Introduction to Pretreatment

Pretreatment Workshop

Sponsored by:
Colorado River Basin Water Board & EPA Region 9

Presented by:
Chuck Durham - Tetra Tech, Inc.
July 23, 2015
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
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

Definitions for pretreatment terms at 40 CFR 403.3
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
3. Exposure of Workers to Toxic Substances and Hazardous Fumes

4. Limited or More Expensive Sludge Disposal Options

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

2. Explosions

5. Interference with Plant Treatment System

6. Pass-Through of Toxic Pollutants into Surface Waters
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
Objectives of the Clean Water Act

- Restore and maintain the chemical, physical and biological integrity of the Nation's waters

- National goal to eliminate discharge of pollutants to navigable waters by 1985

- Interim goal to provide waters that are fishable and swimmable by July 1, 1983

- No discharge of toxic pollutants in toxic amounts
Pretreatment Program

- "Indirect" discharge to sewer

- Large number and variety of industry: electronics, aerospace, food processing

- Program Objectives are to Prevent:
  - Interference
  - Pass-through
  - Sludge contamination
  - No NPDES permits issued to "indirect" dischargers
    - see local agency
Pretreatment cont.

- Basis for Discharge Limitations

  - EPA-developed categorical standards
    - 24 categories, BAT, PSES/PSNS
    - Early development concerned conventional pollutants
    - Consent decree in NRDC v. EPA required EPA to focus on 126 "priority pollutants" and industries discharging them

  - Local limits
    - Developed by POTW to meet program objectives and maintain compliance with its NPDES permit
    - General and Specific Prohibitions in 40 CFR Part 403
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

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
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
§ 403.12 Reporting Requirements for POTWs and SIUs
§ 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”
  - 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
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)]
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

EPA Head Quarters

10 EPA Regions

NPDES Approved State
Approval Authority

Approved POTW program
Control Authority

AL, CT, MS, NE, VT + NAPs

Non NPDES (IPP) approved States

IUs, SIUs

PERMIT
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 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
**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(l)]
  - 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

- Published in June 2011 (EPA-833-B-11-001)
- Updates the previous February 1999 version
EPA Update: What is HQ up to now?

- **Guidance Manual Updates/Revisions**
  - Procedures Manual for Reviewing a POTW Pretreatment Program Submission
  - Guidance Manual for POTW Pretreatment Program Development
  - Multijurisdictional Pretreatment Programs Guidance Manual
  - Completion of Appendices to IU Permitting Manual
  - Hauled Waste Guidance Manual Revision

- **Regional EPA Office Assistance**
  - Audit/Inspection Support
  - Training for Regions, States, and POTWs
  - Data Entry
  - Program Component Reviews