

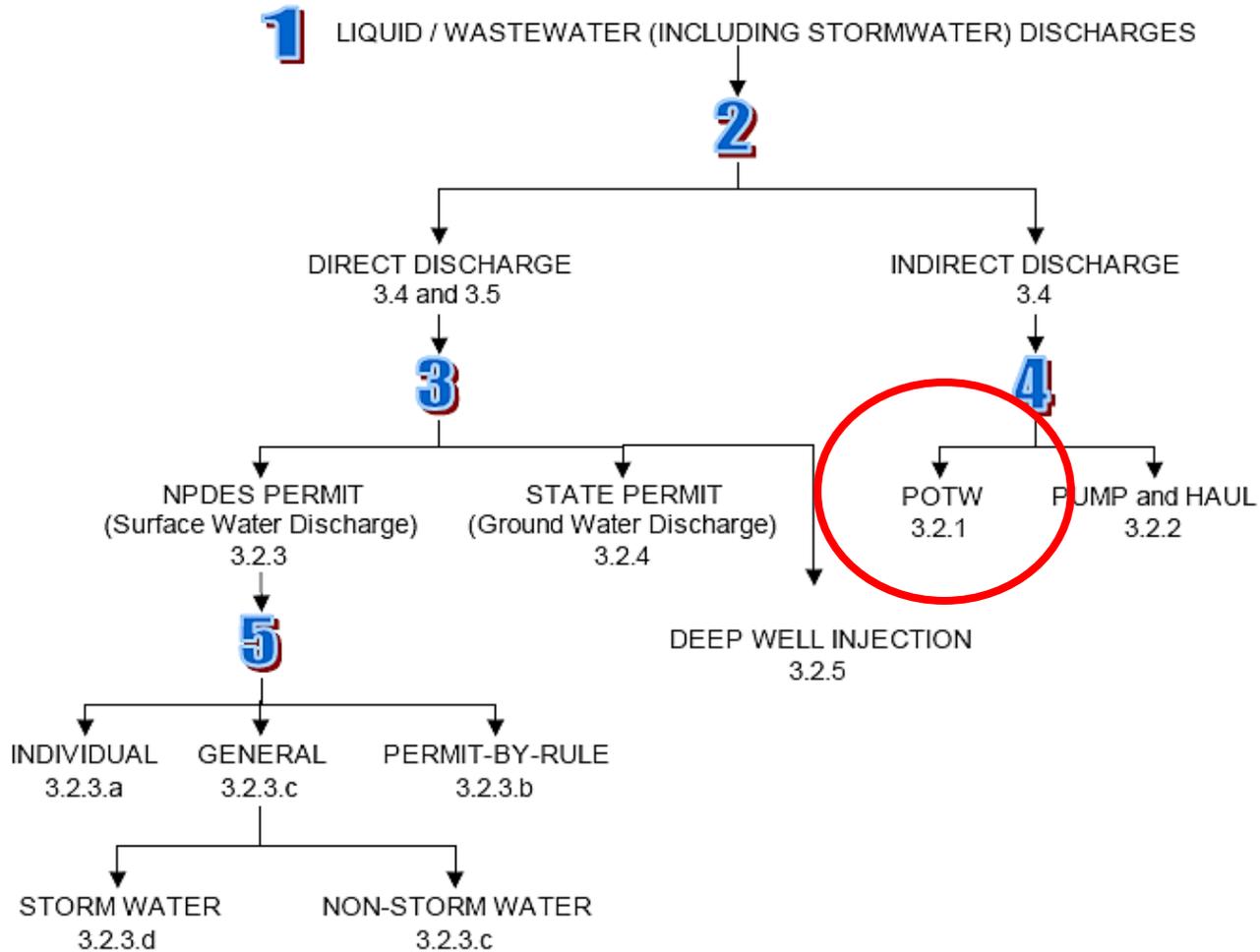
Industrial Discharges to Wastewater Treatment Plants



