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Overview

- Landfill Background
- Methane Migration Incident
- Emergency Response
- LFG System Improvements
- Consent Order Requirements
- Lessons Learned

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Landfill Background

- Unlined, 42-acre MSW
- Formerly used for sand/gravel excavation
- 70-feet of ash on top of MSW
- 1-foot thick soil cap
- Housatonic River to east
- Commercial property to west
- Wetlands to north and south

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Ash Fill Area



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Historic LFG Collection/Control

- Perimeter wells in native soil
 - West side (same as commercial property)
- Central wells in waste mass
- Blower/flare station
- LFG to energy facility (2 engines)
- Developer responsible for migration control

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Perimeter Header/Wellhead



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Pre-Migration Events

- Blower/flare for perimeter control turned off
- One of two engines operational

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Methane Migration Incident

- Odors detected by passerby (August 1999)
- Local gas company called
 - Methane detected in public road, commercial property
 - 30-40 percent CH₄
- CRRA responds
 - Methane thought to be from Landfill

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Emergency Response

- 72-hour evacuation of residences/businesses
- Road blocks
- 24-hour continuous monitoring by O&M/SCS-FS
- Vent trenches dug above utility trenches in public roads
- SCS-FS delivery of blower & flare skids
- O&M delivery of 2-blower/flare skids

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LFG System Improvements

- Perimeter wells
 - Replaced wellhead valves
 - Increased size of main header
- Central wells
 - Addition/replacement of 14 wells
- Two temporary utility blower/flare skids
- New enclosed flare station
- Bentonite plugs along utility trenches

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Existing Flare



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Typical Extraction Well



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Improvements (Cont.)

Monitoring System

- Continuous monitoring gas detection devices
 - Off-site commercial structures (10)
 - Off-site residential structures (several)
 - 12 perimeter monitoring ports
- Temp. gas monitoring probes tested monthly

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Consent Order Requirements

- Temp. Flare Station - 2x/day, 7 days/week
- Perimeter System - 3x/week
- Central System - 1x/week
- Provide 24 hr/day, 7 day/week emergency service
- Monthly report to DEP

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Lessons Learned

- Responsibility for LFG migration: developer vs. owner
- Use of bentonite plugs and vents in utility trenches at property line
- Sandy soils + no liner = migration issues
- Active migration monitoring system is critical