Licensing & Permitting

North Dakota Department of Health
TENORM Licensing

North Dakota Department of Health
Radiation Control Program
What is TENORM?

- Technologically Enhanced Naturally 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 pipes and equipment.
Companies requiring a Specific License for TENORM.

- **Waste Processors/Treating Facilities**
  - Solidification and treatment of NORM and TENORM waste using a filter press, shaker or centrifuge.

- **Waste Haulers**
  - Haulers who haul TENORM contaminated equipment, tank bottom sludge, filter socks and TENORM waste.
Companies requiring a Specific License for TENORM Continued.

- Decontamination
  - Commercial decontamination of equipment, facilities and land.
- Landfills who want to modify their permit to accept TENORM waste concentrated up to 50 pCi/g.
License Application Requirements for Waste Processors, Decontamination and Landfills

- **Annual Fee 2016**
  - Transporter $7,550.00
  - Waste Processor/Treating Facilities $16,180.00
  - Decontamination $21,610.00
  - Landfills $134,720.00

- **Financial Assurance (NDAC 33-10-03.1)**
  - Surety Bond
    - Landfill Bond $1,125,000.00
    - Waste Processors/Treating Facilities $225,000 - $1,125,000.00
    - Decontamination $225,000 - $1,125,000.00
  - Standby Trust
Operating and Emergency Policies/Procedures
- Procedures for managing an accident or unusual occurrence.
- Contamination control
- Decontamination
- Personnel Protective Equipment (PPE)
- Disposal of contaminated materials
- Procedures for daily operations
Radiation Safety Program:
- Radiation Safety Officer (RSO) 40 hr course
- Training for all personnel
- Personnel dosimetry program
- Radiation survey instruments
- Radiation area surveys
- Posting: radiation area, restricted area
- Procedures for labeling containers of TENORM contaminated waste.
- Facility diagram
• Transportation
  • Hauled by a licensed transporter
  • Waste manifests
  • Quarterly reports

• Records Keeping
  • Personnel monitoring
  • Survey records
  • Calibration records
  • Training records
  • Receipt, Transfer and disposal records
  • Document retention period
- Finger Printing and State/FBI Criminal History Check
- Waste Processors/Treating Facilities
- Landfills
- Decontamination
- Personal & Business Information Disclosure
- Waste Processors/Treating Facilities
- Landfills
- Decontamination Facilities
Public Notice

- Application and documents are placed on our website for 30 days.
- Notice is published in the county newspaper.
- Landfill applications public notice for Radiation Control Program will be in conjunction with Waste Managements public notice.
Sampling

- Analytical data of the concentration of Radium-226, Radium-228
- Approved Lab by the NDDoH.
- [http://www.ndhealth.gov/AQ/RAD/Licensed_template_form_testing.htm](http://www.ndhealth.gov/AQ/RAD/Licensed_template_form_testing.htm)
Application Requirements for **TENORM Waste Transporter**

- Radiation Safety Program
  - Radiation Safety Officer (RSO) 8hr Course
  - Training for all personnel
- Operating and Emergency Manual
- Solid Waste Transporter Permit from Waste Management.
- Quarterly Waste Reports (Manifests) to the NDDOH Radiation Control
- Pick up and disposal location
- Concentration of material
- Collection date
- Type of material
- Physical form

<table>
<thead>
<tr>
<th>COMPANY NAME:</th>
<th>License #</th>
<th>Year:</th>
<th>Quarter: 1st Quarter Report</th>
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<td>Collection Date</td>
<td>Pickup Location</td>
<td>Disposal Date</td>
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General TENORM License

- No formal document
- Generator
  - Well site
  - Salt water disposals
- Requirements
  - Notify the department within 60 days if it is not a site regulated by North Dakota Industrial Commission (NDIC).
  - Name and address of licensee
  - Location and description of the facilities
  - Description of the TENORM and estimates of amount
• Application Regulations
  • NDAC 33-10-01 General Provisions
  • NDAC 33-10-03.1 Licensing of Radioactive Material
  • NDAC 33-10-04.2 Standards for Protection Against Radiation
  • NDAC 33-10-10.1 Notices, Instructions and Reports to Workers.
  • NDAC 33-10-11 Fees for Issuance of License and Registration Certificates and Inspections
  • NDAC 33-10-13.1 Transportation of Radioactive Material
  • NDAC 33-10-23 Regulation and Licensing of TENORM
TENORM Permitting

North Dakota Department of Health
Solid Waste Program
Transporting TENORM Waste

- Requires:
  - A waste hauler permit from the Solid Waste Program
  - A license from the Radiation Control Program
- The solid waste permit will not be issued until the license from Radiation Control is issued
- $75 permit fee
- $25 yearly renewal fee
Rule change in TENORM limit did NOT automatically increase the limit at all landfills.

- ONLY applies to Special Waste and large volume Industrial Waste landfills.
- Does NOT apply to Municipal Solid Waste landfills.
- Each landfill will have to apply for a major permit modification.
• Solid Waste Program NDAC Chapter 33-20-11
• Landfill disposal requirements:
  • Maximum 50.0 pCi/g total of Ra-226 + Ra-228
  • Maximum 25,000 tons/year
  • Covered by 1 foot of non-TENORM waste or daily cover material each day
  • 10 feet below surface of final cover
  • If final cover slope >15%, then final cover must be at least 5 feet thick
TENORM Rules – Solid Waste cont.

- Financial assurance required
- Leachate and groundwater monitoring are required
- Quarterly reporting to the NDDH
- Worker training and safety program required
- Record of notice attached to property deed which indicates the volume of TENORM disposed
- Waste Haulers will need:
  - Solid Waste Permit
  - TENORM Hauler License
Modifying Your Solid Waste Permit

- To take TENORM waste between 5.0 pCi/g and 50.0 pCi/g, the following must be completed:
  - Check with the local zoning authority to be sure that TENORM waste may be accepted
  - Apply for a Radioactive Materials License through the Division of Air Quality – Radiation control program
Modifying your Solid Waste Permit cont.

- Apply for a major modification of your Solid Waste Permit including:
  - Permit Application Form
  - Permit Application Fee
  - Notice on the Deed
Modifying your Solid Waste Permit cont.

- Apply for a major modification of your Solid Waste Permit including (cont.):
  - **Update, at a minimum:**
    - Final Cover Design (if > 15% slope)
    - Groundwater Monitoring Plan
    - Plan of Operations
    - Recordkeeping & Reporting
    - Waste Acceptance Plan
    - Worker Training & Safety Plan
Public Notice & Public Comment

- Public notice with a 30 day public comment period
- Public comment period will run concurrently for Radiation Control Program and Solid Waste Program
- Public hearing would be held for both programs
NDDH - List Serve

- Go to [http://www.ndhealth.gov/subscriptions](http://www.ndhealth.gov/subscriptions/) and subscribe to the list serve for notifications
Questions?