Presented by
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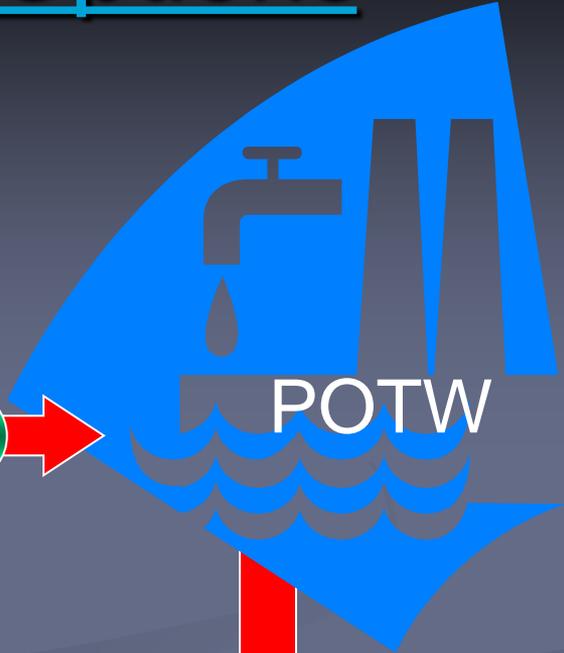
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Chapter 3: Wastewater

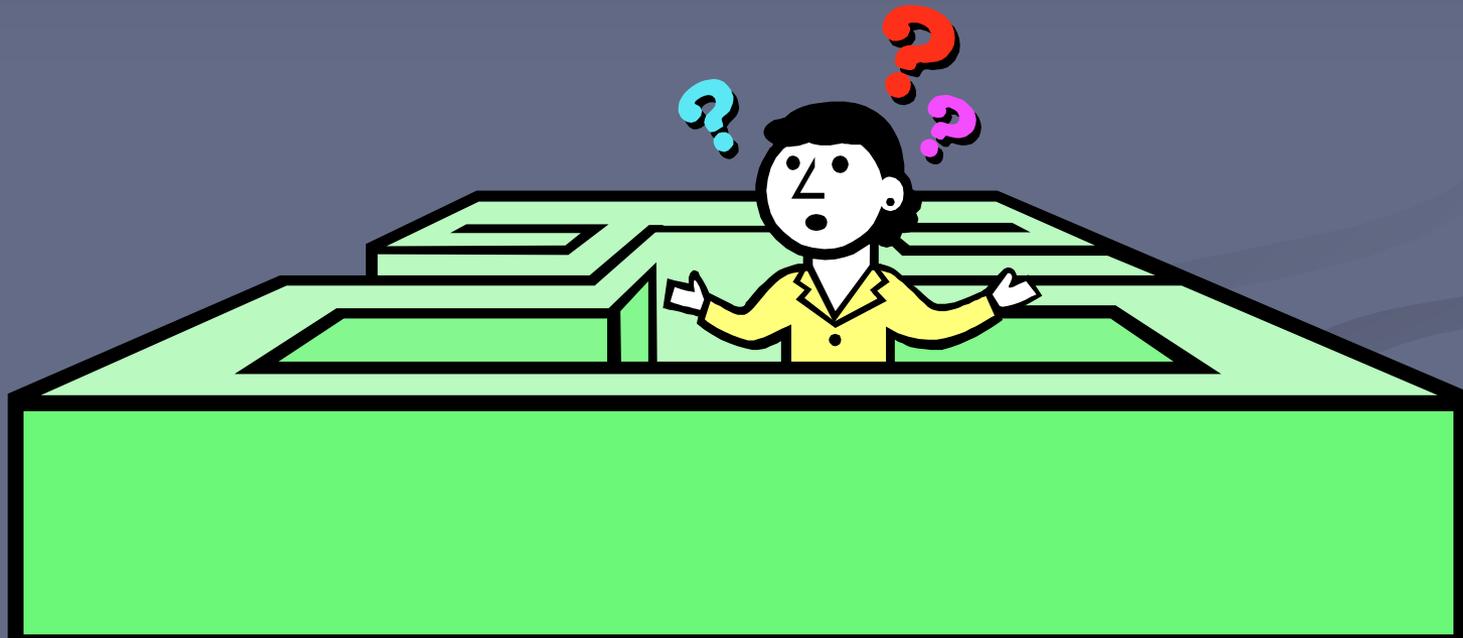


Wastewater Disposal Options

INDIRECT DISCHARGE



What do I need to know about discharging to a WWTP?





