



# US EPA Pretreatment Webcast Series

**The Pretreatment 101 Series:  
Introduction to the National Pretreatment Program**

**June 30, 2011**



## Speakers:

- Jan Pickrel, U.S. EPA
- Chuck Durham, Tetra Tech, Inc.

## Moderators:

- I-Hsin Lee, Tetra Tech, Inc.
- Christine Wong, Tetra Tech, Inc.

Office of Wastewater Management, U.S. Environmental Protection Agency

# Guide to Our Webcasts

- To Ask a Question – Type your question in the text box located at the bottom of your screen
- To Answer Poll Question – Click on the radio button to the left of your choice and click submit. Do not type your answer in the “Ask a Question” box
- To See Closed Captioning – Turn your pop-up blocker off and click on the “closed captioning” button
- To Complete the Evaluation – Answer questions in the slide window

# Introduction to Pretreatment

Jan Pickrel - EPA Pretreatment Coordinator,  
EPA Office of Wastewater Management

# Pretreatment 101

- First in the series
- Available webcasts:
  - Industrial User Waste Survey Procedures
  - POTW's Procedures for Conducting Compliance Inspections
  - POTW's Procedures for Conducting Compliance Monitoring
- [www.epa.gov/npdes/training](http://www.epa.gov/npdes/training)

# What is the Pretreatment Program?

- Pretreatment = pollutant control requirements for nondomestic sources discharging wastewater to sewer systems that are connected to publicly owned treatment works
- National program
- Implemented through Regions', States', and local programs

# Purpose of the Pretreatment Program

- To prevent the introduction of pollutants into POTWs which will:
  - interfere,
  - pass through, and/or
  - be incompatible
- To improve opportunities to recycle and reclaim wastewaters and sludges
- To protect POTW workers

# Common Acronyms

**CWA** – Clean Water Act

**NPDES** – National Pollutant Discharge Elimination System

**POTW** – Publicly Owned Treatment Works

**IU** – Industrial User

**SIU** – Significant Industrial User

**CIU** – Categorical Industrial User

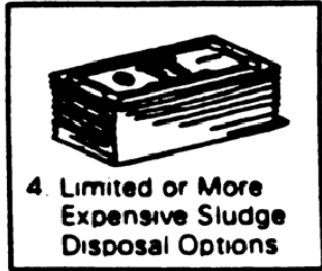
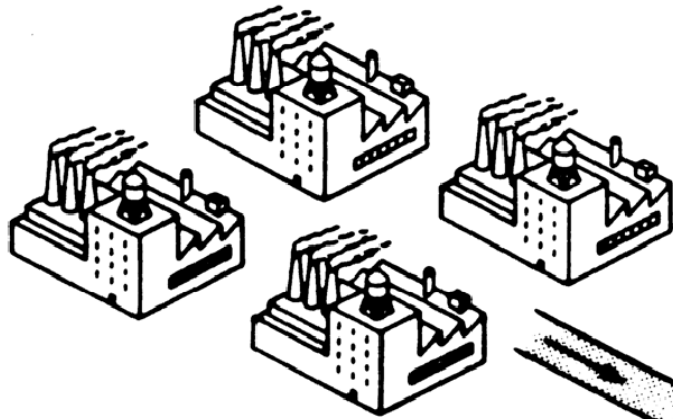
**CFR** – Code of Federal Regulations

# Common terms and phrases

- Approved pretreatment program
- Control Authority (CA)
- Approval Authority (AA)
- Interference
- Pass through
- “Improve opportunities for sludge”

