

# **Idaho Rural Water Systems 2020 Spring Conference**

## **Introduction to Wastewater Pretreatment**

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# **What is Pretreatment & Why is it needed?**

# What is a Pretreatment Program

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

# What is a Pretreatment Program

- **State Approved Program**
  - Clean Water Act
- **Local program**
  - No State oversight
  - Local ordinances

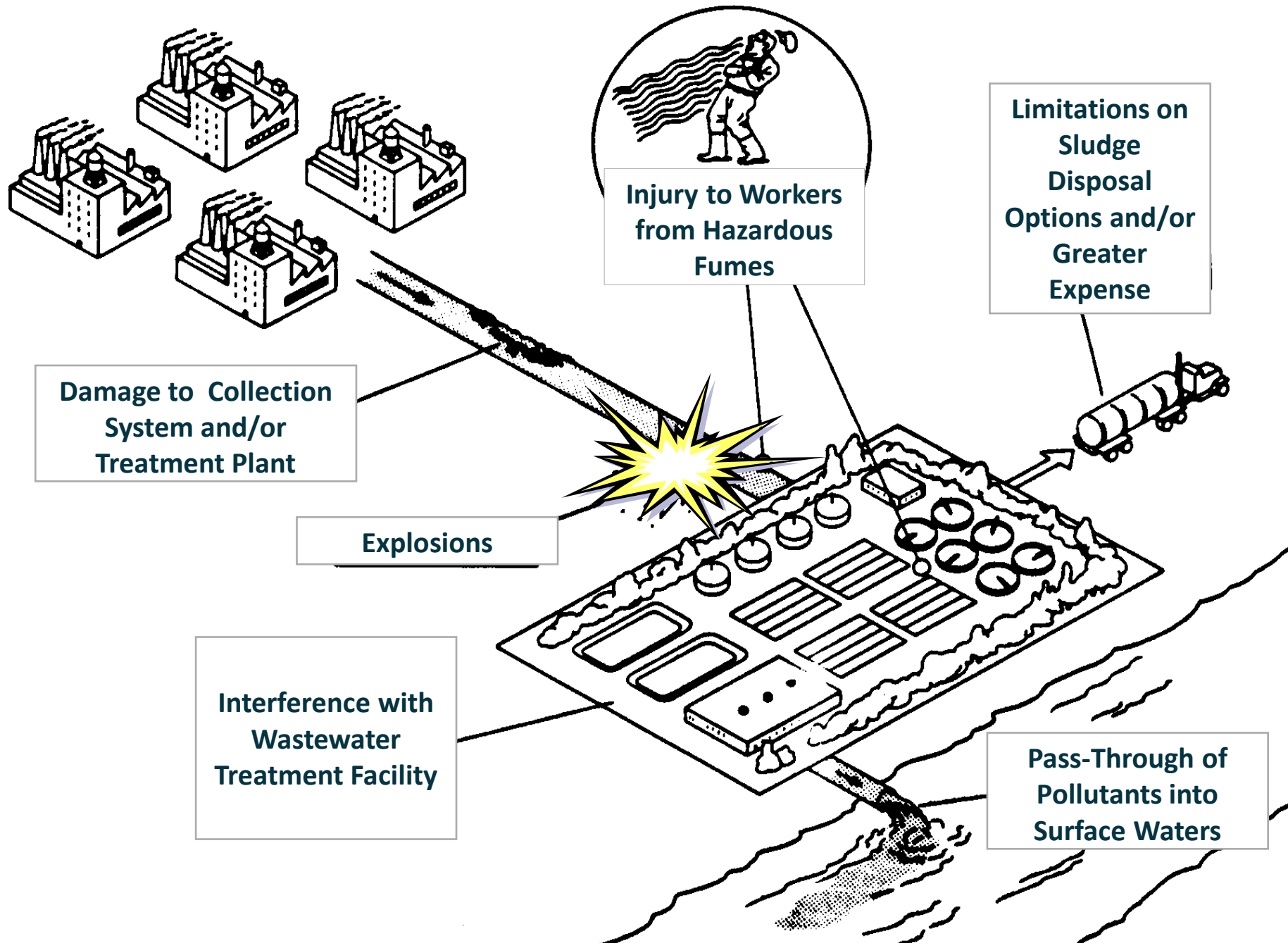
# Wastewater Treatment Systems

- Typically designed to treat only domestic wastewater
- Commercial or industrial facilities may discharge toxic or non-conventional pollutants that treatment plants are not designed to treat



