



US EPA Pretreatment Webcast Series

**The Pretreatment 101 Series:
Industrial User Waste Survey Procedures**

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Pretreatment 101

- Purpose
- Future Webcast Training Webcasts
 - Legal Authority & Permitting
 - Compliance Inspections and Monitoring
 - Funding/Resources
 - Local Limits
 - Enforcement

Pretreatment 101: Legal Authority

- Compliance with the federal requirements of 40 CFR 403.8(f)(1)
- Ordinance Requirements
 - 2005 changes to the general pretreatment regulations regarding legal authority
 - Multijurisdictional Agreements
- Issuing Control Mechanisms
 - Individual and general permits

Pretreatment 101: Compliance Inspections and Monitoring

- Compliance with the federal requirements of 40 CFR 403.8(f)(2)
- Compliance Monitoring Procedures
 - Analytical methods
 - Sampling methods
- Compliance Inspection Procedures

Pretreatment 101:

Funding/Resources

- Compliance with the federal requirements of 40 CFR 403.8(f)(3)
- Organization and Staff
- Adequate Equipment
- Funding

Pretreatment 101: Local Limits

- Compliance with the federal requirements of 40 CFR 403.5(c) & 403.8(f)(4)
- When to develop and revise local limits
- How to develop local limits
 - Determining pollutants on concern
 - Data needed to develop local limits
 - Calculation of MAHLs
 - Designating and implementing local limits

Pretreatment 101: Enforcement

- Compliance with the federal requirements of 40 CFR 403.8(f)(5)
- Enforcement Response Plans
 - How to investigate instances of noncompliance
 - Identifying violations
 - Enforcement actions
- Significant noncompliance

Industrial User Inventory and Characterization

Al Garcia

Pretreatment Coordinator

U.S. EPA Region 8

Outline

1. Regulatory Background
2. Purpose of the Industrial Waste Survey
3. Development of the IU Inventory
4. Characterizing Industrial Users
5. Notifying Industrial Users
6. Maintenance of the IU inventory

Regulatory Background

- **Purpose and Applicability: 40 CFR 403.1**

“...establishes responsibilities of...local government, industry, and the public to implement National Pretreatment Standards to **control pollutants** which pass through or interfere with treatment processes in POTWs”

- This regulation applies: “**to pollutants from non-domestic sources covered by Pretreatment Standards which are indirectly discharged into... POTWs...**”

Building Blocks of a Pretreatment Program

40 CFR 403.8(f)(1-6)

- Legal Authority
- Implementation Procedures
- Funding/Resources
- Local Limits
- Enforcement Response Plan
- Industrial Waste Inventory

Implementation Requirements

- 40 CFR 403.8(f)(2)(i-iii)
 - i. Identify and locate all possible IUs
 - ii. Identify the character and volume of pollutants
 - iii. Notification of IUs of applicable Pretreatment Standards

Identify and Locate All Possible IUs

403.8(f)(2)(i)

■ *Industrial User Inventory*

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;

Identify the Character and Volume of Pollutants

403.8(f)(2)(ii)

- *Characterization of industrial users in your inventory*

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

Notify IUs of Applicable Pretreatment Standards

403.8(f)(2)(iii)

- Notify Industrial Users identified under paragraph (f)(2)(i) of this section, of applicable Pretreatment Standards and any applicable requirements under sections 204(b) and 405 of the Act and subtitles C and D of the Resource Conservation and Recovery Act.
- Within 30 days of approval pursuant to 40 CFR 403.8(f)(6), of a list of significant industrial users, notify each significant industrial user of its status as such and of all requirements applicable to it as a result of such status.

Industrial User Inventory

403.8(f)(6)

- The POTW shall prepare and maintain a list of its Industrial Users meeting the criteria in §403.3(v)(1).
- The list shall identify the criteria in §403.3(v)(1) applicable to each Industrial User and, where applicable, shall also indicate whether the POTW has made a determination pursuant to §403.3(v)(2) that such Industrial User should not be considered a Significant Industrial User.

