



# PUBLIC INFORMATION SESSION

September 26, 2019

NORTH  
**Dakota**  
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# OVERVIEW

- Goal:
  - Protect workers, members of the public and the environment
- What is TENORM?, Radiological Rules & Radioactive Materials License
- Solid Waste Rules & Solid Waste Management Permit

# WHAT IS TENORM?

- Technological Enhanced Natural Occurring Radioactive Material
- Materials that are removed from the earth and concentrated by human activities.
- TENORM is created in the oil and gas industry and found in filter socks, filter cake, tank bottom sludge, used proppant and scales that form inside well pipe and equipment.



# RADIOLOGICAL HEALTH RULES

- CHAPTER 33.1-10-23 Regulation and Licensing of Technological Enhanced Naturally Occurring Radioactive Materials.
- CHAPTER 33.1-10-03.1 Rules Of General Applicability To Domestic Licensing Of Byproduct Material.
  - 10 CFR 30.3(a) States no person shall manufacture, produce, transfer, receive, acquire, own, possess, or use byproduct material except as authorized in a specific or general license issued in accordance with the regulations in this chapter.

# NORTH DAKOTA CENTURY CODE

- Chapter 23.1-03 Ionizing Radiation Development
  - 23.1-03-01. Definitions.
    - No. 10. " Specific license" means a license issued after application, to process, generate, dispose, use, manufacture, produce, transfer, receive, acquire, own, or possess quantities of, or devices or equipment utilizing byproduct, source, special nuclear materials, or other radioactive material occurring naturally or produced artificially.

# NORTH DAKOTA CENTURY CODE

- 23.1-03-04. Licensing and registration of sources of ionizing radiation.
  - No. 1. The department shall adopt rules for the department to provide general or specific licensing of persons to process, generate, dispose, use, manufacture, produce, acquire, own, receive, possess, or transfer byproduct, source, special nuclear material, and other radioactive materials occurring naturally or produced artificially, or devices or equipment utilizing such materials. The rules must allow the department to amend, suspend, and revoke licenses.

# RADIOACTIVE MATERIAL LICENSE

- Worker Safety
  - Radiation Protection Program Requirements
    - Initial and annual refresher worker radiation safety training
    - Personal dosimetry requirements
    - Personal protection
  - Radiation Protection Program Oversight
    - Radiation Safety Officer Qualifications

# RADIOACTIVE MATERIAL LICENSE

- Monitoring
  - Quarterly air monitoring
  - Quarterly facility perimeter radiation surveys
  - Annual radiation survey instrument calibration
  - Equipment radiation surveys



# RADIOACTIVE MATERIAL LICENSE

- Compliance
  - TENORM Transporter license/permit verification
  - Incoming loads of TENORM waste must be covered
  - Analytical samples of each TENORM load
- Financial Assurance
  - \$1,125,000 financial assurance requirement

# SOLID WASTE MANAGEMENT RULES

- Location Restrictions
- Design Requirements
  - Liners
  - Leachate Collection
  - Groundwater Monitoring
  - Stormwater
  - Closure

# SOLID WASTE MANAGEMENT RULES

- Operating Requirements
  - Waste Acceptance & Screening
  - Waste Rejection
  - Training
- Reporting Requirements
  - Monthly Reports
  - Groundwater Monitoring
  - Annual Tonnage

# SOLID WASTE MANAGEMENT PERMIT

- Disposal
  - Up to but not exceeding 50.0 pCi/g of Ra-226 + Ra-228
  - 25,000 tons per year
  - 1 foot of daily cover
  - 10 feet below the surface of the final cover
  - 5-foot final cover if any slopes greater than 15%

# SOLID WASTE MANAGEMENT PERMIT

- Monitoring
  - Semi-annual monitoring for:
    - Groundwater
    - Leachate
- Waste Acceptance
  - Survey all incoming loads
  - Analytical results for TENORM waste or waste likely to contain TENORM
  - Random waste sampling

# SOLID WASTE MANAGEMENT PERMIT

- Monthly Reporting
- Monthly Inspections by the Solid Waste Program
- Financial Assurance

# QUESTIONS

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