Iowa Department of Natural Resources

Leading Iowans in caring for our natural resources

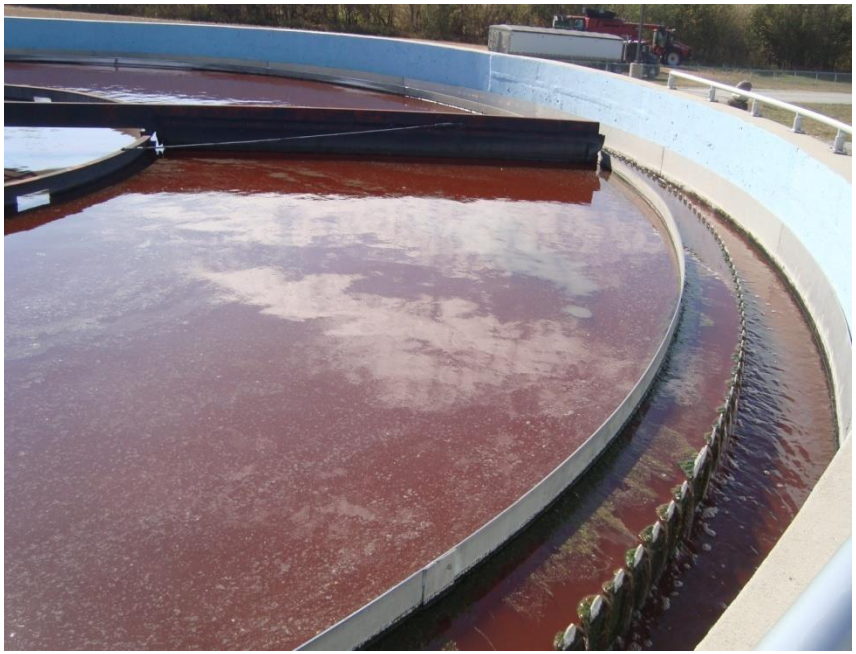
Iowa Pretreatment Program

Iowa Strategic Goals Program
May 1, *2019*

What is the Industrial Pretreatment Program?

- A Clean Water Act program developed to regulate Significant Industrial Users
  - General prohibitions prevent pass-thru and interference
  - Specific prohibitions prevent pass-thru, interference, and hazardous conditions (i.e. fire, explosion, obstruction, corrosion, etc.)
  - Categorical standards set technology based limits for specific industrial categories (i.e. metal finishing, slaughterhouses, pharmaceutical mfg.)
- Federal Regulations are in 40 CFR 403
- State Rules are in 567 IAC 62 (Reference federal regulations)

What is “pass-thru”?



What is “interference”?

Pass-thru or interference?

Pretreatment Program - Purpose

- The purpose of the Industrial Pretreatment Program is to protect the POTW, the environment and YOU!
  - Collection System
  - Treatment Plant
  - The Receiving Stream
  - And the Workers

Two Methods of Regulation

- Pretreatment Cities
  - Authorized to manage their own pretreatment programs (Control Authority)
  - Develop Local Limits
  - Issue their own “permits” to industries
  - Implement their own enforcement actions
  - Required by CFR if ADW design flows are > 5 MGD

- Non-pretreatment Cities
  - DNR is Control Authority
  - City enters into Treatment Agreement with Industry
  - City is still the “enforcement” entity

Who needs a TA?

- All Significant Industrial Users (SIUs)
  - Discharge > 25,000 gal/day to POTW of process wastewater
  - Account for 5% of hydraulic or organic load
  - Discharge a toxic pollutant as defined in CWA
  - All Categorical Industrial Users
  - Determined to have or potentially have a significant impact on the POTW

Categorical Industrial Users

- Groups of industries subject to EPA – developed effluent limits based on similar characteristics of that industry group.

