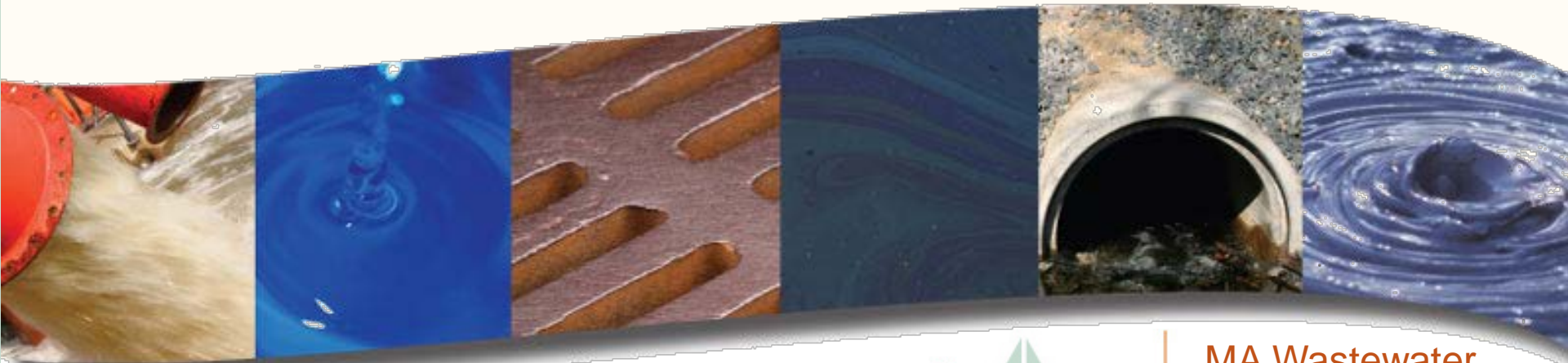


Wastewater Regulatory Requirements MassDEP and MWRA

EH&S Compliance Curriculum
July 26, 2012



Learning Objectives

- Identify the regulatory agencies and bodies administering waste water
- Explain the difference between the various regulatory bodies and how they relate to your facility.
- Understand which parts of the regulations apply to your facility.
- Identify and implement strategies and techniques for staying in compliance.

Agencies Governing Wastewater in Massachusetts

- U.S. EPA - NPDES and Industrial Pretreatment Programs
- MassDEP - State Programs (not a NPDES delegated state)
- Local POTWs (e.g. MWRA) - Local Programs in accordance with above
- Plumbing code and local permits

U.S. EPA

- Pretreatment Regulations - 40 CFR Part 403 (general)
- Categorical Standards for Industry - 40 CFR Parts 400-424 and 425-471
 - 40 CFR Part 439 Pharmaceutical Mfg. Point Source Category
- EPA-Approved Industrial Pretreatment Program (IPP)
 - Local Limits



MassDEP vs. MWRA



MassDEP

- Focuses on the system and how it is operated and maintained
- Certifies Operators

MWRA

- Permitting Authority
- Focuses on what's in the discharge, after the treatment system



MassDEP

- **State agency – Mass DEP**
 - Approval and grading of wastewater treatment systems
 - WW operator certification
 - Staffing Plans – update every 2 years
 - Requires Operation & Maintenance Manuals
 - Requires decommissioning of WW treatment systems



MWRA

(and other POTWs)

- Local Authority – MWRA; authorized by the MassDEP and NPDES “permitted” by the EPA
- MWRA – Issues Sewer Use Discharge Permits to industrial users in Boston area;
- Focused on compliance with permit limits; what’s in the discharge vs. how it’s treated
- Industrial Coordinators (by town/city)
- Annual inspections and sampling
- Enforcement



Massachusetts Department of Environmental Protection



Massachusetts
Department
of
ENVIRONMENTAL
PROTECTION



MA Wastewater
Update

MassDEP

- 257 CMR 2.00 – Operator Certification & System Grading
- 314 CMR 7.05(2)(g)5 – Staffing Requirements
 - FAIWPS (defined in 314 CMR 7.02)
 - Non FAIWPS
- 314 CMR 7.05(2)(g)(8) – Decommissioning Activities
- 314 CMR 12.00 – Operation & Maintenance Standards

MassDEP

Operator Certification Requirements

- 257 CMR 2.00
 - Exemptions:
 - Lime chip tanks
 - Less than 100 gpd in batches \leq 2 liters
 - Small scale silver recovery
 - Oil/water separators; and
 - Closed loop systems

Mass DEP IWPS Grading

- 257 CMR 2.13
 - Six systems pre-graded level 2I with or without single or dual stage pH adjustment:
 1. Cartridge filtration
 2. Cartridge metallic ion replacement
 3. Cartridge single or dual stage ion exchange
 4. Reverse osmosis
 5. Ultra filtration system
 6. Carbon absorption

MassDEP – MWRA Facilities

314 CMR 7.05(2)(g)(4)

- Grading Reports, Staffing Plans, O&M Manuals not required under limited circumstances
 1. pH neutralization system only;
 2. Consists of any one of the following: cartridge filtration, ion exchange, RO, ultra filtration, or carbon adsorption
 3. pH neutralization and one of the above systems

