

Exiting NSPS Subpart WWW/XXX Requirements During Landfill Post-Closure

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Introduction

- What is NSPS WWW/XXX?
- Reasons/benefits for exiting
- Summary of exit requirements
- Practical and regulatory issues
- **Bonus!** GCCS technology at post-closure

What is NSPS Subpart WWW/XXX?

- NSPS = New Source Performance Standards
 - 40 CFR 60
- Subpart WWW/6 NYCRR Part 208: (Old) MSW Landfills
- Subpart XXX: (New/Modified) MSW Landfills
- Subpart Cf: (Old) MSW Landfills
 - Requires NYSDEC to promulgate state regulations (e.g., 6 NYCRR Part 208 for NSPS Subpart Cc)
- Regulates emissions of non-methane organic compounds (NMOCs) from MSW landfills
- Operating, monitoring and reporting requirements for landfill gas collection and control systems (GCCS)



Reasons and Benefits: Why exit NSPS?

- Quarterly or annual surface emission monitoring (SEM)
- Monthly GCCS wellfield operating/monitoring constraints
- Semi-annual NSPS and startup/shutdown/malfunction (SSM) reports
- Excess emissions liability during SSM events under XXX
 - WWW liability exemption if following SSM procedures
- Title V applicability
 - Only if NSPS is only reason for Title V (non-major source)
 - Annual/semi-annual Title V compliance reports
 - Annual emission statement, emission-based fees
- **Turn off GCCS???**
Save time, effort and money!!!



Exit Requirements:

How and when to exit NSPS?

- **Similar** exit rules apply for both WWWW and XXX
 - WWWW: 40 CFR 60.752(b)(2)(v)
 - XXX: 40 CFR 60.762(b)(2)(v)
- Landfill must be closed; closure report submitted
- GCCS operating for at least 15 years
 - **XXX only:** demonstrate GCCS unable to operate for 15 years due to declining gas flow; **helpful?**
- Calculated NMOC emission rate less than:
 - WWWW: 50 Mg/yr
 - XXX: 34 Mg/yr
 - Based on three consecutive Tier 2-type tests



Tier 2-Type Tests

- Perform tests 90-180 days apart
- Measure LFG flow and NMOC concentration to calculate landfill NMOC emission rate
$$M_{\text{NMOC}} = 1.89 \cdot 10^{-3} Q_{\text{LFG}} C_{\text{NMOC}}$$
- Q_{LFG} (m³/min): LFG flow by **calibrated** flow meter
 - GCCS operating at steady-state



Tier 2-Type Tests (continued)

- C_{NMOC} (ppmv as C_6): Sample and analyze LFG
- Collect at blower inlet **before** moisture removal
- 3 samples/test in Summa cans (no tedlar bags)
- Nitrogen < 20% **or** oxygen < 5%
- Lab Analyses:
 - EPA Method 25C (NMOC and nitrogen)
 - EPA Method 3C (fixed gases, including oxygen)

Practical and Regulatory Issues

- Can GCCS be turned off? Go passive?
 - EPA says yes, but what about state regulator? Odors?
- If GCCS stays on, changes to operations?
 - Monthly GCCS monitoring still reasonable
- Closed landfill area on site including active landfill
- Transition to state facility permit
 - NYSDEC still figuring out administration
 - **Policy issue in NJ** - methane fugitive emissions trigger Title V applicability



Post-Closure GCCS Technology: Blowers

Multistage Centrifugal



Regenerative



Single Stage Centrifugal
(i.e., fan-type)



Post-Closure GCCS Technology: Emissions Combustion/Control

Enclosed Flare
(re-tool? supp. fuel?)



Utility Flare



"Vent" Flare



NO FLARE!

- Activated carbon
- Active venting (from blower)
- Passive venting (from landfill)

Questions?

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