

What is a Wastewater System Inspection and What to Expect

Dr. Jason R. Barrett
Associate Extension Professor
Mississippi Water Resources Research Institute



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Wastewater System Inspections

Type of Inspections, The Inspections, and
Preparing for Inspections



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Agenda

1

Why was the NPDES
Permit Created

2

Wastewater System
Parameters

3

Wastewater System
Inspections

4

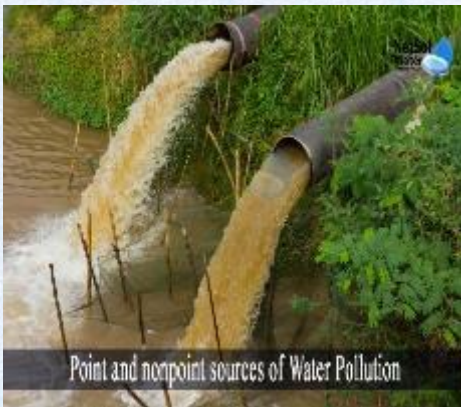
The Inspections Steps
and Reports



NPDES Permit

The Clean Water Act (CWA) of 1972

“created to address water pollution by regulating point sources that discharge pollutants to water of the United States”



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Wastewater System Parameters

- Flow
- pH
- Dissolved Oxygen (DO)
- Biochemical Oxygen Demand (BOD)
- Total Suspended Solids
- Nitrogen
- Phosphorus
- Fecal Coliform



Importance to a Utility/Municipality



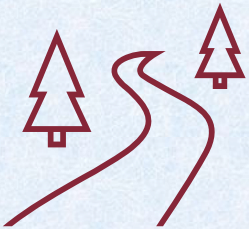
Legal Requirement

-Water is the most life sustaining substance



Essential Resource

-Streams integration with the hydrologic cycle



Multiple Uses

-Drinking, industrial, and recreational purposes



Types of Inspections

Compliance
Overview
Inspection (COI)*

Compliance
Monitoring
Inspection (CMI)*

Compliance
Evaluation
Inspection (CEI)

Sanitary Sewer
Overflow (SSO)
Inspection*

Complaint
Investigation

Compliance
Assistance Visit or
Reconnaissance
Inspection (RI)



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Compliance Overview Inspection (COI)

Purpose

- Used to determine compliance with permit
- Conducted by Regional Office staff
- Scheduled in advance for the fiscal year
 - Frequency depends on the size of the facility (Major or Minor)
 - Usually not triggered by non-compliance

Inspection

- Will inspect:
 - Treatment System
 - Discharge Point
- Records Review
- Report forwarded to Environmental Compliance and Enforcement Division (ECED) to review



Compliance Monitoring Inspection (CMI)

Purpose

- Used to determine compliance with effluent limitations in the permit
- Conducted by Regional Office staff
- Collect samples of discharge
 - Sometimes will sample influent
 - Compare results to past DMRs and permit limits

Inspection

- Sometimes conducted simultaneously with a COI
 - May inspect the treatment system and/or review records
- Report and lab results forwarded to ECED to review



Sanitary Sewer Overflow Inspection (SSO)

Purpose

- Conducted simultaneously with a CEI at municipalities
- Collection System
 - Manholes
 - Pump stations
 - Sewer lines

Inspection

- Records Review
 - Bypass reports
 - Maintenance logs
 - SSO response plan
 - Plans for sewer improvements
- Will be asked to fill out a “SSO Inspection Evaluation”



SSO Inspection: Possible Causes

Blockage

Sewer Defects

Improper Sewer Designs

Line Breaks

Power Failures

Vandalism



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EPA CMOM Program

- Sanitary Sewer Overflows (SSO's) are a violation of the Clean Water Act
- CMOM-Capacity, Management, Operations and Maintenance is meant to help utilities/municipalities to:
 - Better manage, operate, and maintain collection systems
 - Investigate capacity constrained areas of the collection system
 - Respond to sanitary sewer overflow (SSO) events
- EPA Region IV-SSO National Enforcement Initiative
- Guides and self-evaluation checklists are available online