MassDEP Construction Requirements

314 CMR 7.05(2)(g)3

- a. Designed to meet discharge standards
- b. Equipped to treat 120% design flow
- c. Designed to prevent bypass of off-spec wastewater
- d. Designed to prevent mixing incompatible wastewater
- e. Equipment and access to ensure safe operation and maintenance
- f. Accessible locations for representative sample collection
- g. Odor control as necessary

MassDEP Construction Requirements, continued

- h. Comply with hazardous waste management rules at 310 CMR 30.605; and
- i. Construct in accordance with engineering plans reviewed, stamped, and signed by a MA Professional Engineer (with the appropriate specialty)
 - Revised plans shall be reviewed, stamped and signed by a MA PE

Mass DEP IWPS Operator Staffing Requirements 314 CMR 7.05(2)(g)5

- Fully Automated (FAIWPS)

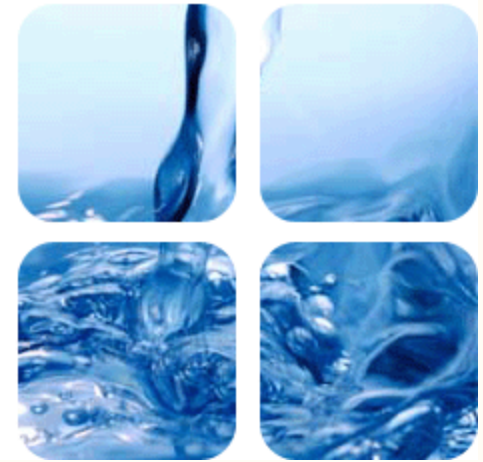
- Grades 1I and 2I: Grade level or higher - Inspect facility 2x/wk and on-call during operation
- Greater than 2I - no special provisions

- Non-Fully Automated (IWPS)

- Grade 1I and 2I: Grade level or higher - At least 8 hrs/day
- Greater than 2I:
 - Grade level at least 8 hrs/day
 - One Grade level lower during the IWPS operation

MassDEP – MWRA Facilities

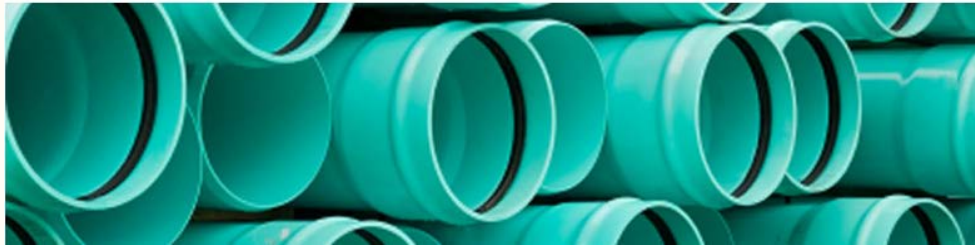
- Fully Automated Industrial Wastewater Pretreatment Systems (FAIWPS)
 - Equipped with controls to initiate, conduct, and complete treatment processes automatically
 - Capable of responding to potential system malfunctions affecting compliance



FAIWPS

- Response to include:
 - Automatic system shutdown
 - Switch flow to holding tank, or
 - Recirculate until in compliance, AND
 - Alarm signals
 - To staffed location during operating hours, or
 - On-call system that notifies a “responsible operator in a timely manner”

Mass DEP



- 314 CMR 7.00
 - Sewer Connection and Extension Permits
 - Not applicable in MWRA District
- 314 CMR 12.00
 - Authorization to Construct and Operate Wastewater Treatment Facilities
 - Applies to facilities in MWRA District

MassDEP Operation & Maintenance Manual - 314 CMR 7.05(2)(g)6

- Prepare, keep current, and implement an O&M Manual including:
 - a. Introduction – general description of the facility and wastewater
 - b. Copies of all permits and standards
 - c. Description of the IWPS:
 - ✓ principal treatment processes
 - ✓ sources of water supply
 - ✓ sources of sanitary and industrial waste streams
 - ✓ by-product recovery systems
 - ✓ liquid waste flow control measures
 - ✓ flow and material balance diagram
 - ✓ list of raw materials used

MassDEP O&M Manual, continued

- d. Sludge handling
- e. Sampling and analytical procedures, locations, frequencies, methods
- f. Maintenance plan – operating and inspections plans
- g. Emergency operating and response procedures
- h. Safety plan – safety practices and hazardous waste handling
- i. Utility and supply plan – utilities, equipment and spare parts list
- j. Personnel management plan – staffing, operator certification, training programs

MassDEP

Documentation for Site Inspections

1. All permits and approvals
2. Current facility plan for IWPS and related engineering reports
3. As built construction plans
4. Records related to decommissioning
5. O&M Records
6. Sampling and analytical reports
7. Annual O&M manual review/update
8. Summary report of incidents

MassDEP - 314 CMR

7.05(2)(g)(4)(a)