# What is the Purpose of Pretreatment

- To prevent the introduction of pollutants into POTWs which will:
  - Interfere,
  - Pass through, and/or
  - Be incompatible
- To improve opportunities to recycle and reclaim wastewater and sludge
- Protect POTW workers





**Louisville Kentucky**



# Oil and Grease Challenges

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# Biosolids



# Benefits of a Pretreatment Program

- Protection of groundwater and surface water in and around your community
- Protection of crops
- Extending life of infrastructure
- Worker safety

# **Benefits of a Pretreatment Program**

- **Oil and Grease Challenges (overflows)**
- **Collection System Integrity**
- **Treatment Facility Integrity**
- **IPDES Permit Violations**



# **Overview of Pretreatment Program**

# History of Water Protection

**1970**

**EPA established**

**1972**

**Clean Water Act - NPDES program created**

**1972**

**Pretreatment Standards**

**2005**

**Streamlining Rule**









# **U.S. Waters in 1972**

- Only a third of the nation's waters were safe for fishing and swimming.
- Many of the nation's rivers were little more than open sewers and sewage frequently washed up on shore.

# **IPDES/NPDES Permits**

- National Pollutant Discharge Elimination System (NPDES) permits are issued to POTWs for discharges to waters of the United States.
- Pretreatment program development, implementation, and enforcement are conditions in the NPDES permit.
- NPDES provides the authority for EPA, States, and POTWs to regulate industrial users.

# **Common Acronyms 40 CFR 403.3**

**CWA – Clean Water Act**

**CFR – Code of Federal Regulations**

**NPDES – National Pollutant Discharge Elimination System**

**IPDES – Idaho Pollutant Discharge Elimination System**

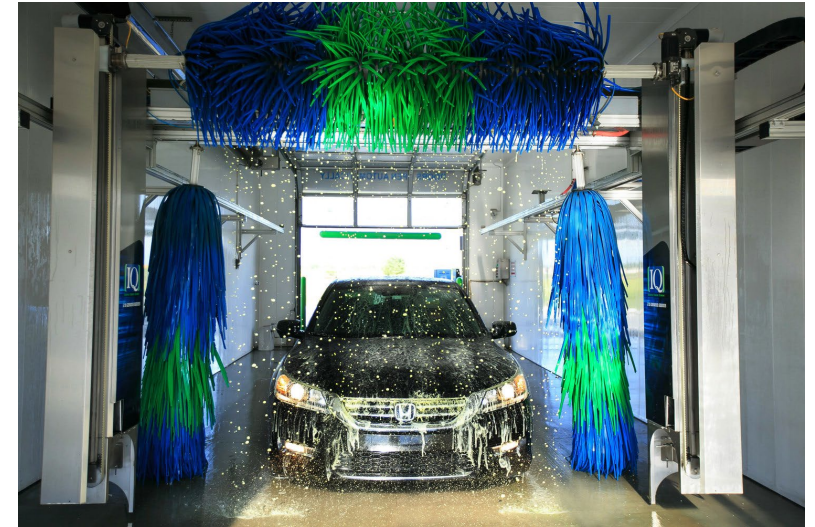
**POTW – Publicly Owned Treatment Works**

# Common Acronyms 40 CFR 403.3

IU – Industrial User

SIU – Significant Industrial User

- Federal categorical pretreatment standards
- 25,000 gpd
- 5% of POTW capacity (organic or hydraulic)
- Reasonable potential