Definitions for pretreatment terms at 40 CFR 403.3



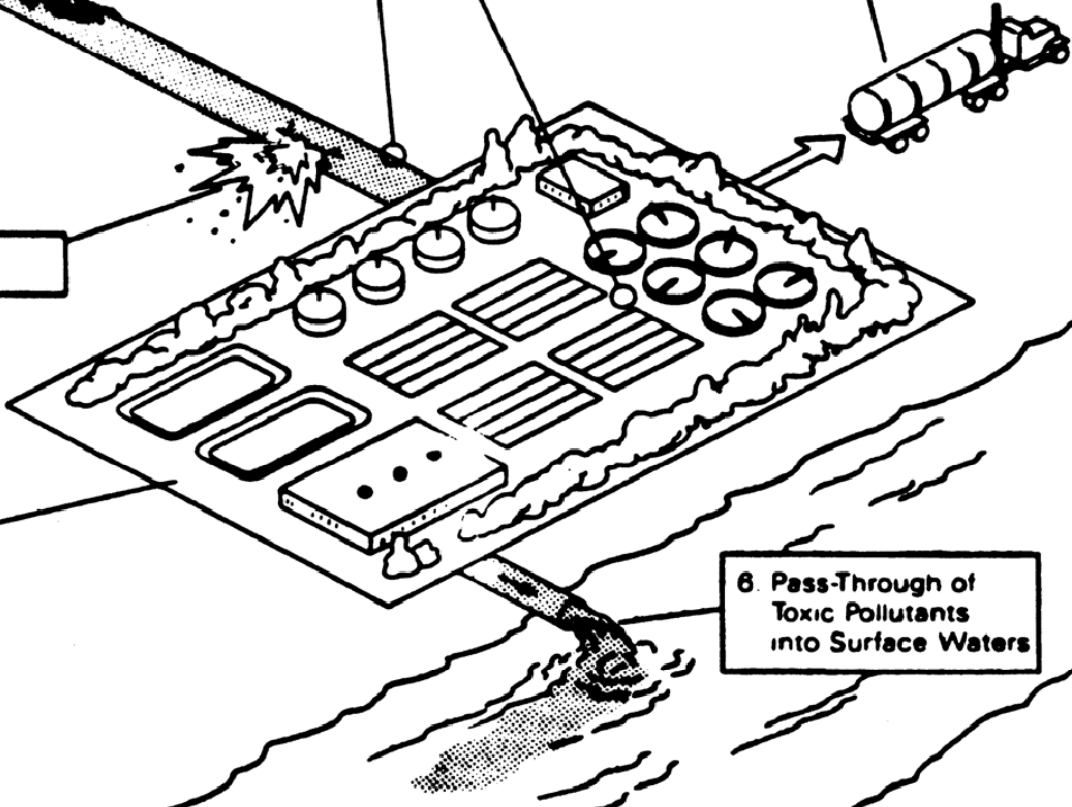


1. Corrosion of Collection System or of the Sewage Treatment Plant

2 Explosions



6. Pass-Through of Toxic Pollutants into Surface Waters



3. Exposure of Workers to Toxic Substances and Hazardous Fumes

4. Limited or More Expensive Sludge Disposal Options

5. Interference with Plant Treatment System

# Who is affected?

- Approval Authority
- POTWs
- Industrial Users
- Waste haulers
- Commercial entities

# Who is affected? (continued)

- Approval Authority
  - Goal: adequate implementation of pretreatment program requirements
  - Legal Authority
  - Oversight responsibilities:
    - POTW pretreatment program implementation
    - SIU/CIU pretreatment program implementation

# Who is affected? (continued)

- The POTW
  - Goal: prevent interference and pass through at plant
  - Legal authority
  - Responsibilities:
    - Survey IUs
    - Control (permits) IUs, waste haulers, and commercial entities
    - Inspection
    - Monitoring
    - Receive and review reports
    - Enforcement
    - Annual Report

# Who is affected? (continued)

- Industrial Users
  - Goal: comply with local, state, and federal pretreatment standards and requirements
    - CIUs – self-implementing standards (effluent limits and reporting requirements)
  - Responsibilities:
    - Compliance with control mechanism requirements
    - Self-monitoring
    - Reporting

# Who is affected? (continued)

- Waste haulers and commercial entities
  - Goal: comply with local, state, and federal pretreatment standards and requirements
  - Responsibilities:
    - No hazardous waste
    - Known, constrained discharge
    - Comply with POTW requirements

