Oil & Gas (TENORM) Waste Management in Montana

Rick Thompson, Supervisor – Solid Waste Section
Montana Solid Waste Management Overview

• Montana Solid Waste Management Act

• Montana DEQ – Solid Waste Section

• Regulations:
  – Montana Code Annotated
  – Administrative Rules of Montana
Montana Solid Waste Management Overview

• Wastes regulated based upon:
  – Physical\chemical characteristics
  – Potential for harm

• Waste groups:
  – Group II (MSW), III(Inert), and IV(C&D)
  – Special wastes
Montana Solid Waste Management Overview

• Facility classifications:  
  – Class II, III, and IV

• Includes landfills, transfer stations, recycling, and resource recovery facilities.

• Design standards based upon risk.
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- US Congress exempted specific E&P waste streams from regulation as a hazardous waste under RCRA Subtitle C
- ‘Exempt’ oilfield exploration and production (TENORM) wastes are Subtitle D solid wastes
- Regulated currently as a “Special Waste” in Montana

"Special waste" means solid waste that has unique handling, transportation, or disposal requirements to ensure protection of the public health, safety, and welfare and the environment. 75-10-802, MCA
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Typical Bevell Exempt E&P (TENORM) Wastes

- Drill Cuttings
- Filter socks
- Iron Sponge
- Drilling Muds
- Pigging Wastes
- Pipe Scale
- Sands
- Sorbent Pads
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• Most E&P (TENORM) wastes are considered to be Group II wastes

• Can be managed at existing Class II facilities
  • Updates\approvals
  • based on waste characteristics and facility design\monitoring features

• New facility – Class II
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Licensed Facilities
E&P\TENORM Waste Only
• Oaks Disposal – Glendive, Dawson County
• BAC Disposal - Outlook, Sheridan County
• Clay Butte Disposal - Culbertson, Roosevelt County
• Yellowstone Disposal – Sidney, Richland County

MSW & E&P\TENORM
• City of Plentywood Landfill – Sheridan County
• Corral Creek Landfill – Baker, Fallon County
• Republic Services Missoula Landfill – Missoula
• MT Waste Systems, High Plains Landfill – Cascade County
Oilfield TENORM Waste Management

- Oaks Disposal, LLC
  - 23.1 acre private landfill facility
  - Licensed to accept Special Wastes E&P\TENORM. (50pCi/gram)
  - Total waste capacity = 1,142,000 yds³
  - Approx. life – 14 years
Oaks Disposal Landfill Location

25 mi NW of Glendive

Pop. 5,332
Oaks Disposal Landfill

- **Landfill location** - Missouri Plateau Level IV ecoregion of the Northwestern Great Plains.

- **Physical site features** - rolling hills and gravel covered benches, mostly treeless.

- **Soils** - typically are not naturally fertile.

- **Natural vegetation** - consists primarily of wheatgrass and needle grass species.

- **Land use in the area** - mosaic of rangeland and farmland. Common crops - spring wheat, oats, hay, barley.

- **Climate continental** – dry hot summers, cold snowy winters.
Oaks Disposal Landfill
Site Map

Active Area

At final grade
Oaks Disposal Landfill
Waste Acceptance Criteria

Landfill Design

• Synthetic Liner
• Leachate Collection and Removal System
• Ground Water Monitoring

Waste Acceptance Limits

• TPH + GRO or TPH + total purgeables: ≤ 50,000 mg/kg
• Ra226 + Ra228: ≤ 50 pCi/gm
Oaks Disposal Landfill

Ludlum Model 193-6 Survey Wand
Oaks Disposal Landfill
Public Involvement\Perception

• License application received – 7\2012
  • 6 month state review.
  • EA document published for 30-day public comment period. – No substantive comments received.

• License issued – 2\14\2013

• Commenced operation – 6\2013
  • Numerous public comments received.
  • Public invited to tour facility and attend informational meeting.
Oaks Disposal Landfill
Public Involvement \ Perception

• **NIMBY** - Not In My Back Yard

• **Fear** — Toxic, radioactive wastes, pollution, cancer.

• **Hostility** — Harassment of transporters, government officials, landfill workers.

• **Complaints** — Spills, traffic, uncovered loads.
Public Involvement \ Perception
Public Involvement\ Perception
Public Involvement\Perception
Where are we now?

• Application should include disclosure of applicants’ (and other entities associated with the business) experience managing TENORM waste, and whether the person has been in violation of environmental protection laws resulting in fines above $10,000.

• Landfill operator must have at least one year’s experience operating a municipal solid waste landfill, attend a training session, and pass a written examination.

• Facilities should only be sited in areas at which aquifers are either not present or located at a substantial depth.

• Facilities should not be sited within one thousand feet of a down gradient drinking water supply well.
Public Involvement \ Perception

Where are we now?

• The facility’s storm water detention should not accessible by deer and other wildlife.

• Vehicles transporting TENORM waste should have speed limits at least 5 mph less than the posted limit for normal traffic.

• Require public disclosure of chemicals and materials being disposed of at a facility.

• Ensure citizens the right to request and receive an inspection of TENORM waste facilities and accompany a state inspector on the inspection.

• All notices of violations should be submitted for public notice in the newspaper of record in the appropriate county, and sent via certified mail to landowners within one mile of the facility.
Public Involvement/Perception

Solutions

- Timely Engagement
- Education
- Rules and Guidance
Proposed TENORM Rules

Includes:

• Acceptance criteria:
  • Numeric limit
  • Risk-based limit

• Siting and design standards

• Site operations:
  • Site monitoring requirements (dust, air quality)
  • Monthly and quarterly reporting
  • Groundwater monitoring

• Waste Characterization requirements

• Closure and post-closure care

• Financial assurance
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Questions?