatment unit indicated below. A mean removal efficiency, or other representative efficiency (e.g. 65% level of confidence) should be used.

- ◆ Allocation of Maximum Allowable Headworks Loadings. Once maximum allowable headworks loadings have been derived, a portion of this loading (for each pollutant) is subtracted as a safety measure to account for projected industrial loading increases, unanticipated slug loadings, and errors in measurement. Pollutant loadings from domestic/background sources are then subtracted from the allowable headworks loadings. The results of these calculations are the maximum allowable industrial loadings to be allocated to the sewer plant's industrial users. Local limits are derived from this allocation of allowable industrial loadings.

A maximum allowable headworks loading (L_t) and allowable industrial loading (L_i) are calculated for each pollutant using each applicable criterion.

Limitations should be adequate to assure:

- ◆ Compliance with NJPDES Permit Limits

The sewer plant's NJPDES permit limits are to be used in the derivation of local limits to prevent pollutant pass through. The following equation is used to convert a pollutant-specific concentration-based NJPDES permit limit into the corresponding allowable headworks loading of that pollutant.

$$L_t = \frac{8.34 * C_{in} * Q_T}{(1 - R)}$$

Where:

- L_t = total allowable headworks loading in pounds per day
- C_{in} = sewer plant's effluent limitation in mg/l
- R = fraction of removal for pollutant across the entire treatment plant
- Q_T = total flow into sewer plant in MGD

The allowable industrial loading is calculated by subtracting from total allowable headworks loading the amount of the pollutant entering the plant in domestic wastewater, and a safety factor:

$$L_i = L_t - (8.34 * C_d * Q_d) - L_t * (\text{safety factor})$$

where:

- L_i = allowable industrial loading in pounds per day
- Q_d = domestic flow into sewer plant in MGD
- C_d = concentration of the pollutant in domestic wastewater in mg/l

The safety factor is a fraction on the order of 0.1 to 0.3 intended to allow for variability of plant influent, projected industrial growth, etc.

◆ Compliance with Water Quality Limits

Water quality limitations for the sewer plant’s receiving stream comprise another local limits development basis. The following equation is used to derive allowable sewer plant headworks loadings from water quality standards or criteria.

$$L_t = \frac{8.34 * [C_{CRIT}(Q_T + Q_{STR}) - (C_{STR} * Q_{STR})]}{(1 - R)} \quad L_i = L_t - (8.34 * C_d * Q_d) - L_t * (\text{safety factor})$$

Where:

- L_t = total allowable headworks loading in pounds per day
- C_{CRIT} = water quality standard, mg/l
- Q_{STR} = receiving stream (upstream) flow, MGD
- C_{STR} = receiving stream background concentration
- Q_T = total flow into sewer plant in MGD

◆ Prevention of Process Inhibition

An appropriate sewer plant process inhibition/interference criterion measures the capability of the sewer plant’s biological treatment systems to accommodate pollutants and still adequately remove conventional pollutants. Threshold inhibition levels provide a measure of this capability of biological treatment systems to accommodate pollutants without adverse effects, and hence provide a sound basis from which to establish local limits. When appropriate, calculations must distinguish between conservative pollutants (i.e., pollutants which are not biodegraded or volatilized during the treatment process, and which are therefore calculated strictly by a mass balance) and non-conservative pollutants (for which substantial biodegradation and/or volatilization occurs). The following equations are used to derive allowable headworks loadings from secondary and tertiary treatment threshold inhibition levels:

1) Secondary treatment (e.g., activated sludge) threshold inhibition level:

$$L_t = \frac{8.34 * C_{CRIT} * Q_T}{(1 - R_{PRIM})} \quad L_i = L_t - (8.34 * C_d * Q_d) - L_t * (\text{safety factor})$$

2) Tertiary treatment (e.g., nitrification) threshold inhibition level:

$$L_t = \frac{8.34 * C_{CRIT} * Q_T}{(1 - R_{SEC})} \quad L_i = L_t - (8.34 * C_d * Q_d) - L_t * (\text{safety factor})$$

Where:

- L_t = total allowable headworks loading in pounds per day
- R_{PRIM} = fraction of removal for pollutant across primary treatment
- R_{SEC} = fraction of removal for pollutant across secondary treatment
- Q_T = total flow into sewer plant in MGD
- C_{CRIT} = threshold inhibition level, mg/l

3) Anaerobic digester :

For Conservative Pollutants (Metals):

$$L_t = \frac{8.34 * C_{CRIT} * Q_{DIG}}{R}$$

$$L_i = L_t - (8.34 * C_d * Q_d) - L_t * (\text{safety factor})$$

For Nonconservative Pollutants (Organics/Cyanide):

$$L_t = \frac{L_{INF} * C_{CRIT}}{C_{DIG}}$$

$$L_i = L_t - (8.34 * C_d * Q_d) - L_t * (\text{safety factor})$$

Where:

- L_t = total allowable headworks loading in pounds per day
- C_{CRIT} = threshold inhibition level, mg/l
- Q_{DIG} = total flow into digester in MGD
- R = fraction of removal for pollutant across sewage treatment plant
- L_{INF} = sewer plant influent loading in pounds per day
- C_{DIG} = pollutant level in sludge to digester, mg/l

◆ Protection of Sludge Quality

One of the principal motivations for establishing local limits is to prevent restriction of the sewer plant's sludge management options. The following equations can be used to convert sludge criteria into allowable headworks loadings.