# Program Overview

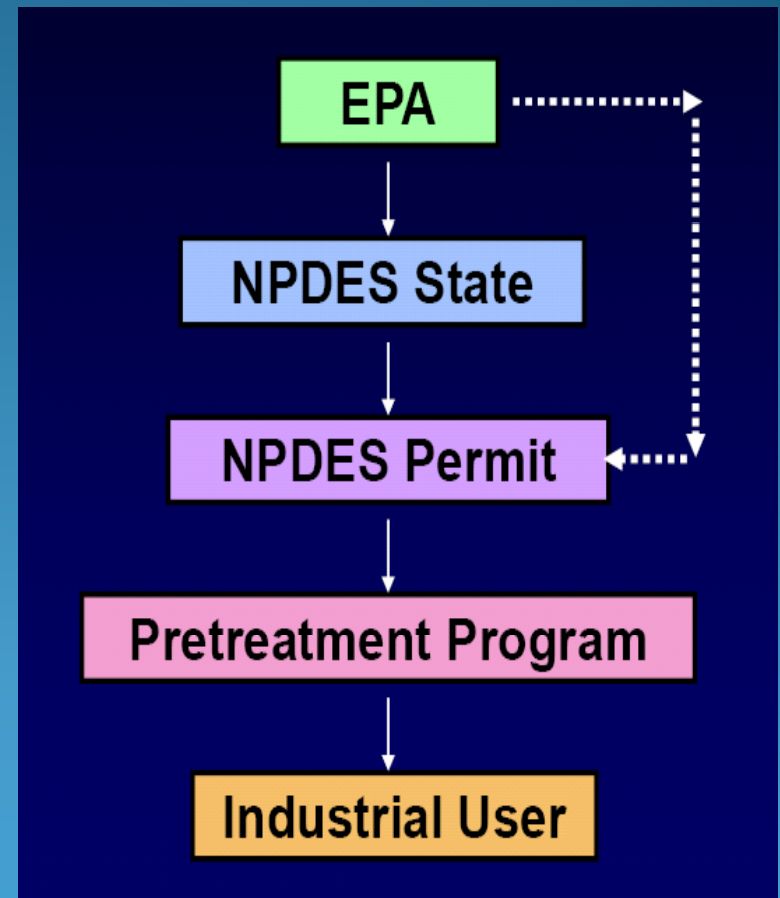
# History of water protection

- 1899 Rivers and Harbors Act
- 1956 Federal Water Pollution Control Act
- 1962 Rachel Carson's Silent Spring
- 1965 Water Quality Act
- 1970 EPA established through an executive order
- 1972 FWPCA Amendments create NPDES Program
- 1977 Clean Water Act**
- 1987 Water Quality Act



# Clean Water Act → NPDES

- 33 U.S.C. 1251, et seq.
- Statutory basis of NPDES program (40 CFR Part 122)
  - point sources must obtain an NPDES permit from EPA or their delegated State
  - NPDES permits require development of Pretreatment Programs



# Pretreatment Regulations

1973	40 CFR Part 128 promulgated
1978	40 CFR Part 403 promulgated
1983	POTW program approval deadline
1985	Pretreatment Implementation Review Task Force (“PIRT”) report released
1986	Domestic Sewage Study (DSS) Report to Congress
1988	PIRT Rules promulgated
1990	DSS regulations promulgated
1993	Removal credit/pollutant eligibility revised
1997	Program Modification Regulation Streamlined
2005	Pretreatment Streamlining Regulations

# 40 CFR Part 403

- U.S. Code of Federal Regulations (CFR)
  - Title 40 - Protection of the Environment
    - Chapter I - Environmental Protection Agency
      - Subchapter N - Effluent Guidelines and Standards
        - Part 403 - General Pretreatment Regulations for Existing and New Sources of Pollution