Inspection Steps



The Inspection Site Entry

- Inspection and Entry Condition of Permit
- The permittee shall allow any authorized Commission representative to enter the permittee's premises at any reasonable time, to have access to and copy any applicable records, to inspect process facilities, treatment works, monitoring methods or equipment or to take samples, as authorized by Section 49-17-21 of the Code. In the event of investigation during an emergency response action, a reasonable time shall be any time of the day or night. Follow-up investigations subsequent to the conclusion of the emergency event shall be conducted at reasonable times.
[WPC-1 Chapter One Section IV.A(17)]



The Inspection

Opening Conference

- Introductions
- Between Inspector and Operator or Owner of facility
 - Inspector Will Discuss:
 - Reason
 - Specific areas
 - Samples
 - Records
 - Contact information



The Inspection

Tour of Facility

- From influent to the effluent
 - Upsets?
 - Bypasses, overflows or leaks?
 - Is all equipment operational?
 - Do you have back-up power?
 - Any changes since last inspection?
 - Any odors detected?
 - How knowledgeable is the operator of the treatment process?
 - Condition of the grounds and access road?
 - Floating solids or foam or abnormal colors?



The Inspection

Tour of Facility

- Discharge point
 - Is it easily accessible?
 - Where and how are samples collected?
 - How is flow measured?
 - What color is it?
 - Are there visible or floating solids?
 - Is it foamy?
 - Is an odor detected?
 - What is the condition of the receiving stream?
 - For a CMI, will take sample



The Inspection

Tour of Facility

– Lab

- Is it clean and organized?
- Are the standards used for testing available?
- Are there any expired products, such as buffer solutions?
- How are the records organized?
- Who is completing the testing?
- How are materials stored?



The Inspection Records Review

- 3 years worth of records
 - Discharge Monitoring Reports
 - Analytical Results (for ALL monitoring)
 - Chains of Custody
 - Operator's Logbook
 - Calculations
 - NPDES Permit
- Remember: Organization is important!
- Inspector may ask for copies of any records reviewed
- Some records can be kept electronically...but should be printable



The Inspection

Closing Conference

- Between inspector and owner or operator
- The inspector will discuss:
 - Areas of concern and recommendations based on what was observed
 - Whether additional documents or records need to be sent to inspector
 - Whether a follow-up inspection will be conducted and when
- The inspector will not discuss:
 - Enforcement Actions and penalties



The Inspection Report

Written by the inspector to summarize the inspections

- Pictures
- Observations
- Conclusions
- Recommendations

Reviewed by ECED

- If violations were noted during inspection, the report is sent with a Notice of Violation
- Required to respond and correct the violations



Common Violations and Errors

Site Tour

- Broken/malfunctioning equipment
- Site unsecured
- Wrong Sampling procedures or flow monitoring location
- Operator not certified

Records

- Calculation Errors
 - Using average flows instead of instantaneous flow to calculate loadings
- Missing/Incomplete Records
- No Operator logbook
- Chains of Custody incomplete or missing
- Disorganization



How YOU Can Be Prepared for an Inspection



-Keep records up-to-date, organized and know where they are kept

Throw anything older than three years away (if you want to keep older records, keep them separate from the most recent documents)



-Be aware of all things happening at your facility
-Keep the site maintained and easily accessible



-Proper Operation Maintenance and Replacement Condition of your permit.

The permittee at all times shall properly operate, maintain, and when necessary, promptly replace all facilities and systems of collection, treatment and control





Questions?



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Contact Information

Dr. Jason R. Barrett
Associate Extension Professor

Mississippi Water Resources Research Institute
Mississippi State University Extension
133 Scales Building
Mississippi State, MS 39762
662.325.1788 phone
Jason.barrett@msstate.edu
Twitter: @WSPBarrett



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