For Conservative Pollutants (Metals):

$$L_t = \frac{8.34 * C_{SLCRIT} * Q_{SLUDGE} * (S_p/100)}{R}$$

$$L_i = L_t - (8.34 * C_d * Q_d) - L_t * (\text{safety factor})$$

For Nonconservative Pollutants (Organics/Cyanide):

$$L_t = \frac{L_{INF} * C_{SLCRIT}}{C_{SLUDGE}}$$

$$L_i = L_t - (8.34 * C_d * Q_d) - L_t * (\text{safety factor})$$

Where :

- L_t = allowable influent loading, lbs/d
- C_{SLCRIT} = sludge disposal criterion, mg/kg dry sludge
- S_p = percent solids of sludge to disposal
- Q_{SLUDGE} = sludge flow to disposal, MGD
- R = removal efficiency across sewer plant, as a decimal
- L_{INF} = sewer Plant influent pollutant loading, lbs/d
- C_{SLUDGE} = pollutant level in sludge to disposal, mg/kg dry sludge

Allocation

There are several allowable ways to allocate the allowable industrial loading to users. The simplest is to develop a uniform concentration limit:

$$C_i = \frac{L_i}{8.34 * Q_i}$$

where:

L_i = the lowest allowable industrial concentration calculated by an applicable method above, in mg/l.

C_i = allowable industrial concentration in mg/l.

Q_i = industrial flow into sewer plant in MGD

It should be noted that the calculations require the local agency to have reliable information regarding the amount of non-domestic wastewater entering the plant. This in turn requires proper identification of sources of non-domestic pollutants.

In some instances, a uniform concentration limit may be unduly restrictive. For example, a sewage treatment plant may receive non-domestic wastewater only from five sources: (a) a total of 5,000 gallons daily from two metal finishers; and (b) a total of 120,000 gallons daily from three pharmaceutical companies which do not use metals in their processes. In this instance, it may be appropriate to allocate a disproportionately high portion of industrial loadings for metals to the metal finishers (with a larger-than-usual safety factor to allow for growth). Some local agencies may wish to make specific allocations (by issuing contracts, etc.) to individual users.

Any decision to allocate industrial loadings by a method other than a uniform concentration limit should be clearly explained and documented, and the documentation supplied to the Department. local agencies making specific allocations to individual users should advise the Department of preexisting / site specific allocations when the Department is developing SIU permits for any of their users.

APPENDIX G

Contents of the Local Ordinance

Contents of the Local Ordinance

The local sewer use ordinance (SUO) is the first line of defense against discharges into a sewage treatment plant which could disrupt its operation or cause NJPDES permit violations. As such, the local SUO should embody sufficient authority, procedures and local limits to protect the treatment plant.

Non-Delegated Local Agencies should have authority at least to:

- (i) Deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the POTW by users where such contributions do not meet applicable pretreatment standards and requirements or where such contributions would cause the POTW to violate its NJPDES permit;
- (ii) Carry out all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied by users, compliance or noncompliance with applicable pretreatment standards and requirements by users. Representatives of the POTW should be authorized to enter any premises of any user in which a discharge source or treatment system is located or in which records are required to be kept to assure compliance with pretreatment standards.
- (iii) Obtain remedies for noncompliance by any user with any pretreatment standard and requirement. All POTW's should be able to seek injunctive relief for noncompliance by users with pretreatment standards and requirements. All POTWs should also have authority to seek or assess civil or criminal penalties for each violation by users of pretreatment standards and requirements.

Additionally, the POTW should also have authority and procedures to:

- (i) Immediately and effectively (after informal notice to the discharger) 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.
- (ii) Locate all possible SIUs;
- (iii) Identify the character and volume of pollutants contributed to the POTW by the users identified; and
- (iv) Receive and analyze self-monitoring reports and other notices submitted by SIUs.

The POTW may also consider inclusion of additional authority and procedures, for example to:

- (i) Sample and analyze the effluent from industrial users; and
- (ii) Require users to immediately notify the POTW of slug discharges.

APPENDIX H

Additional Resources – Bibliography

Additional Resources – Bibliography

1) Code of Federal Regulations Title 40

(Especially, but not limited to, Parts 122 through 136 inclusive and 400 through 471, inclusive, presently available in three volumes from:

U.S. Government Printing Office
Superintendent of Documents
Mail Stop: SSOP
Washington, DC 20402-9328)

USEPA has also published "Development Documents" in preliminary, draft and final form, regarding determinations made or being made, and summarizing or incorporating data relevant, regarding applicability and determinations under some Federal Categorical Pretreatment Standards. Availability of such Documents may be determined by contacting the Department and/or USEPA. These documents, as well as USEPA background information published in the Federal Register, may be used by the Department as background material to resolve technical or interpretive issues not directly addressed by the regulations.

- 2) United States Environmental Protection Agency (USEPA) "Pretreatment Compliance Monitoring and Enforcement Guidance", September 1986, Office of Water Enforcement and Permits, Washington, DC 20460.
- 3) USEPA "Guidance Manual on the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program", December 1987, Office of Water Enforcement and Permits, Washington, DC 20460.
- 4) USEPA "Supplemental Manual on the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program", May, 1991, Office of Water (EN-336), Office of Water Enforcement and Permits, Washington, DC 20460.
- 5) USEPA "Industrial User Permitting Guidance Manual", September 1989, Office of Water (EN-336), Office of Water Enforcement and Permits, 401 M Street, S.W., Washington, DC 20460.
- 6) USEPA "Treatability Manual", EPA-600/2-82-001a, February, 1983 (with updates as received), Office of Research and Development, Washington, DC 20460.

NOTE:

The above documents may be available for downloading from the U.S. Government Printing Office and/or USEPA web sites.