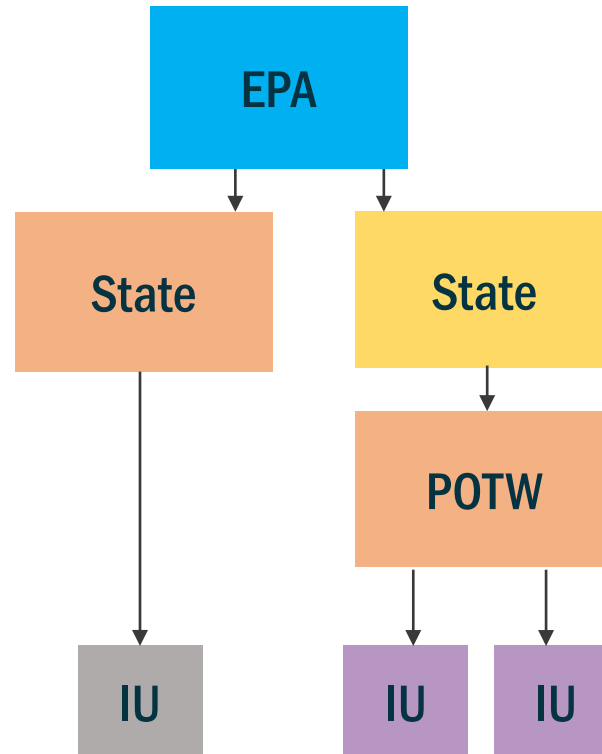
# **Common Terms & Phrases 40 CFR 403.3**

- Approved pretreatment program
- Local pretreatment program
- Interference
- Pass through

# Who is Affected?

- Idaho DEQ
- Your community's wastewater treatment system
- Industrial Users
- Waste Haulers

# Delegated States & Approval & Control Authority



Approval & Control Authority

Control Authority

Industrial User in Approved Program

Approval Authority

Industrial User



# Who is Affected?

- Idaho DEQ
  - Goal: implementation of pretreatment program requirements
  - Legal Authority
  - Oversight responsibilities
    - POTW pretreatment program
    - SIU pretreatment implementation

# Who is Affected?

- **Your community's wastewater treatment system**
  - Goal: prevent interference and pass through at the treatment system
  - Legal Authority
  - Responsibilities
    - Survey IUs
    - Control IUs, waste haulers and commercial
    - Inspection
    - Monitoring
    - Reporting

# Who is Affected?

- **Industrial Users**
  - Goal: comply with local, state, and federal pretreatment standards and requirements
  - Responsibilities
    - Compliance
    - Self-monitoring
    - Reporting

# Who is Affected?

- **Waste haulers**
  - Goal: comply with local, state, and federal pretreatment standards and requirements
  - Responsibilities
    - No hazardous waste
    - Controlled discharge
    - Meet POTW requirements

# Do We Need A State Approved Program

- Combined design flow over 5 MGD, **AND**
  - Receiving IU flow subject to Pretreatment Standards **or**
  - Receiving IU pollutants which pass through or interfere
- State may require program to be developed, regardless

# Ok, We don't need a State Approved Program

- Nondomestic Waste Management
  - IPDES permit
    - No pass through or interference
    - List of IUs
- Pretreatment Ordinance – **Highly Recommended!**
  - Minimum: Codify General & Specific prohibitions
  - EPA Model Pretreatment Ordinance



# **Building Blocks of a Pretreatment Program**

- 1. Legal Authority**
- 2. Procedures**
- 3. Funding**
- 4. Local Limits**
- 5. Enforcement Response Plan**
- 6. List of Industrial Users (IU)**



# **How Does a Pretreatment Program Help**

## **1. Legal Authority**

- State Law
- Local regulations = Ordinance or rules & regulations

# How Does A Pretreatment Program Help

## 1. Legal Authority

- Enables the Control Authority to apply and enforce any pretreatment
- Deny or condition discharges
- Require compliance with pretreatment standards and requirements
- Control discharges through permits, orders, or similar means
- Require compliance schedules and/or reports to demonstrate compliance
- Inspect and monitor
- Obtain remedies for noncompliance
- Comply with confidentiality requirements

