

# Industrial User Pretreatment Compliance Monitoring

Environmental Assistance  
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# Purpose of Industrial Wastewater Pretreatment

- The Federal Clean Water Act (CWA) and the South Carolina Water Pollution Control Act (WPC) establish responsibilities of State and Local governments, industry and the public to implement National Pretreatment Standards to control pollutants which **pass through** or **interfere** with the treatment processes in Publicly Owned Treatment Works (POTWs) or which may contaminate sewage sludge.



- **Pass Through** – The term “Pass Through” means a discharge which exits the POTW into waters of the State or of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).



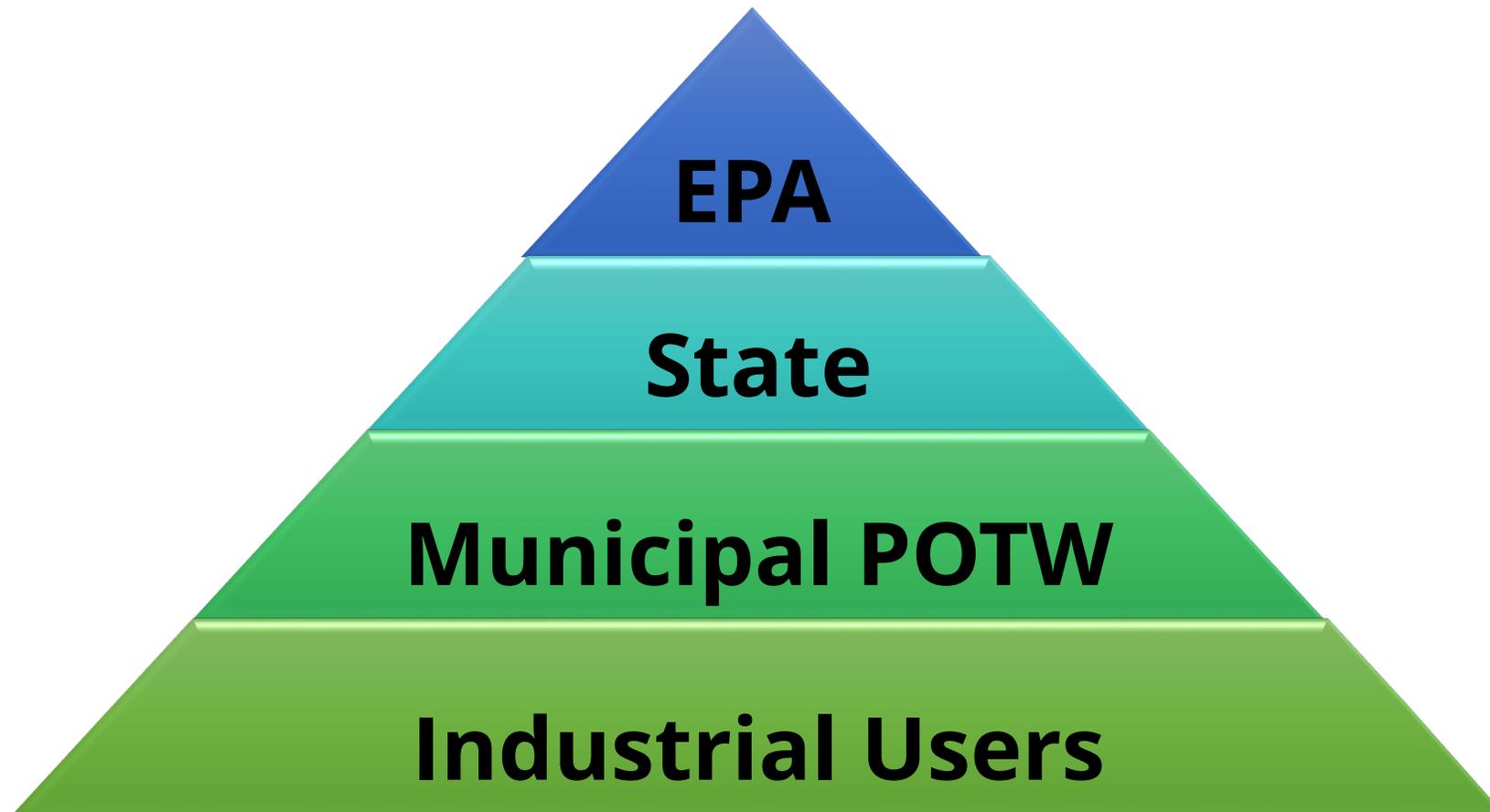
- **Interference** – The term “Interference” means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both
  - Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
  - Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with statutory provisions and regulations or permits issued thereunder (or more stringent State or Local regulations).