Industrial Pretreatment Program Regulations

- **Part 403 of Title 40 of the Code of Federal Regulations (40 CFR Part 403)**
- **Categorical Pretreatment Standards**
- **Rule 323.23 of the Michigan Administrative Code (Part 23 Rules)**
- **Local Sewer Use Ordinance (SUO)**

Categorical Pretreatment Standards

- **Title 40 of the Code of Federal Regulations, Parts 405 – 471**
- **EPA Guidance Materials on Categories, etc., available from EPA online**

<http://www.epa.gov/waterscience/guide/industry.html>

Categorical Standards

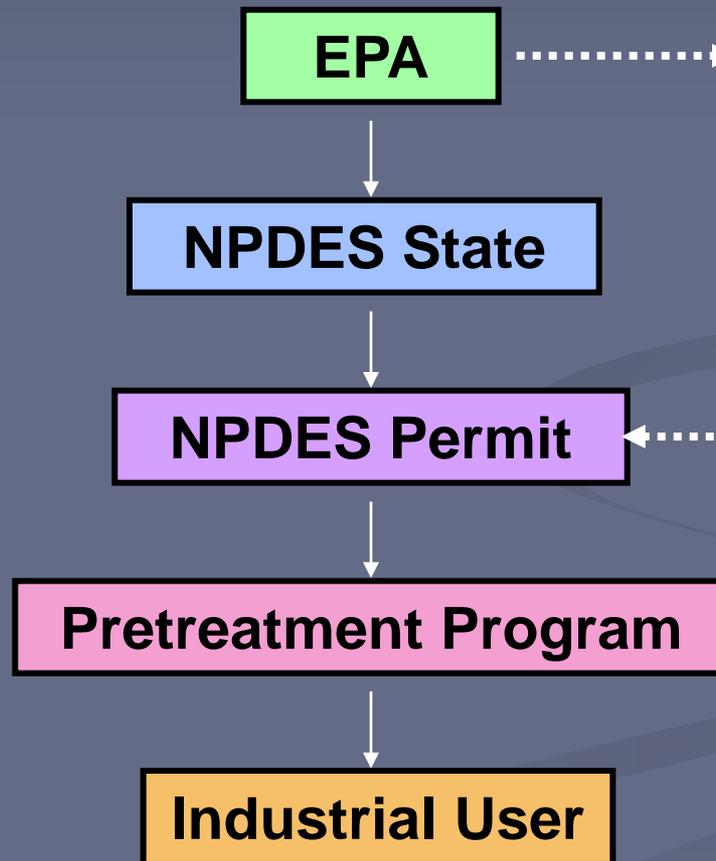
40 CFR Parts 404 - 471

- Metal Finishing
- Electroplating
- Organic Chemical Formulation
- Pharmaceuticals
- Metal Molding and Casting
- Iron & Steel
- Leather Tanning



<http://www.epa.gov/waterscience/guide/industry.html>

The Federal Connection



What to expect from an IPP municipality

n **Sewer Use Ordinance**

- n Wastewater discharge permit
- n Monitoring and inspections
- n Compliance assistance
- n Enforcement
- n Protection of the local environment
- n Fair treatment

IPP Sewer Use Ordinance

- n Establishes legal authority for the municipality to:
 - n issue permits
 - n setting discharge limits
 - n conducting inspections and monitoring
 - n Enforce the IPP...
- n Local Limits
- n Approved by the DEQ