<http://www.gpoaccess.gov/cfr/>

or

<http://www.gpo.gov/fdsys/>

# Program Implementation

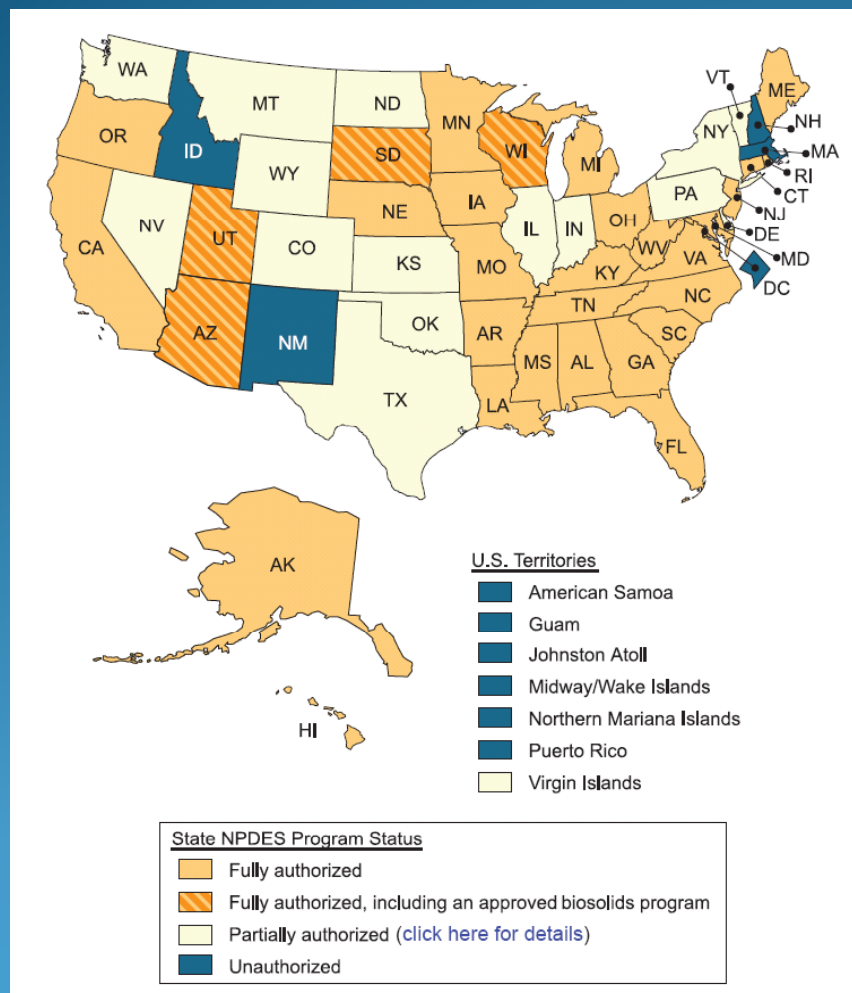
# Who must develop a program?

- POTWs with:
  - combined design flow > 5 million gallons per day (MGD), **AND**
    - receiving flow subject to Pretreatment Standards **or**
    - receiving pollutants which pass through or interfere
- Approval Authority may require program to be developed, regardless
- NPDES States may assume responsibility

# Oversight authority

- Control Authority (CA) vs. Approval Authority (AA)
  - CA - an entity that regulates IUs; can mean the EPA, State, or POTW
  - AA - entity that oversees CAs; can mean the EPA or the State
- Depends on pretreatment authorization status:
  - Delegated states
  - Non-delegated states
  - 403.10(e) states (CT, VT, AL, MS, & NE)

# NPDES/pretreatment authorization status



State	Approved State NPDES Permit Program	Approved to Regulate Federal Facilities	Approved State Pretreatment Program	Approved General Permits Program	Approved Biosolids (Sludge) Program
Alabama	✓	✓	✓	✓	
Alaska*	✓	✓	✓	✓	
American Samoa					
Arizona	✓	✓	✓	✓	✓
Arkansas	✓	✓	✓	✓	
California	✓	✓	✓	✓	
Colorado	✓	✓	✓	✓	
Connecticut	✓	✓	✓	✓	
Delaware	✓	✓	✓	✓	
District of Columbia					
Florida	✓	✓	✓	✓	
Georgia	✓	✓	✓	✓	
Guam					
Hawaii	✓	✓	✓	✓	
Idaho	✓	✓			
Illinois	✓	✓		✓	

Data available at:  
<http://cfpub.epa.gov/npdes/statestats.cfm>

# Implementation oversight

- EPA and/or State:
  - POTWs
    - Receive and review annual reports
    - Pretreatment compliance inspections (PCIs)
    - Pretreatment compliance audits (PCAs)
    - Enforcement
  - Direct oversight of IUs
    - Control mechanisms
    - Monitor and inspect
    - Receive and review reports
    - Enforcement