- Elementary Neutralization Exemption
 - Corrosive ONLY, contains no other pollutants
 - Exempt from certified operator provisions when discharged to local POTW, if
 - Batches \leq 2 liters
 - <100 gallons/day (total, all waste streams)
 - Within permitted pH limits (MWRA: 5.5 – 12 su)
 - Logbooks for weekly probe maintenance and calibration

MassDEP - 340 CMR 18.00

- Industrial Wastewater Holding Tanks and Containers
- Applies only to facilities that store non-hazardous, non-sanitary wastewater in IWHTs, mobile tanks or containers and intend to truck it directly off-site for disposal, recycling or treatment

Industrial Holding Tanks

- Establishes specific construction and operation standards
- Record-keeping requirements and decommissioning procedures
- A one-time compliance certification requirement for IWHTs



MassDEP IWPS Decommissioning- 314 CMR 7.05(2)(g)8

- a. Collect and Dispose of the Content in the IWPS. Collect, treat, and dispose of the IWPS contents in accordance with applicable provisions in the following:
 - i. Hazardous waste regulations (310 CMR 30.000);
 - ii. Solid waste regulations (310 CMR 19.00);
 - iii. Sewer discharge regulations (314 CMR 7.00);
 - iv. Surface water discharge regulations (314 CMR 3.00);
 - v. Groundwater discharge regulations (314 CMR 5.00).

Decommissioning, continued

- Decommission IWPS
 - Pump and haul away the entire remaining contents of the system;
 - Clean the system and related areas as necessary;
 - Remove in-ground systems or fill tanks with sand..., or change the function of the system
- Disconnect the decommissioned IWPS from the sewer system
 - keep all the decommissioning records
 - Report the decommissioning process to POTW

Massachusetts Water Resources Authority



MWRA – 360 CMR

- 10.007 – Permits
- 10.008 – Monitoring, Sampling, Reporting
- 10.013 – Non-complying Discharges:
Required Notifications and Actions
- 10.018 – Significant Industrial Users
- 10.024 – Specific Discharge
Limitations/Local Limits

MWRA – 360 CMR

- 10.025 – Dilution Prohibition
- 10.036 – Permit Requirements for Industrial Users
- 10.052 – Permit Application and Issuance
- 10.062 – General Permit for Low Flow/Low Pollutant Discharge

MWRA Sewer Use Permits

- Electronic Submittal of Self-Monitoring Results (<http://websmr.mwra.com>)
- Client/location specific Chain of Custody
- Sample Analyses and Reporting Certification Form (signed by Authorized Representative)

MWRA Sewer Use Permits

- pH Monitoring
 - Daily logs (excursions, probe maintenance, etc.)
 - Continuous pH Recorder
 - Reporting excursions
 - Below 5.5 su shall not exceed 7 hrs/calendar month
 - Cannot exceed 60 minutes
 - May not be below 5.0 su

Violations – MWRA Reporting Requirements

- Notify the Authority within 24 hours of becoming aware of the violation.
- Repeat the sampling and analysis and submit the results within 30 days of becoming aware of the violation.

MWRA Permit Modifications

- **10.055: Permit Modifications**
- Provide at least 30 days advance written notification of:
 - (a) substantial expansion
 - (b) substantial increase or decrease in production;
 - (c) modification of any process;
 - (d) alteration of the Pretreatment system or the operation of the Pretreatment system;
 - (e) discharge from a different or relocated sewer connection; or
 - (f) any changes affecting the potential for a Slug Discharge.

MWRA Low Flow Low Pollutant Permits

- Avg < 25,000 gallons per day to sewer (*excluding sanitary, noncontact cooling, and boiler blowdown wastewater*)
- Does not contain a substance regulated by 360 CMR 10.022 through 10.024;
- Avg < than 300 gallons per day of wastewater to the sewer (*excluding sanitary, noncontact cooling, boiler blowdown, and incoming water treatment reject stream wastewater*)
- Does not require an active pretreatment system

Additional Requirements for Laboratories

- Written laboratory Chemical Management Plan
- Ensure no spills into the sewer system;
- Eliminate/minimize disposal of regulated materials to the sewer system
- Properly handle, store, collect, and dispose of lab chemicals
- Maintain disposal manifests;
- Train laboratory employees in proper lab chemical usage and disposal;
- Ensure that the laboratory chemical management plan is followed: post notices at sinks

Non Compliance – MWRA Enforcement

- Violations
- Exceedences
- Follow Up Sampling
- Notice of Violation (NOV)
- Notice of Non Compliance (NON)
- Demonstration of Compliance
- Significant Non Compliance (SNC)
- Administrative Order (AO)
- Settlement Agreement
- Fines/ Penalties (EPA - up to \$35,700 per day per violation)

TEI Wastewater Services

- Compliance and Performance Sampling
- Operations & Maintenance
- System troubleshooting, modifications, and repairs
- Engineering - system design consultation, installation, start-up, operability
- Compliance – regulatory interface assistance, permit applications and renewals

Questions?

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MA Wastewater
Update