What to expect from an IPP municipality

- n Sewer Use Ordinance
- n Wastewater discharge permit**
- n Monitoring and inspections
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Industrial User Permits

- **Discharge Authorization**
- **Effluent limits**
- **Monitoring and Reporting requirements**
- **Best Management Practices (BMP's)**
- **Notification requirements**
- **Records retention requirements**

Monitoring and Reporting

- n Self-Monitoring
 - n Frequency
 - n Sampling location
 - n Sample type
 - n Must be representative
- n 40 CFR 136 Test Methods
- n Reporting
 - n At least twice each year
 - n Signed and Certified

What to expect from an IPP municipality

- n Sewer Use Ordinance
- n Wastewater discharge permit
- n Monitoring and inspections**
- n Compliance assistance
- n Enforcement
- n Protection of the local environment
- n Fair treatment

Monitoring by POTW

- n At least once per year
- n All regulated pollutants



IPP Inspection

- Process areas where wastewater is generated
- Chemical storage areas
- Pretreatment system
- Monitoring location
- Records review



What to expect from an IPP municipality

- n Sewer Use Ordinance
- n Wastewater discharge permit
- n Monitoring and inspections
- n Compliance assistance**
- n Enforcement
- n Protection of the local environment
- n Fair treatment

Compliance Assistance

- n **POTW IPP staff**
 - n Local requirements
 - n EPA and DNRE requirements
 - n Treatment systems
 - n Pollution prevention

- n **DEQ and EPA staff**
 - n State and federal regulations
 - n Categorical standards



What to expect from an IPP municipality

- n Sewer Use Ordinance
- n Wastewater discharge permit
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- n Compliance assistance
- n Enforcement**
- n Protection of the local environment
- n Fair treatment

ENFORCEMENT

n Violations

- n discharge limits
- n late reports
- n Compliance schedules
- n Other IPP requirements

n Enforcement tools:

- n Phone call/e-mail
- n Notice of Violation
- n Administrative Consent Order/Agreement
- n Fines
- n Termination of service



What to expect from an IPP municipality

- n Sewer Use Ordinance
- n Wastewater discharge permit
- n Monitoring and inspections
- n Enforcement
- n Compliance assistance
- n Protection of the local environment**
- n Fair treatment

Environmental Protection

■ Water quality



■ Beneficial reuse of biosolids

■ Pollution emergencies



What to expect from an IPP municipality

- n Sewer Use Ordinance
- n Wastewater discharge permit
- n Monitoring and inspections
- n Enforcement
- n Compliance assistance
- n Protection of the local environment
- n **Fair treatment**

Fair Treatment

- n **Categorical standards**
- n **Local Limits**
- n **Procedures**
- n **Enforcement Response Plan**



What can be discharged to a WWTP?



Prohibited Discharges

- Interfere or Pass-through
- Fire or Explosion (Flashpoint <140°F)
- Corrosive (pH<5)
- Block Flow
- Heat (<140°F)
- Oil
- Toxic Gases
- Trucked Wastewater (unless at designated points)



Local Limits

- n **Developed by each POTW**
- n **POTW specific**
- n **Published in SUO**

Why are local requirements different ?

- n **Size of the WWTP**
- n **Treatment technology**
- n **Receiving stream**
- n **Number and types of industries**
- n **Ratio of domestic to nondomestic users**

Wastewater Stabilization Lagoon



- One of the least complex treatment systems.
- Hold wastewater for long periods of time, until biological treatment is complete.
- May have mechanical aeration, chemical feed.

Mechanical Treatment Plants



- Mechanically “accelerate” biological processes.
- Settling, advanced chemical feed, solids handling.
- Some have tertiary treatment such as sand filtration.

“Massive” Treatment Plants



Why are local requirements different ?

- n **Size of the WWTP**
- n **Treatment technology**
- n **Receiving stream**
- n **Number and types of industries**
- n **Ratio of domestic to nondomestic users**

Surface Water Discharging WWTPs

- Receiving stream size and quality can affect WWTP's own discharge limits.