# Pretreatment Standards

# Types of pretreatment standards

- General/specific
- Categorical standards
- Local pretreatment standards

Can be expressed as numeric limits, narrative prohibitions, and best management practices (BMPs)

# General prohibitions

40 CFR § 403.5(a)

A nondomestic discharger may not introduce into a POTW any pollutant(s) which cause **pass through** or **interference**. These general prohibitions and the specific prohibitions apply to each nondomestic discharger introducing pollutants into a POTW whether or not the nondomestic discharger is subject to other national pretreatment standards or any national, State, or local pretreatment requirements.

# Specific prohibitions

## 40 CFR § 403.5(b)

1. Pollutants which create a fire or explosion hazard
2. Pollutants which will cause corrosive structural damage to the POTW
3. Solid or viscous pollutants causing obstruction and resulting in interference
4. Pollutants released at a flow rate and/or concentration causing interference
5. Heat in amounts which will inhibit biological activity in the POTW resulting in interference
6. Oils in amounts that will cause interference or pass through
7. Pollutants which result in the presence of toxic gases, vapors, or fumes
8. Trucked or hauled pollutants, except at discharge points designated by the POTW

















# Categorical standards

- National, uniform, technology-based standards called effluent limitations guidelines (ELGs)
  - Specific industrial categories
  - Specific processes covered
  - Specific pollutants limited
  - Contain direct **and** indirect discharge standards
  - 40 CFR Parts 405-471

Additional information available at  
<http://water.epa.gov/scitech/wastetech/guide/index.cfm>

# Pretreatment categorical standards

- Pretreatment standards for existing and new sources (PSES and PSNS)
- Examples of ELGs with and without pretreatment standards:
  - Organic Chemicals, Plastics and Synthetic Fibers (40 CFR Part 414, both PSES and PSNS)
  - Inorganic Chemicals (40 CFR Part 415, both PSES and PSNS)
  - Metal Finishing (40 CFR Part 433, both PSES and PSNS)
  - Paint Formulating (40 CFR Part 446, PSNS only)
  - Hospitals (40 CFR Part 460, no pretreatment standards)

# Local pretreatment standards

- Required for all approved pretreatment programs
- Can include:
  - Chemical-specific
  - Best management practices (BMPs)
  - Additional specific prohibitions
  - Industrial user management plans
  - Case-by-case discharge limits

# Local limits

- Must be technically based
- Developed for each POTW
- Implement prohibitions at 40 CFR 403.5(a) and (b)
- Developed for each pollutant of concern
- Must be protective of the plant, plant workers, and the environment
- Must be enforceable

# Questions

# POTW Pretreatment Program Responsibilities

Chuck Durham – Principal Engineer, Tetra Tech, Inc.

# Local Pretreatment Programs

- § 403.8 Requirements of a POTW developed pretreatment program
- § 403.9 Contents of a POTW submission for requesting program approval
- § 403.11 Approval procedures for POTW pretreatment program
- § 403.18 Modifications of POTW pretreatment programs

# Pretreatment Program Components

40 CFR 403.8

- Legal authority
- Local limits
- Procedures
- List of Industrial Users
- Enforcement (Enforcement Response Plan)
- Funding



# Legal Authority

[40 CFR 403.8(f)(1)]

- State law
- Local regulations
  - Sewer Use Ordinance, “SUO”  
or
  - Rules and regulations

# POTW Legal Authority

- Deny or condition discharges [403.8(f)(1)(i)]
- Require compliance [403.8(f)(1)(ii)]
- Control through permit or similar means [403.8(f)(1)(iii)]
- Require compliance schedules to comply [403.8(f)(1)(iv)]
- Inspect, survey, and monitor [403.8(f)(1)(v)]
- Enforce [403.8(f)(1)(vi)]
- Comply with confidentiality requirements [403.8(f)(1)(vii)]
- See EPA Model Pretreatment Ordinance  
[http://www.epa.gov/npdes/pubs/pretreatment\\_model\\_suo.pdf](http://www.epa.gov/npdes/pubs/pretreatment_model_suo.pdf)