Tools in the Regulatory Toolbox

Procedures

- 403.8(f)(2)(i)* - Identify and locate industrial users (IUs)
- 403.8(f)(2)(ii)* - Identify character and volume of pollutants
- 403.8(f)(2)(iii)* - Notify IUs of pretreatment requirements

Tools in the Regulatory Toolbox

Definitions

- 403.3(j) - Defines IU
- 403.3(v)(1) - Defines SIU
- 403.3(v)(2) - Defines NSCIU

Tools in the Regulatory Toolbox

Implementation

- 403.3(v)(3) - Establishes the CA authority to designate non-SIUs
- 403.6 - Application of Categorical Pretreatment Standards
- 403.8(f)(6) - Preparation and maintenance of a list of IUs

How to Establish a List of IUs

- Industrial User Inventory and IU Characterization (including notification)
- 2 phases
 - IU inventory
 - IU characterization/notification

Objective of the IU Inventory

- Identify all IUs that have the potential to:
 - Cause Interference
 - Cause Pass-through
 - Cause Sludge Contamination
 - Have an impact on the POTW/Collection System and the workers at these systems

1st Phase – IU Inventory Procedures

- Why are these necessary?
 - There are no prescriptive procedures listed in the regulations.
- How is an effective Industrial Wastewater Survey accomplished?

1st Phase - IU Inventory

“Surveying the Service Area”

- When to conduct the survey
 - Pretreatment program development
 - Continual survey of service area
 - Upon noticing an uptrend in pollutant loadings
 - After plant violations or upsets
 - NPDES permit requirements
 - Collection system problems
 - Promulgation of new federal requirements

1st Phase - IU Inventory

Methods and Tools

Drive-bys

IWS evaluation

Facility inspections

Industrial Waste

Survey

**Local telephone
directories**

Local newspaper

Business journal

**Wastewater/water
billing**

records

**Sewer permit tap
records**

**Business license
records**

Property tax records

SARA Title III/EPCRA

Toxic Release

Inventory

LEPC

Envirofacts –

www.epa.gov/enviro/index.html

1st Phase - IU Inventory Methods and Tools (cont.)

- Coordination with other local departments
- Local/County departments
 - Building/Engineering
 - Community Development
 - Fire/Police
 - Code Enforcement
- Outreach, education, training

1st Phase - IU Inventory

How to Establish a List of **All** Nondomestic Users

- Users with high water usage
- Standard industrial classification (SIC) codes
- North America Industry Classification System (NAICS) codes
- Compare industrial categories at 40 CFR Part 405-471
- IUs that might impact the POTW

Sorting and Compiling Initial Inventory Information

- Creating a “database”
 - Database could be paper, spreadsheet, Access[®]
 - Organization and accessibility

Sorting and Compiling Initial Inventory Information

- Database parameters
 - Name of facility
 - Address
 - Contact information
 - SIC or NAICS codes / Type of business conducted
 - Pretreatment
 - Spill/slug potential
 - Process floor drains
 - Comments
 - Date of last contact/inspection

2nd Phase - IU Characterization

- Identification of possible SIUs and classification procedures
- Establishing criteria for [reserving](#) IUs for further or future review

2nd Phase – IU Characterization

Types of Users

1. Industrial User (IU) [403.3(j)]
2. Significant Industrial User (SIU) [403.3(v)(1)]
3. Non-Significant Categorical Industrial User (NSCIU) [40 CFR 403.3(v)(2)]
4. Non-SIUs [40 CFR 403.3(v)(3)]

Industrial User (IU)

403.3(j)

- Source of indirect discharge.
- An indirect discharge is an introduction of pollutants into a POTW from any nondomestic source regulated under section 307(b), (c), or (d) of the Clean Water Act.

Significant Industrial User (SIU)

403.3(v)(1)

- Categorical Industrial Users (CIU) subject to Categorical Pretreatment Standards (with the exception of NSCIUs)
- Discharges $\geq 25,000$ gpd of process wastewater
- Contributes $\geq 5\%$ of the hydraulic or organic loading
- Has the potential to adversely impact the POTW

Non-Significant Categorical Industrial User (NSCIU)

403.3(v)(2)

- Discharge ≤ 100 gpd of total categorical wastewater
- Consistently compliant with all applicable categorical pretreatment standards and requirements
- Never discharges any untreated concentrated wastewater to the POTW

Non-SIUs

403.3(v)(3)

- Upon a finding that an Industrial User meeting the criteria in paragraph (v)(1)(ii) of this section has no reasonable potential for adversely affecting the POTW's operation or for violating any Pretreatment Standards or requirement, the Control Authority may at any time, on its own initiative or in response to a petition received from an Industrial User or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such Industrial User is not a Significant Industrial User.