Receiving streams may require additional protections

- n **State Rules**
 - n **Coldwater Streams**
 - n **Designated trout streams**
- n **Historic or ongoing pollutant discharges**
- n **Shared use with other WWTPs**
- n **Surface water impoundments**
- n **Drinking water intakes**

Groundwater Discharging Facilities



Why are local requirements different ?

- n **Size of the WWTP**
- n **Treatment technology**
- n **Receiving stream**
- n **Number and types of industries**
- n **Ratio of domestic to nondomestic users**

Every Community is Unique



Limited WWTP Capacities

- **WWTPs have limited capacities for treating pollutants**
- **WWTPs treat incoming wastewater from all sources - domestic, commercial and industrial**
- **The pollutants contributed by these sources will vary because no two municipalities are exactly alike**

A SIMPLE EXAMPLE

- WWTP can treat 100 pounds per day of phosphorus.
- Domestic loading = 40 pounds per day
- Available Industrial loading = 60 pounds per day
- 1 industry can discharge up to 60 Lbs/day



A SIMPLE EXAMPLE Part 2

- WWTP can treat 100 pounds per day of phosphorus.
- Domestic loading = 40 pounds per day
- Available Industrial loading = 60 pounds per day
- 3 industries have to share 60 Lbs/day



Capacity Allocations

- Local policy decision

- Allocations can be uniform



- Or non-uniform



- Allocations (“local limits”) will be found in the local sewer use ordinance

Summary

- Municipalities may be required to implement an IPP
- The IPP protects the environment, POTW workers and infrastructure
- Local IPP staff are knowledgeable and can provide valuable assistance
- All municipal WWTPs are different
- All WWTPs have a limited capacity

Regulatory Update

- n **“Pretreatment Streamlining Rules”**
 - n Published October 14, 2005
 - n Effective November 14, 2005
 - n Reduce the burden on municipalities and industries
 - n More restrictive changes must be implemented
 - n Less restrictive changes cannot be implemented in Michigan until State rules are changed

Regulatory Update

“Clarification” of 403.12(g)(3) composite sampling requirements.

n Old language:

The Control Authority may waive flow-proportional composite sampling for any Industrial User that demonstrates that flow-proportional sampling is infeasible.

Regulatory Update

n **New Language:**

- § **For all other pollutants, 24-hour composite samples must be obtained through flow-proportional composite sampling techniques, unless time-proportional composite sampling or grab sampling is authorized by the Control Authority. Where time-proportional composite sampling or grab sampling is authorized by the Control Authority, the samples must be representative of the Discharge and the decision to allow the alternative sampling must be documented in the Industrial User file for that facility or facilities.**

What does this mean?

- n If you are a categorical user discharging to a POTW with design flow of < 5 MGD (MIPP) or if you discharge to a POTW with design flow >5 MGD (FIPP)
 - n you must collect flow-proportional composite samples
 - n Or demonstrate that time-proportional composite sampling or grab samples are representative
 - n And have authorization from the IPP Control Authority to conduct time proportional 24 hour composite samples

- If you are a non-categorical SIU discharging to a MIPP you must
 - Sampling must be representative of the discharge
 - Stay tuned for further developments.

Electronic Reporting Rule

EPA has proposed an Electronic Reporting Rule that would require all NPDES reporting be submitted electronically at some point in the future.

- For IPP - it includes data from municipalities and some SIUs.
- Published in Federal Register 7/30/2013
- Comments were due 10/28/2013
- Stay tuned...

<http://www2.epa.gov/compliance/proposed-npdes-electronic-reporting-rule>

Effluent Guidelines

- n No new rules or studies
- n Continued review of:
 - n Meat and Poultry Products
 - n Petroleum Refining
 - n Pulp, Paper and Paperboard

<http://www2.epa.gov/compliance/proposed-npdes-electronic-reporting-rule>

Questions?