# Local Limits

[40 CFR 403.8(f)(4)]

- Must be technically based
- Site specific, developed for each POTW
- Developed for each pollutant of concern
- Must be enforceable
- Local Limits Development Guidance (2004)

[http://www.epa.gov/npdes/pubs/final\\_local\\_limit\\_guidance.pdf](http://www.epa.gov/npdes/pubs/final_local_limit_guidance.pdf)

# What Procedures Must a POTW Pretreatment Program Have?

[40 CFR 403.8(f)(2)]

- Identify and locate all possible IUs [403.8(f)(2)(i)]
- Identify the character and volume of pollutants contributed to the POTW by IUs [403.8(f)(2)(ii)]
- Notify IUs of applicable pretreatment standards [403.8(f)(2)(iii)]
- Receive and analyze reports submitted by IUs [403.8(f)(2)(iv)]

# What Procedures Must a POTW Pretreatment Program Have? (continued)

- Conduct random sampling, surveillance, and inspection events [403.8(f)(2)(v)]
- Conduct slug discharge evaluations [403.8(f)(2)(vi)]
- Investigate instances of noncompliance [403.8(f)(2)(vii)]
- Comply with public participation requirements [403.8(f)(2)(viii)]

# Industrial Wastewater Survey

[40 CFR 403.8(f)(2)(i) & 122.42(b)]

- Identify and locate IUs subject to the pretreatment program requirements
- Pretreatment 101 Series: Industrial User Waste Survey Procedures

[http://cfpub.epa.gov/npdes/courseinfo.cfm?program\\_id=0&outreach\\_id=522&schedule\\_id=1104](http://cfpub.epa.gov/npdes/courseinfo.cfm?program_id=0&outreach_id=522&schedule_id=1104)

# Control Mechanisms

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

- Control through permit, order or similar means, the contribution from each IU to ensure compliance with applicable pretreatment standards and requirements
- Can be achieved through individual or general permits