Applying the Pretreatment Standards

- National Prohibited Discharges
40 CFR 403.5(a) and (b)
- Categorical Pretreatment Standards
40 CFR 405-471
- Local Limits/Other Local Concerns

National Prohibited Discharges

40 CFR 403.5(a) and (b)

- No **user** shall introduce into a POTW any pollutants which **cause Pass Through or Interference**.
- Fire or explosion hazard
- Corrosive structural damage (pH <5)
- Solid/viscous pollutants causing obstruction
- Pollutants released at excessive flow rates or concentrations causing interference
- Heat
- Petroleum/Cutting oils
- Toxic gases, vapors or fumes (worker H&S)
- Trucked or hauled pollutants, except at designated points

Useful Tools for Categorizing CIUs

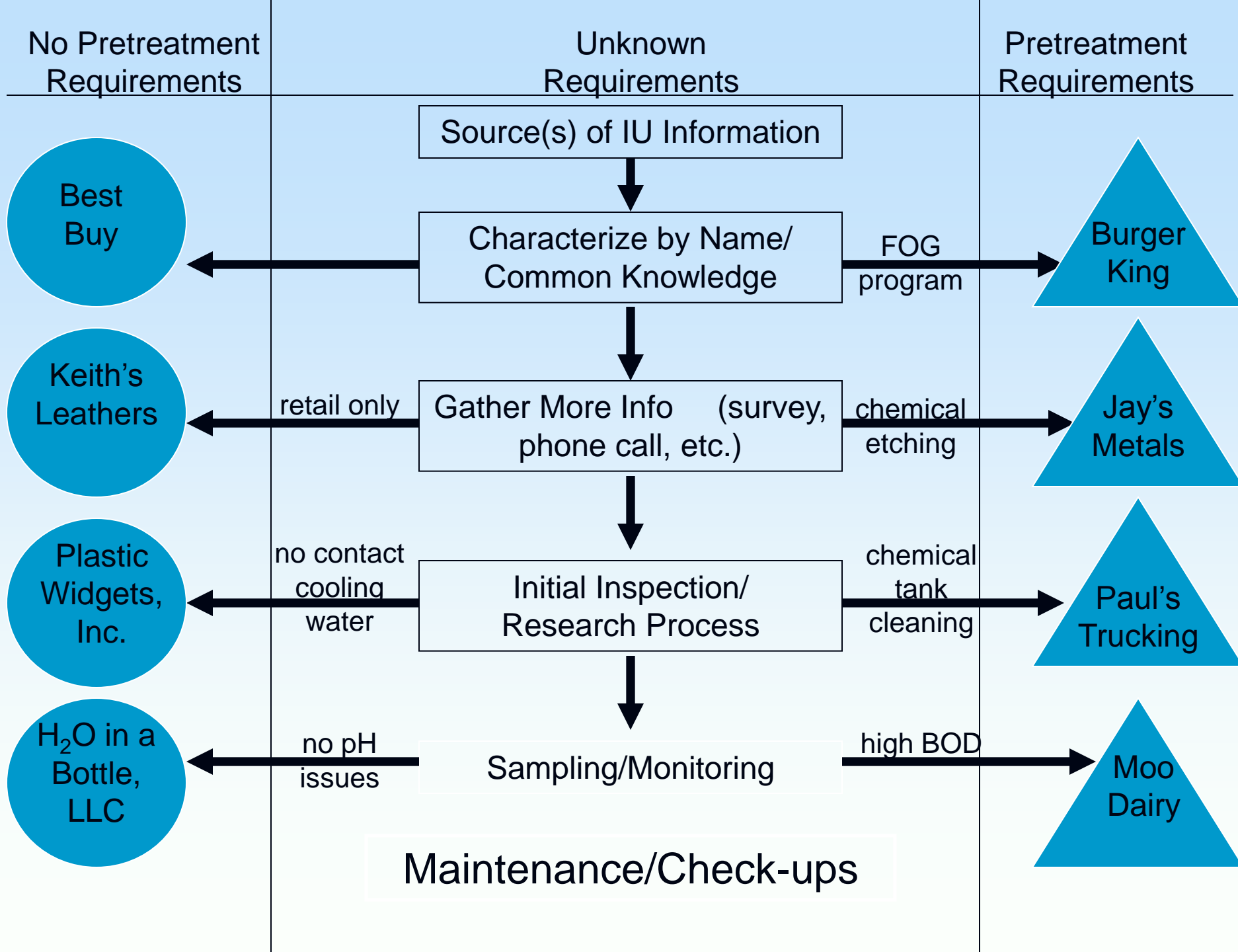
- Code of Federal Regulations – e-CFR
- EPA Effluent Limitations Guidelines Webpage
water.epa.gov/scitech/wastetech/guide/industry.cfm
 - Development Documents
 - Preambles to proposed and final rulemaking
 - Rulemaking response to comments
 - Guidance Manuals
- Peer local Pretreatment programs
- State and EPA Pretreatment Coordinators

