The Impacts of the New NSPS XXX and EG Cf Regulations for Landfills

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NSPS XXX/EG Cf Rules

• In August 2016, EPA published the NSPS XXX and EG Cf

• NSPS XXX - MSW landfills that commenced construction, modification, or reconstruction after July 17, 2014

• EG Cf - MSW landfills that commenced construction, modification, or reconstruction on or before July 17, 2014
Schedule

• NSPS XXX effective on 10/28/2016
  • Design Capacity and Tier 1 Reports are due 11/28/2016
  • GCCS Design Plan is due 11/28/2017 or within one year of exceeding the NMOC threshold)

• EG Cf is a phased approach
  • States have until May 30, 2017 to submit a state plan to EPA or adopt the EPA plan
  • EPA has 4 months to review and approve the state plan
  • What are TCEQ’s Plans?
The Issues

- Overlapping Applicability
  - The original 1996 Standards (subparts WWW & Cc) do not go away
  - Part 63 NESHAP (Subpart AAAA) continues to required compliance with the old rules
  - Simultaneously regulated as both a “new source” and an “existing source”

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<th>Landfills that were last constructed / modified …</th>
<th>Emission Guidelines</th>
<th>NSPS</th>
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The Issues

• Implementation
  • The full 30 months vs now
  • State’s effective date vs EPA approval of plan

• A few of the items:
  • Treatment system monitoring plan: development of the newly required treatment system monitoring plan; employee training; incorporation of the plan into the GCCS design plan
  • New root-cause analysis procedure for monitoring exceedances: development of new templates for internal and external documentation; employee training
  • Monitoring all cover penetrations (not just those where visual observations indicated elevated landfill gas concentrations): purchase of new equipment (GPS devices); employee training; development of new remediation protocols and procedures
  • Design plan must reflect ability to isolate components or sections: determine which
  • “components” or “sections” can be isolated; prepare and submit new GCCS design plan
  • SSM Plan updates: development of new plans, templates, and forms; employee training
  • Higher operating value or alternative compliance timeline requests.
It Could All Go Away?

- The Congressional Research Service (CRS) has identified four major Clean Air Act regulations, which could be rescinded by Congress under the Congressional Review Act (CRA) this year.
  - Cross-State Air Pollution Rule update,
  - Emissions guidelines (EG) for existing municipal solid waste landfills,
  - New source performance standards (NSPS) for landfills, and the
  - Phase 2 greenhouse gas and fuel efficiency requirements for medium- and heavy-duty trucks.
- The CRA allows simple majorities in the House and Senate to repeal regulations promulgated within the previous 60 legislative working days.
- If Congress passes a joint resolution disapproving a rule via the CRA, and the resolution becomes law with the signature of the President, the rule cannot take effect or continue in effect. Also, the agency may not reissue either that rule or any substantially similar one, except under authority of a subsequently enacted law.
Thresholds for Installing Controls

• Design Capacity Threshold
  • Remained the same at 2.5 million megagrams (Mg) and 2.5 million cubic meters.

• NMOC Emission Threshold
  • Reduced from 50 Mg/year to 34 Mg/year
  • Closed landfills remain at 50 Mg/year
    • MSW Landfills closed on or before September 27, 2017

• Optional Tier 4
  • NMOC Emissions between 34 Mg/yr to 50 Mg/yr
Quarterly SEM Events

• Monitor all cover penetrations
  • Includes wellheads
  • Excludes survey stakes, fencing or litter fencing, flags, signs, trees, and utility poles

• GPS technologies for SEM exceedances
  • Requiring latitude and longitude coordinates
  • Instrument accuracy of at least +/- 4 meters to 5 decimal places.
Wellhead Standards

• Removal of the operation standards for oxygen/nitrogen
  • Monthly wellhead monitoring/recordkeeping still required
• Maintain negative pressure
• Maintain temperature <131 deg F
Wellhead Standards
Corrective Actions