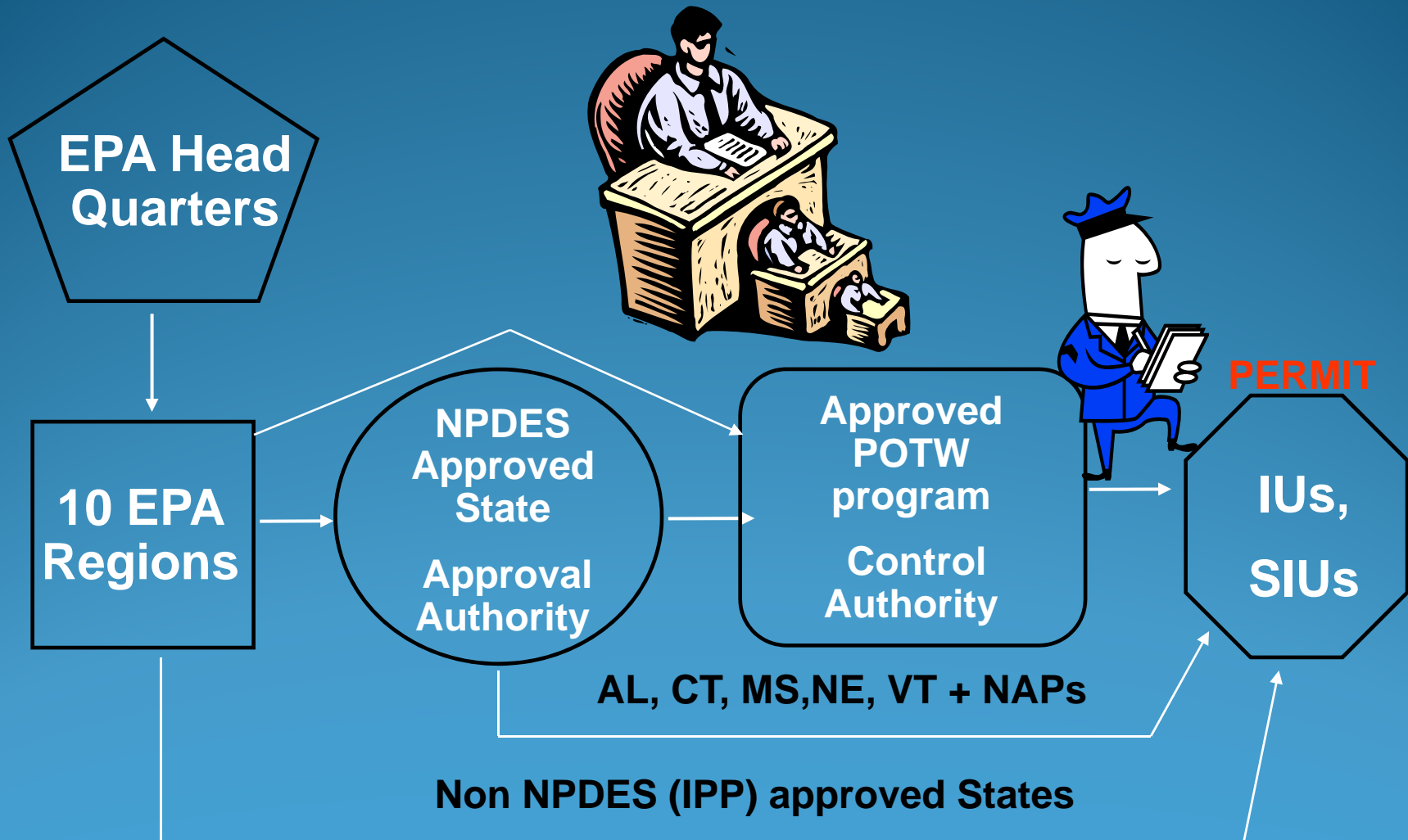
# Who to Permit

- Required permits
  - SIUs
  - CIUs
  - Other
- Optional permits
  - Non-significant IUs
  - Non-significant CIUs
  - Waste haulers
  - Groundwater remediation sites





# Who Issues the Permit? Pretreatment Family Tree



# POTW Compliance Monitoring

[40 CFR 403.8(f)(2)(v) & (vii)]

- Conducted by the POTW, independent from any IU self-monitoring
- Can be announced or unannounced
- Can be conducted independently or in conjunction with compliance inspections
- Used to satisfy the federal requirements
- Samples must be taken with sufficient care to provide defensible data

# POTW Compliance Monitoring

Pretreatment 101 Series: POTW's Procedures for Conducting Compliance Monitoring

[http://cfpub.epa.gov/npdes/courseinfo.cfm?program\\_id=0&outreach\\_id=583&schedule\\_id=1124](http://cfpub.epa.gov/npdes/courseinfo.cfm?program_id=0&outreach_id=583&schedule_id=1124)

# POTW Compliance Inspections

[40 CFR 403.8(f)(2)(v)]

- POTW must conduct surveillance activities
- POTWs are required to inspect each SIU at least annually except for:
  - Nonsignificant Categorical Industrial User (NSCIU)
  - Middle-tier CIU (MTCIU)

- Pretreatment 101 Series: POTW's Procedures for Conducting Compliance Inspections

[http://cfpub.epa.gov/npdes/courseinfo.cfm?program\\_id=0&outreach\\_id=577&schedule\\_id=1123](http://cfpub.epa.gov/npdes/courseinfo.cfm?program_id=0&outreach_id=577&schedule_id=1123)

# Enforcement

[40 CFR 403.8(f)(1),(2), & (5)]

- Obtain remedies for noncompliance
- Authority to seek or assess civil or criminal penalties

# Enforcement Response Plans

- Reflect POTW's responsibility to enforce pretreatment requirements & standards
- Identify how the POTW will investigate noncompliance
- Specifies official responsible for each type of enforcement
- Specifies types of and time frame for taking escalating enforcement for anticipated types of violations

# Funding/Resources

[40 CFR 403.8(f)(3)]

- Personnel
- Equipment
- Funding

# POTW Record Keeping Requirements

[40 CFR 403.12(o)]

