Current Regulatory Status
PFAS in Wastewater in Wisconsin

Jason Knutson
Wastewater Section Chief
Wisconsin DNR
Topics

• Types of Standards
  • Groundwater Standards
  • Water Quality Standards (Surface)
  • Biosolids

• Examples of PFAS treatment in WI
  • Husky Refinery
  • Tyco Ditch A & B
  • Dewatering Discharges

• Draft Legislation
Groundwater Standards

• Currently no numeric standards
• Types of Groundwater Standards
  • Enforcement Standards
  • Preventative Action Limit
    • (Different than MCLs)
• Would apply outside DMZ
• Process:
  • DHS recommends standards
  • DNR (Drinking/Groundwater Program) adopts via rulemaking in ch. NR 140, Wis. Adm. Code
Surface Water Quality Standards

• Currently no numeric surface water quality standards
• WQS apply in waterbodies
• WQS are used to calculate effluent limitations

• Process: Triennial Standards Review
  • DNR determines and promulgates standards
• Alternative Surface Water Authorities
Biosolids

- Currently no ceiling concentrations, cumulative lifetime loading limits, or annual pollutant loading limits for PFAS compounds

- Marinette
  - 210 ppb
  - Currently holding biosolids
Permitting Examples: Husky Refinery

• Explosion in spring of 2018
  • Firefighting foam used, collected in ponds on-site
  • Husky needed to dewater ponds, but they were contaminated with PFAS

• Petroleum Contaminated Water WPDES General Permit
  • Conditioned that PFAS be removed
  • GP applicability criteria

• Husky installed Granular Activated Carbon and Ion Exchange Resin for treatment
Permitting Examples: Husky Refinery

Flow Control / influent Mixing Loop

R Bag Filter Housing - 5 Micron

Pump

Bypass for Lead Vessel Media Changeout

Influent Equalization Tank

12 x 40 Reagglomerated Carbon (10,000 lbs / 365 cu ft)

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Resin (70 cu ft)

Resin (70 cu ft)

Resin (70 cu ft)

R Bag Filter Housing - 1 Micron

Discharge

Flow Meter

Drawing Not to Scale

Pressure Gauge

Sample Port

Primary Flow Direction

Process Flow Diagram for
200 Gallon Per Minute Water Treatment System (Now 400 gpm)
Husky Superior Refinery - Superior Wisconsin
Permitting Examples: Husky Refinery

System Influent

Date

PFOS
PFOA

04/10/2018 05/25/2018 07/09/2018 08/23/2018 10/07/2018 11/21/2018 01/05/2019 02/19/2019 04/05/2019 05/20/2019

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Permitting Examples: Husky Refinery

After First GAC Unit

Date

PFOA and PFOS (ng/L)

PFOA
PFOS

Permitting Examples: Husky Refinery
Permitting Examples: Husky Refinery

After Lag GAC Unit (when discharging)
Permitting Examples: Tyco Ditch A&B

- Tyco Fire Technology Center
- Responsible Party designation
  - Interim Action: Dam Ditches and Remove PFAS
- Discharge covered under Contaminated Groundwater WPDES General Permit
  - Conditioned that PFAS not be present in discharge at toxic amounts
Permitting Examples: Tyco Ditch A&B

Ditch A Treatment System Effluent

Note: LOQ is generally 1.7-1.9 ng/L
Dewatering Projects

• Analyzing available groundwater data prior to permitting projects
• If adjacent to known PFAS contaminated site and no groundwater data available, sample may be requested
• If elevated PFAS is found, discuss options with applicant
Proposed Legislation

• Released May 23, 2019

• For at least 6 PFAS compounds (PFOA, PFOS, PFHxS, PFNA, PFBS, PFHpA), DNR would establish and enforce:
  • Groundwater Standards\(^\wedge\)
  • Air Emission Standards\(^*\)
  • Maximum Contaminant Levels (Drinking Water)\(^\wedge\)
  • Water Quality Standards
  • Effluent Standards
  • Listing as Hazardous Constituent\(^*\)
  • Other solid waste, soil, and sediment provisions\(^*\)

\(^*\) if warranted to protect public health and welfare and/or environment
\(^\wedge\) DHS-recommended standards would be effective as interim standards
Emergency rulemaking required in most instances. Emergency rules would remain until 7/1/2022 or until permanent rule adopted
Proposed Legislation

• Reporting of PFAS air emissions; PFAS considered air contaminants
• Financial Assurance for PFAS Cleanups
• Access to Information at sites under investigation
  • Regarding transport, treatment, storage, disposal at other facilities
• Lab Certification criteria to be set
• 7.5 FTEs at DNR, 2 FTEs at DHS
• Funding
  • Model to ID sources
  • Survey/track use of AFFF
  • Test Landfill Leachate
  • Investigate PFAS sources and provide alternative water supply

Disclaimer: These slides are intended as a summary. Please see the proposed legislation for exact content of the proposed bill.
Questions