• Initiate corrective action within 5 days
• Exceedance 15 to 60 days
  • Conduct root cause analysis and correct exceedance
  • Document action and timing
• Exceedance 60 to 120 days
  • Conduct corrective action analysis and develop implementation schedule
  • Notify the Administrator within 75 days
  • Include in Annual Report
• If >120 days
  • Submit Corrective Action Plan/Timeline within 75 days
  • Administrator Approval Required
• Document in Next Annual Report
LFG Treatment

• Defined Treatment System
  • System that filters, de-waters, and compresses LFG for sale or beneficial use

• Expanded Types of Beneficial Use
  • Includes vehicle fuel, production of high-BTU gas for pipeline injection and use as a raw material in a chemical manufacturing process

• Prepare/submit site-specific treatment monitoring plan
Recirculating Leachate or Adding Other Liquids

• For XXX sites after July 17, 2014 but before August 29, 2016 - First Report due September 27, 2017 (starting with September 1, 2016)
• For XXX sites after August 29, 2016 - 365 days after the date of commenced construction.
• Not required in the EG – EPA copy and paste issue
• Initial Report to included recirculated leachate and/or added other liquids within the last 10 years – if records are available in on-site records.

An annual report:
• Volume of leachate recirculated and other liquids added (gallons/year)
• Surface area (acres) over which liquid was added
• Total waste disposed within area (Mg)
• Annual waste accepted rates (Mg/yr)
• Initial report must be for current year and each of the previous 10 years
• Cease reporting once closure report is submitted
Design Plan Submittal

• Submittal to administrator within one year from initial exceedance
  • Professional Engineer’s Signature Page
  • Administrator has 90 days from submittal to decide if review is needed
  • If no response within 90 days landfill may implement design plan “at own risk”

• Design plan revisions:
  • Required 90 days prior to expansion into areas not covered by current design plan
  • Required prior to installing system not in accordance with current design plan
SSM Provisions

- Standards apply at all times, including periods of startup, shutdown and malfunction (SSM)
- Removed 5-day/1-hour downtime
- Site must shut down the gas mover system and close valves within 1 hour of shutdown
- Added Monitoring System Malfunction
- A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data.
- Repair and return to operation as expeditiously as practicable.
Electronic Reporting

• Electronic Reporting Systems “Must” be used, once available

• Following Reports Required:
  • NMOC Emissions Rate Reports
  • Annual Reports
  • Performance Tests
  • Tier 4 Test Reports
  • Liquids Recirculation/Additions Data

• Almost Always Very Difficult to Get Going
Optional Tier 4

• Surface emissions monitoring (SEM) demonstration
  • Four consecutive quarters below 500 ppmv – GCCS is not required.
    • Active landfill must continue conducting quarterly SEM
    • Closed landfill must conduct annual SEM
  • Must submit an annual Tier 4 SEM report
Optional Tier 4 Requirements

• Must be less than 50 Mg/yr

• 30-day Notification submitted prior to conducting a Tier 4

• Wind Barrier, similar to a funnel if:
  • Onsite wind speed exceeds 4 mph
  • Gusts exceed 10 mph
  • No average wind speeds over 25 mph

• Digital photographs of the instrument setup (must be time and date stamped)

• Wind Speed must be measured with an on-site anemometer
  • Continuous recorder and data logger
  • Average wind speed must be determined at 5-minute intervals
  • Gusts must be determined at 3-second intervals

• Mechanical device such as pole/wheel must be used to ensure the sampling probe is <5cm above the landfill surface
Optional Tier 4

• Upon SEM reading of >500 ppm methane
  • Landfill must submit a GCCS design plan within 1 year of >500 ppm reading
  • Install and operate a GCCS within 30 months of the most recent annual NMOC emission rate report
  • Landfill cannot return to Tier 1, 2, or 3 modeling to demonstrate emissions are <34 Mg/yr
Anemometer

Battery in backpack to power equipment

GPS

Data Recorder

FID

Wheel to keep sample tube height

Wind Speed Display

H₂S Meter

Stop Watch

Camera

Wind Barrier
Questions

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