- Industrial waste questionnaires
- Permit applications, permits and fact sheets
- Inspection reports
- IU reports
- Monitoring data (including laboratory reports)
- Required plans (e.g., slug control, sludge management, pollution prevention)
- Enforcement activities
- All correspondence to and from the IU
- Phone logs and meeting summaries



# POTW Public Participation

- Annual publication of SIUs in significant noncompliance (SNC) [40 CFR 403.8(f)(2)(viii)]
- Local limits development [40 CFR 403.5(c)(3)]

# POTW Annual Reporting

[40 CFR 403.12(i)]

- A list of all the POTW's IUs
- A summary of the status of IU compliance during the reporting period
- A summary of compliance and enforcement activities (including inspections) conducted by the POTW during the reporting period
- A summary of changes to the POTW's pretreatment program that have not been previously reported to the Approval Authority
- Any other relevant information requested by the Approval Authority

# IU Responsibilities

# IU Notification Requirements

- Notification of potential problems, including slug loadings [403.12(f)]
- Noncompliance notification and repeat sampling report [403.12(g)(2)]
- Notification of changed discharge [403.12(j)]
- Notification of discharge of hazardous waste [403.12(p)]
- Notification of Bypass [403.17]

# CIU Reporting Requirements

- Notification of production level change [403.6(c)(9)]
- Notification of material or significant change in the alternative limit calculation [403.6(e)]
- Baseline Monitoring Report [403.12(b)]
- Compliance schedule progress reports [403.12(c)]

# CIU Reporting Requirements (continued)

- 90-day compliance report [403.12(d)]
- Periodic Compliance Reports [403.12(e)]
- Notification of waived pollutant present [403.12(e)(2)(vi)]
- Notification of middle-tier CIU [403.12(e)(3)(iv)]
- Upset report [403.16]

# Other SIU Reporting Requirements

- Periodic Compliance Reports [403.12(h)]
- Slug Discharge Control Plans [403.8(f)(2)(vi)]

**All SIUs are required  
to conduct  
self-monitoring**



# Signatory and Certification Requirements

- Reports that must be signed and certified by an authorized IU representative [40 CFR 403.12(I)]
  - Baseline Monitoring Reports
  - 90-day compliance reports
  - Categorical Periodic Compliance Reports

# IU Record Keeping Requirements

[40 CFR 403.12(o)]

- Records must be maintained a minimum of 3 years
- Must be made available to POTW and Approval Authority for review and copying
- Records include:
  - IU monitoring activities
  - Documentation associated with BMPs
  - Any other records required by POTW

# **Introduction to the National Pretreatment Program Manual**

# Introduction to the National Pretreatment Program Manual

- Published in June 2011 (EPA-833-B-11-001)
- Updates the previous February 1999 version
- Available online at  
[http://www.epa.gov/npdes/pubs/pretreatment\\_program\\_intro\\_2011.pdf](http://www.epa.gov/npdes/pubs/pretreatment_program_intro_2011.pdf)

# Major Changes

- Regulation citations are up-to-date as of June 2011
- References and statistical information are up-to-date as of June 2011
- Pollution prevention section and resources have been expanded

# Topics in the Manual

- POTWs and the Need for the Pretreatment Program
- Overview of the National Pretreatment Program
- Pretreatment Standards
- POTW Pretreatment Program Responsibilities
- Industrial User Pretreatment Program Responsibilities
- Hauled Wastes
- Pollution Prevention



# Questions

# Contact Information

## Jan Pickrel

National Pretreatment Coordinator

U.S. EPA

Office of Wastewater Management

Water Permits Division

[Pickrel.Jan@epa.gov](mailto:Pickrel.Jan@epa.gov)

(202) 564-7904

## Chuck Durham

Principal Engineer

Tetra Tech, Inc.

[Chuck.Durham@tetratech.com](mailto:Chuck.Durham@tetratech.com)

(615) 888-2928

# Participation Certificate

- If you would like to obtain participation certificates for multiple attendees, type the link below into your web browser
- You can type each of the attendees' names in and print the certificates
- [http://www.epa.gov/npdes/webcasts/certificate/pretreatment\\_cert\\_063011.pdf](http://www.epa.gov/npdes/webcasts/certificate/pretreatment_cert_063011.pdf)