# How Does a Pretreatment Program Help

## 2. Procedures

- Develop and implement procedures to ensure compliance with pretreatment requirements
- Identifying and locating – IU Survey
- Identifying the character and volume of pollutants
- Notifying users of applicable pretreatment standards and requirements
- Receiving and analyzing reports
- Sampling and analyzing discharges
- Evaluating the need for slug control plans
- Investigating instances of noncompliance
- Complying with public participation requirements

# How Does A Pretreatment Program Help

## 3. Funding

- The City must have sufficient resources and qualified personnel to carry out the authorities and procedures specified in its pretreatment program

## 4. Local Limits

- The City must develop local limits

# How Does A Pretreatment Program Help

## 5. Enforcement Response Plan

- The City must develop and implement a plan that contains detailed procedures indicating how the City will investigate and respond to instances of noncompliance

## 6. List of Non Residential Users

- The City must prepare and update list



# **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

A nondomestic discharger may not introduce into a POTW any pollutant(s) which cause pass through or interference.



# Specific Prohibitions

- Fire or Explosion Hazard
- Corrosive Structural Damage
  - Collection System & Treatment Facility
- Solid or Viscous Pollutants
- High Concentrations or Flows
- Heat in High Amounts
- Toxic gases, vapors, or Fumes
- Trucked or hauled pollutants, except at discharge points designated by the POTW



# Categorical Standards

- National, uniform, technology-based standards
- Specific industrial categories
- Specific process
- Specific pollutants limited
- Contain direct and indirect discharge standards

# Local Standards

- Required for all approved pretreatment programs
- Must be technically based
- Developed for each POTW
- Developed for pollutant of concern
- Must be protective of the plant, workers, and environment
- Must be enforceable



# **Hauled Wastes**















# Trucked/Hauled Waste

- Septic wastes
- Non-septic wastes
- Oil and gas produced waters
- Local Decision to accept waste (Deny/Condition)
- Control measures to protect wastewater treatment plant
  - Access – established in legal authority
  - Characterization of wastes
  - Documentation – discharge logs, manifests, permits



# Summary

# Homework (Review)

- IPDES/NPDES permit
- Sewer Ordinance
- IU list
- Public Outreach
  - FOG
  - Flushable Wipes

Help prevent backups in your home and community.

## IT'S AS EASY AS 1, 2, 3...

The only things that should go in are:



1. #1
2. #2
3. Toilet Paper

Be sure to throw these items into the trash or they may clog your toilet, your pipes or the pipes in the City's sewer system:

- Feminine Hygiene Products
- Toilet Bowl Scrubbers
- Wipes
- Toiletries
- Paper Towels
- Toilet Seat Covers
- Diapers
- Kitty Litter
- Dental Floss
- Medicine (Also not disposed without a negative impact on the environment)
- Needles, Syringes & Other Medical Waste
- Mop or Cleaning Brush Refills

Back-ups are not only costly but are potentially harmful to human health and can harm our local surface and ground waters.

City of Elkhart  
Public Works and Utilities



# Additional Training Available

## ■ Boise – March 24-26, 2020

- Industrial user inventory
- Pretreatment standards
- Local limits
- Legal authority
- Industrial user permitting
- Industrial user inspections
- Reporting requirements
- Data Management
- Enforcement response plans
- Resources and funding
- Pollution prevention

# State Contact

- **Biosolids & Pretreatment Analyst**

Brynn Lacabanne

DEQ State Office

Water Quality Division

1410 N. Hilton

Boise, ID 83706

(208) 373-0289

# References

- Brynn Lacabanne, Idaho DEQ
- US EPA, The Pretreatment 101 Series Webcast, Found at <https://www.epa.gov/npdes/introduction-national-pretreatment-program-webinar>
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- Idaho, Department of Environmental Quality, Water Quality Division, December 2017, *IPDES User's Guide to Permitting and Compliance Volume 2 – Publicly Owned Treatment Works*
- US EPA, June 2011, *Introduction to the National Pretreatment Program*
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- Al Garcia, US EPA Region 8, Trucked-Hauled Wastes
- Al Garcia, US EPA Region 8, Introduction to the Pretreatment Program,