Local Concerns

- Local Limits
- Other Local Considerations
 - For example IUs controlled by BMPs or sector control programs (i.e., medical facilities, car washes, laundries, food service establishments)
 - Local pollutants of concern (i.e., lindane, molybdenum, oil and grease, mercury, silver)

2nd Phase - IU Characterization

- Methods for obtaining additional information on the IUs in the Inventory
 - Drive bys (windshield inspections)
 - Industrial Waste Survey Forms
 - Cover letter
 - Track survey responses
 - Facility inspections
 - Sampling
 - Chemical inventory





All Industrial Users (IUs)

**Significant Industrial Users
SIUs**

Non-SIU

Categorical User

Sector Control Program

Not Significant

**Non-Categorical User
(Locally Significant)**

Oil & Grease

Sand Interceptor

Silver Control

Mercury Control

2nd Phase - Notification of IUs

403.8(f)(2)(iii)

- Notification of IUs of applicable Pretreatment Standard
- Applicable Pretreatment Standards or other Applicable Requirements
- Follow up to IU characterization

Annual Reporting Requirements

403.12(i)(1)

- An updated list of the POTW's Industrial Users
 - Name
 - Address
 - List of deletions to the list and an explanation
 - List of additions to the list
 - List of IUs subject to categorical Pretreatment Standards and Requirements
 - List of IUs subject to local Pretreatment Standards and Requirements

Follow Up: Maintenance of IU Inventory

- Regulatory requirement – 403.12(i)(1)
- IUs of Concern or Sectors of Concern (ie, XYZ Manufacturing or machine shops) – more frequent maintenance than banks or retail shops.

Industrial User Inventory and Characterization Procedures

Summary

- There is no one right way
- Required by Pretreatment regulations
- Resource-intensive
- Follow through and documentation is vital
- Fluid and dynamic process, maintenance is important

Questions

Industrial User Inventory

Completed Your Initial Inventory?

What's Next?

Christine Wong
Tetra Tech, Inc.

Christine Wong
Environmental Scientist, III
Tetra Tech, Inc.

Why is it necessary to update the inventory information?

- POTWs with approved pretreatment programs

Required to submit an updated list of IUs to their Approval Authority at least once a year

Provide a brief description of each deletion

Identify IUs subject to categorical pretreatment standards

Identify IUs subject to local standards

Identify IUs that are nonsignificant CIUs

Why is it necessary to update the inventory information?

- All POTWS with NPDES permits

Required to provide adequate notice to the Approval Authority information regarding any new introduction of pollutants into the POTW from an indirect discharger which would be subject to sections 301 or 306 of CWA.

[40 CFR 122.42(b)]

Why is it necessary to update the inventory information?

- Ensuring adequate resources
 - Personnel
 - Funding
- Nondomestic waste characterization
 - Quantity of nondomestic wastewater
 - Types of pollutants

Ways to Update IU Inventory Information

- Continual updates
- Periodic updates

Pros and Cons

■ Continual Updates

■ Pros:

- Proactive
- Routine
- Easier to manage
- Less burdensome
- More responsive to changes
- More business friendly

■ Cons:

- More frequent

■ Periodic Updates

■ Pros:

- Less frequent

■ Cons:

- Reactive
- Harder to manage
- More burdensome
- Less protective of POTW

Procedures for Updating Existing IU Information

- Review and update the existing IU list
 - Changes in quantity of wastewater discharged?
 - Changes in the types of waste discharged?
 - Still operational?
 - Changes in products produced?