- Examples:
  - Electroplating (40 CFR 413)
  - Metal Finishing (40 CFR 433)
  - Metal Molding and Casting (40 CFR 464)
  - Electrical and Electronic Components (40 CFR 469)
  - Pharmaceutical Manufacturing (40 CFR 439)

Finding SIUs – Step One

- Find information about industrial/commercial users
  - Water use records
  - Sewer connection permits for commercial facilities
  - Business/Industrial Directories
  - Chamber of Commerce Rosters
  - Local Phone Books
  - Drive through town and take notes

What are municipalities/DNR looking for?

- Any SIUs based on high flows or organic loading?
  - High volume water users
  - Any food or feed additive companies? Maybe a locker?
- Any Categorical Industrial Users?
  - Do the local metal fab shops do powder coating/painting?
  - Anyone in town making parts for John Deere, etc.?
  - Any chemical formulating, packaging, etc.? Co-op?
  - What about that place that makes the pharmaceutical stuff?
- Potential Impact on the POTW
  - Landfill Leachate
  - Potential Slug Discharge
  - pH issues
  - High salt loading (i.e. dairy, cured meat, water treatment residuals)

Finding SIUs – Step Two

- Gathering Further Information
  - Name, address, contact for facility
  - Principal products and raw materials used
  - Wastewater volume/characteristics (if known)
  - Batch vs. continuous discharge
  - Any pretreatment practices provided
- Data Collection Options
  - Simple survey mailed to targeted facilities
  - Phone Calls
  - Site Visits (as initial approach or as follow-up)

Conducting the Visit

- May be announced or unannounced visit
- Upon arrival
  - Contact appropriate individual(s) and present identification
  - Discuss purpose of visit, procedures, picture taking, etc.
- Review files to ensure necessary paperwork is maintained
  - Sample results, maintenance records, receipts for waste hauled offsite, slug control/spill prevention plans
- Facility walk-through to observe process and waste generation/treatment, sample collection, flow measurement

Walk-through of the Facility

- Observe production process and points of wastewater generation
  - Tanks, spray booths, clean-up water, air filtration systems, floor drains
  - Chemical storage areas
    - Secondary containment? Is the drain closed?
    - Can spills reach floor drains?
    - Staining or etching in the floor?

Finding SIUs – Step Three

- Make SIU determinations
  - Some are definitely significant
  - Others are definitely non significant
  - There may be some in the middle that you want to keep an eye on even if they aren't significant right now

- Follow Treatment Agreement/Permitting Process

Iowa Cities with Approved Pretreatment Program

- Ames
- Boone
- Burlington
- Cedar Falls
- Cedar Rapids
- Clinton
- Council Bluffs
- Davenport
- Des Moines
- Dubuque
- Fort Dodge
- Fort Madison
- Iowa City
- Keokuk
- Marshalltown
- Mason City
- Muscatine
- Ottumwa
- Sioux City
- Waterloo

Located in a Pretreatment city?

- Contact the local pretreatment coordinator
- Each city has their own procedures for permitting, limits, monitoring, etc.

Anywhere Else?

IOWA DEPARTMENT OF NATURAL RESOURCES
OPERATION PERMIT APPLICATION
TREATMENT AGREEMENT

DNR USE
IOWA FACILITY NO.
IND. CONT. AGREEMENT NO.
REPLACES AGREEMENT NO.

NOTICE

A properly executed Treatment Agreement must be submitted by the contributor not less than one hundred eighty (180) days before the new major contributing industry proposes to discharge into a wastewater disposal system. Any proposed expansion, production increase or process modification that may result in any change to a previous Treatment Agreement requires execution of a new Treatment Agreement.

MAJOR INDUSTRIAL CONTRIBUTOR		SYSTEM RECEIVING WASTE	
NAME		NAME	
MAILING ADDRESS		MAILING ADDRESS	
AUTHORIZED REPRESENTATIVE	PHONE NO.	AUTHORIZED REPRESENTATIVE	PHONE NO.