# Regulatory Requirements

- **40 CFR 403 – Federal Pretreatment**
- **40 CFR 405 – 471 – Federal Categorical Pretreatment Standards can be found at [www.ecfr.gov](http://www.ecfr.gov) – Electronic Code of Federal Regulations**
- **SC State Regulation 61-9 part 122, 403, and 503**
- **SCDHEC Pretreatment Website**  
<https://www.scdhec.gov/environment/water-quality/sanitary-sewers/sewer-pretreatment-program>• Local Sewer Use / Pretreatment
- **Local Sewer Use / Pretreatment Ordinance**
- **Industrial User Permit issued by the Municipality**

# Pretreatment Hierarchy In SC



# Why compliance monitoring?

- **To meet the objectives of general pretreatment regulations (403.2)**
- **Prevent Interference and/or Pass Through**
- **Improve opportunities to reclaim and recycle wastewaters and sludge**
- **Protect human health and environment**
- **Protect capital investments**



- **Determine impact of industrial waste on POTWs**
- **Verify compliance with limits**
- **Verify quality of self-monitoring data**
- **Support enforcement**
- **Support local limits development**
- **Verify sampling location specified in permit is adequate**
- **Determine user fees**
- **Support permit development**

# Common Sampling Problems

- **Incorrect sample type used (Grab vs. Composite or Time vs. 24 Hour Composite).**
- **Incorrect sample location used.**
- **Sample collected was not a representative sample**
  - **Collected inadequate sample volume, sample container overflowed, etc.**
- **Automatic sampler tubing or container was dirty**
- **Sample line placement (avoid sags in line, should be in the middle of the stream or flow)**



- **Contaminated sample bottles or sample.**
- **Incorrect or no preservative for samples requiring temperature or chemical preservative.**
- **Missed holding times (due to sample collector or lab)**
- **Analysis – not using correct 40 CFR 136 methods**

# Common issues with 24-Hour Flow Proportional Composite

- Equal volume aliquots at varying time intervals proportional to flow (ex. 100 mL/1000 gal discharged)
  - Need to calculate sample frequency and volume to ensure a representative sample with adequate volume.
- Documentation on Chain of Custody of sample type used
- Sample type should be specified in the IU permit
- Use if flow or concentrations vary.

# Common issues with Time Composite

- May be use if flow or concentrations do not vary (by +/- 15 percent).
- If time composite used, the POTW will need to justify why they are allowing this instead of flow proportional composite sampling.



# QA/QC – Validate the Quality

- **Equipment blanks**
  - **Example: Sampling DI water through the automatic sampler prior to going in field.**
- **Trip blanks**
  - **Example: VOC vial taken with sampling team.**
- **Duplicate blanks**
  - **Example: (2) O & G samples collected at the same sample location and as near the same time as possible.**
- **Split samples**
  - **For composite samples, make sure sample is thoroughly mixed prior to splitting.**

# QA/QC – Protect Quality

- **Sample from least to most contaminated sampling locations**
- **Wear gloves and change in between sampling locations**
- **Use proper preservation, including temperature**
- **Do not exceed holding times**
- **POTWs and IUs need to adequately check self monitoring data (bottle labels, Chain of Custodies, and field sampling logs.)**
- **Make sure labs are reporting extraction dates (where they apply) and analysis dates**



# What to watch out for in your lab results.

- “Impossible” values
- Frequent Greater Than (>) results
- Less than (<) values with high detection results
- Non-Detect on diluted samples can not be reported as Non-Detect.
- Laboratory can not meet the PQLs set forth in the regulations.

To avoid problems you need to have good communication with your laboratory and ensure test procedures conform to 40 CFR 136.

# Documentation Errors

- Inadequate field notes and logs
- Missing, Incomplete, or Inaccurate Chain of Custody
- Sample Transport / Transfer errors (missing custody information when shipping, samples not delivered in time...)
- Laboratory bench sheet errors

# Calibration of Flow Measurement Equipment

- To maintain accuracy of the flow measurement device:
  - Routine calibration checks should be performed.
  - Flow measurement device calibration must be performed if the calibration deviate more than +/-10% from the true discharge rate.
  - Calibration procedures and calibration records must be provided to the control authority.



## Contact Us



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