Procedures for Updating Existing IU Information

- Review and update the existing IU list
 - Changes in processes used?
 - Changes in raw products used?
 - Notification from IU of pending changes?
 - Changes noted during routine site visits?

Procedures for Updating Existing IUs Information (cont.)

- Identify changes at existing Ius
 - Request additional information
 - Short Survey Form
 - One page survey
 - Name of facility, address, contact information
 - Description of processes on site and products produced

Procedures for Updating Existing IUs Information (cont.)

- Identify changes at existing IUs
 - Conduct additional site visits
 - Industry Specific Questions
 - Appendix II of EPA's Industrial User Inspection and Sampling Manual of POTWs (April 1994)
 - <http://www.epa.gov/npdes/pubs/owm0025.pdf>

Procedures for Updating New IUs Information

- Continually locate possible new Ius
 - Interagency coordination
 - Business license applications
 - Water or sewer connection requests
 - Updates from the Chamber of Commerce
 - Building or remodeling permit applications
 - Hazardous materials agency

Procedures for Updating New IUs Information (cont.)

- Continually locate possible new Ius
 - Field observations
 - Sewer collection crews
 - Pretreatment personnel
 - Internet searches
 - Telephone book review
 - Public notices

Procedures for Updating New IUs Information (cont.)

- Identify and document possible new IUs
 - Processes on site are federally regulated
 - Wastewater discharge flow exceeds SIU threshold
 - Pollutants discharge might cause plant interference or pass through

Procedures for obtaining more information (cont.)

- Request additional information
 - Short Survey Forms (1-2 page form)
 - Name of facility, address, contact information
 - Description of processes on site
 - Volume of water used for domestic and nondomestic purposes
 - Long Survey Forms
 - More comprehensive questionnaire
 - Discharge Permit Application

Examples of a Short Survey

Permit Number: WWTP _____ BUS # _____

'D' Industrial User Pre-Form

SECTION A - GENERAL INFORMATION (Required for all customers)

- | | |
|--|---|
| <p>1. Company Name of Tenant (Tax owner of building) _____</p> <p>3. Mailing Address _____

_____</p> <p>6. Email _____</p> | <p>2. Telephone # _____</p> <p>4. Facility Address _____

_____</p> <p>5. Parcel # _____</p> <p>7. FAX _____</p> |
|--|---|

8. Does this business prepare and or serve food?	Yes		No	
9. Does this business discharge chemicals, heavy metals, or organic waste excluding domestic use (sinks and toilets)?	Yes		No	
10. Does this business use chemicals that have the potential to enter the sewer system?	Yes		No	
11. Brief description of the type of business conducted at this site?				

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.

Signature of Authorized Representative _____

Print Name _____

Date _____

DISCLOSURE: Title 40 of the Code of Federal Regulations Part 403 Section 403.14 requires information provided in this questionnaire identifying the nature and frequency of discharge to 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 and applicable State Law. Should a discharge permit be required for your facility, the information in this questionnaire may be used to issue the permit.

1. Company Name _____
Mailing Address _____
Telephone _____ Fax _____ E-Mail _____

2. Production or facility information (if different than above)
Address _____
Telephone _____ Fax _____ E-Mail _____

3. Name, title, and telephone number of personal authorized to represent this company in official dealings with the Industrial Pretreatment Control Authority

Name/Title _____	Telephone _____
Name/Title _____	Telephone _____
Name/Title _____	Telephone _____

4. Identify type of business or services conducted

5. Describe this company's manufacturing processes (if any)

6. List Standard Industrial Classification (SIC) Codes for the facility

7. List number of employees and shift starting times for the facility

	# of employees	Starting time	
1st Shift	_____	_____	AM/PM
2nd Shift	_____	_____	AM/PM
3rd Shift	_____	_____	AM/PM

8. Average water use (in gallons) per month _____ Estimated Measured

9. Check all types of wastewater generated at the facility

Domestic	<input type="checkbox"/>	Equipment/Facility Washdown	<input type="checkbox"/>
Non-Contact Cooling Water	<input type="checkbox"/>	Air Pollution Control Equipment	<input type="checkbox"/>
Contact Cooling Water	<input type="checkbox"/>	Boiler/Tower Blowdown	<input type="checkbox"/>
Process Water	<input type="checkbox"/>	Stormwater Runoff to Sewer	<input type="checkbox"/>
Other (Explain)	_____		