CERTIFICATION OF CONTRIBUTING INDUSTRY

I am the duly authorized representative for the major industrial contributor identified above and state that the proposed discharge to the system receiving waste identified above shall not exceed the quantities listed on page two of this form after

EFFECTIVE DATE

I further assure that notice of any anticipated increase in pollutants contributed shall be given to the owner of the system identified above sufficiently in advance of such increase to allow this contributor to submit a new treatment agreement to the Department of Natural Resources not later than sixty days in advance of the increase or change.

TYPED OR PRINTED NAME	TITLE	SIGNATURE	DATE

CERTIFICATION OF SYSTEM RECEIVING WASTE

I am the duly authorized representative for the facility owner named above and state that the owner agrees to accept the discharge described on page two from the contractor identified above, and accepts responsibility for providing treatment of the volume and quantities described on the reverse in accordance with the provisions of Chapter 455B, Code of Iowa, and the rules of the Department of Natural Resources. This agreement is conditioned on the industrial contributor complying with all applicable standards and requirements of the Department of Natural Resources and the United State Environmental Protection Agency. This agreement is entered for the purpose of identifying pollutants contributed and limiting the quantity contributed, and shall not otherwise be construed to affect local ordinances, sewer service agreements or fee systems entered into between the parties.

This agreement may be modified or terminated by the owner of the disposal system if additional pollutants or additional quantities or volumes of pollutants are contributed other than identified on the reverse, or because of any condition that requires either a temporary or permanent reduction or elimination of the accepted contribution.

TYPED OR PRINTED NAME	TITLE	SIGNATURE	DATE

1. PROCESS DESCRIPTION

SPECIFIC MANUFACTURING PROCESS	SIC CODE

CONSUMPTION		PRODUCTION	
PRINCIPAL RAW MATERIAL	AMOUNT CONSUMED PER DAY	PRINCIPAL PRODUCTS	AMOUNT PRODUCED PER DAY

2. HOURLY MAXIMUM FLOW CONTRIBUTION	3. DAYS OF OPERATION PER WEEK	4. HOURS OF OPERATION DURING PEAK DAY OF OPERATION	5. RANGE OF pH LEVEL IN CONTRIBUTION	
			MINIMUM	MAXIMUM

6. DESCRIPTION OF PRETREATMENT PROVIDED

7. DESCRIPTION OF ANY BATCH OR PERIODIC DISCHARGES

8. COMPATIBLE WASTE IN CONTRIBUTION

WASTEWATER PARAMETER	AVERAGE	MAXIMUM	WASTEWATER PARAMETER	AVERAGE	MAXIMUM
Flow (MGD)			Ammonia Nitrogen (lbs/day)		
BOD_5 (lbs/day)			Oil and Grease (mg/l)		
Total Suspended Solids (lbs/day)					
Total Kjeldahl Nitrogen (lbs/day)					

9. INCOMPATIBLE WASTE IN CONTRIBUTION

WASTEWATER PARAMETER	AVERAGE		MAXIMUM	
	mg/l	lbs/day	mg/l	lbs/day

What is a Treatment Agreement?

- The Iowa DNR's method of regulating SIUs in non-program cities
  - It's an agreement between the city and the SIU!
  - Implements 40 CFR 403 by:
    - Setting limits for SIU, which are incorporated into POTW's NPDES permit
    - Preventing interference and pass-thru
    - Allows for sampling and inspections to determine compliance

Application Timelines

- 180 days before a new SIU discharges to a POTW
- The POTW must notify the DNR at least 10 days prior to making any commitment to accept waste from a new SIU
- 60 days prior to any proposal to increase discharge

What To Submit?