10. This facility discharges to the following (check all that apply)

Sanitary Sewer	<input type="checkbox"/>	Groundwater	<input type="checkbox"/>
Storm Sewer	<input type="checkbox"/>	Evaporation	<input type="checkbox"/>
Waste Haulers	<input type="checkbox"/>	Other (Explain)	_____

Signature of Responsible Official

Date

Updated the IU Inventory Information... Now What?

- Reclassification?
- Permit?
- Updates to Industrial User list?

Reclassification

Nonsignificant IU → noncategorical SIU

- Increases in process wastewater discharged
 - Wastewater discharge exceeds SIU discharge threshold
 - $\geq 5\%$ hydraulic or organic loading
- Wastewater has the potential for adversely affecting the POTW
- Wastewater has the potential to violate pretreatment standards

Reclassification

Nonsignificant IU or SIU → CIU

- Newly promulgated federal requirements, federally regulated process (40 CFR Parts 405-471)
- Additional / New processing lines
- Additional or new products
- Change in process

Reclassification

SIU → Zero-discharger

- IU has installed additional treatment (evaporators)
- Eliminated all process wastewater
- Changed wet processing to dry processing
- Incorporated Pollution Prevention and recycling procedures
- Severed all process wastewater connections to POTW

Reclassification

CIU → NSCIU

- POTW has adequate authority to use this designation
- IU has installed additional treatment (evaporators)
- Discharges ≤ 100 gpd of process wastewater to POTW
- Never discharges concentrated process wastewater
- Consistent compliance with regulations and requirements

Reclassification

SIU → Nonsignificant IU

- Reduced its wastewater discharged to POTW
- Reduced its pollutant loading to the POTW
- Improved pollutant prevention and recycling procedures

Permitting New SIUs

- Control through permit or other similar means
 - To ensure IUs are compliant with Pretreatment Standards
 - To ensure that all SIUs are issued either an individual permit or equivalent control mechanisms

40 CFR 403.8(f)(1)(iii)

Updating IU Inventory Information

POTWS with Pretreatment Programs

- Modifications to the IU Inventory must be submitted, at least annually, to the Approval Authority [\[40 CFR 403.8\(f\)\(6\)\]](#)
- List must include: [\[40 CFR 403.12\(i\)\(1\)\]](#)
 - Names and Address of IUs
 - List of IUs deleted and added to the inventory
 - IUs subject to categorical pretreatment standards
 - IUs subject to local pretreatment standards
 - List of NSCIUs

Updating IU Inventory Information

All POTWs with NPDES Permits

- Provide adequate notice to the Approval Authority
 - Any new introduction of pollutants to the POTW by an IU
 - Any substantial change in volume or character of pollutants into the POTW at the time of NPDES permit issuance

40 CFR 122.42(b)

Panel Discussions

Jan Pickrel, US EPA HQ

Al Garcia, US EPA Region 8

Christine Wong, Tetra Tech, Inc.

Common IWS Errors

- Failure to include all IUs in the Master IU List
- Failure to conduct follow-up
- Failure to document elimination rationale
- Overlooking facilities with private wells but using POTW services

Types of Facilities Overlooked

- Small metal plating facilities
- Facilities that do not have categorical standards
 - Meat and Poultry Products (40 CFR Part 432)
 - Plastic Molding & Forming (40 CFR Part 463)
- Facilities that impact the collection system
 - Prisons
 - Long term care facilities
 - Hospitals (laboratories, cafeteria, laundries)
 - Cafeterias

Types of Facilities Overlooked

- 40 CFR Part 433 facilities (zero-discharging)
 - Discharge from ancillary processes
- Categorical facilities that have zero-discharge requirements
 - Soap & Detergent Manufacturing
(40 CFR Part 417)
 - Steam Electric Power Generating
(40 CFR Part 423)

Success Stories

- Violations of zinc limits in sludge
- Problematic Source Identification
 - Collection system issues
 - Wastewater treatment plant upsets
 - Emergency situations (fumes)

Questions

Speaker Contact Information



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