- Form 31-Operation Permit Application-TA
  http://www.iowadnr.gov/water/npdes/forms/form31a.doc
  - Expectations for complete application
    - Facility information and signatures for both parties
    - Effective date
    - Detailed process information
    - Appropriate limits, compatible and incompatible
- If subject to categorical standards:
  - Must submit Baseline Monitoring Report (BMR) as required in 40 CFR 403.12
  - Optional – may submit TOMP if TTO limits apply

TREATMENT AGREEMENT FORM

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TA Review

- DNR Review Process
  - Are limits reasonable?
  - Compare limits with POTW design capacity, WQS and categorical standards
  - BMR complete; TOMP?
  - Antidegradation Analysis required?
  - If acceptable, limits and monitoring are incorporated into the POTW's NPDES permit
- POTW has ultimate responsibility for compliance of industry and POTW

Implementation through NPDES Permit

- Limits in the treatment agreement are included in the City's NPDES permit.
- Monitoring frequency is based on a statistical procedure
  - No monitoring data tends to have high monitoring frequency (>weekly)
  - Favorable monitoring data can reduce monitoring frequency (monthly/quarterly)
- Monitoring can be conducted by SIU or City
- Monitoring data is submitted to City and included in monthly DMR

Implications to the City's NPDES Requirements?

- Monitoring Frequency?
- Additional Monitoring?
- Additional Limits?
- Compliance Schedule?
- Plan of Action for Expansion?

Detailed Local Agreements

- The Treatment Agreement required by the DNR doesn't cover all of the important details
- Local Agreements should be used to:
  - Implement local ordinances
    - Site Access
    - Surcharge levels and rates
  - Detail sampling by the POTW or the SIU and who pays costs
  - Slug Control Plan implementation
  - Contact information
  - Effective dates
  - Modification or Termination procedures

Prohibited Discharges

- Pollutants which create fire or explosion hazards
- Solid or viscous substances that will cause obstruction
- Heat in amounts which inhibit biological activity (>104° F)
- Petroleum or mineral oil causing pass-thru or interference
- pH < 5.0 standard units
- Oxygen demanding pollutants causing interference
- Pollutants causing toxic gases, vapors, or fumes
- Hauled waste except at designated discharge points
- Excessive Fats, Oil, and Grease
- Radioactive wastes

Local Limits

- Maximum Allowable Headworks Loadings (MAHL)
  - Total loadings the POTW can accept without causing pass-thru or interference
- Maximum Allowable Industrial Loadings (MAIL)
  - Loadings that can be allocated to the industrial users after accounting for domestic/commercial loadings, a safety factor, and desired growth allowance.

Local Limits

- A local limit is a site-specific pretreatment standard developed to protect the POTW and the receiving stream
- It is based on the treatment processes and the POTW's effluent limits
  - Different treatment processes have different interference levels and different removal efficiencies
- Implemented to prevent pass-thru and interference
  - Applied when more stringent than Federal Pretreatment Standards for Categorical Industries or when categorical standards are not applicable
  - Can be applied in order to eliminate the RP of the POTW to violate permit limits, thereby eliminating the POTW effluent limits/monitoring requirements
- Can apply to the WWTP or collection system
  - Corrosive, explosive, FOG, etc. in the collection system
  - Process inhibition, effluent limits, sludge disposal, etc. at the treatment plant

Other City Considerations

- Should treatment plant capacity be reserved for domestic or industrial growth? How much?
- Should SIUs be required to provide pretreatment?
- How to address capacity issues? Upgrade the plant, require pretreatment, or both? Who pays for it?
- With multiple SIUs, how do cities allocate to MAIL?

Ongoing Compliance Determination

- City is expected to ensure the SIU complies with the TA
- DNR visits to the SIU may be made during City inspection
- DNR reviews compliance every six months
  - Enforcement action for the SIU depends on severity of violations
  - Enforcement action for the City depends on response to violations

Iowa DNR Region Contacts

- Field Office 1 – Manchester
  Amber Sauser – 563-927-2640
- Field Office 2 – Mason City
  Carl Berg – 641-424-4073
- Field Office 3 – Spencer
  Tom Roos – 712-262-4177
- Field Office 4 – Atlantic
  Dan Olson – 712-243-1934
- Field Office 5 – Des Moines
  Tom Atkinson – 515-725-0371
- Field Office 6 – Washington
  Terry Jones – 319-653-2135

Questions?

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