

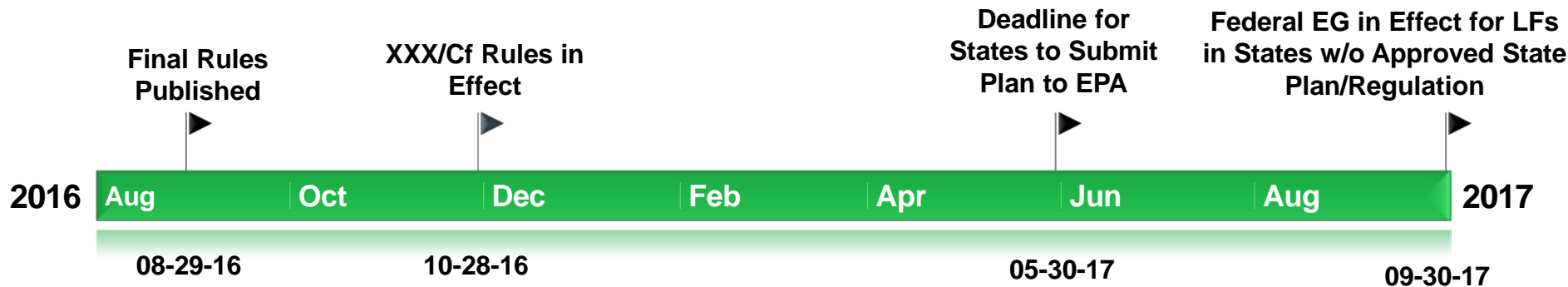
New Source Performance Standards and Emission Guidelines for Landfills

Navigating the Maze

Presentation Outline

1. What Landfills are Affected?
2. Rule Mapping
3. Legacy NSPS WWW Ref in NESHAP AAAAA
4. What Do You Need to Do?
5. Rule Changes and Industry Impacts
6. Summary - First Actions

When Were the Rules Published, When Did They Go Into Effect, and What's Next?



States may not write a new state rule to implement Cf rules meaning you'd have to defer to current federal rule (40 CFR § 62 Subpart GGG)
Subpart GGG is not updated to reflect Cf...yet

Who's Affected by Subpart Cf?

Requires States to develop Plans that apply to MSW Landfills that commenced construction, reconstruction, or *modification* on or before

July 17, 2014

Who's Affected by Subpart XXX?

Applies to MSW Landfills that commenced construction, reconstruction, or *modification*

after

July 17, 2014

Rule Mapping

On or Before July 17, 2014

Emissions Guidelines (EG)

40 CFR §§ 60.3c-60.36c

40 CFR §§ 62, Subpart GGG

WWW or Cc  Cf/GGG

OR

Closed  Cf/GGG

Rule Mapping

After July 17, 2014

New Source Performance Standards (NSPS)

40 CFR §§ 60.750-60.759

WWW (modified LF)  XXX

OR

New  XXX

What is a Modification?

Defined as an ↑ in the permitted volume design capacity by either lateral or vertical expansion based on its permitted design capacity as of

July 17, 2014

When Does a Modification Occur?

Construction actually begins on the lateral or vertical expansion (“shovel in the ground”)

No construction? Need to assess based on site-specific circumstances (i.e. when waste can physically be accepted, approval from state agency)

Legacy NSPS WWW in NESHAP AAAA

Startup, Shutdown, and Malfunction...

requires compliance with NSPS Subpart WWW

therefore:

NESHAP AAAA needs to be revised to reflect

XXX

FOR NOW, COMPLY WITH BOTH WWW & XXX !

Initial Actions

1. Report - Design Capacity
2. Report - NMOC Emission Rate
3. GCCS Design Plan
4. Site-Specific Treatment Monitoring Plan
5. Initial Performance Test
6. Permit Updates (to Include NSPS XXX)
7. Liquids Addition Reporting
8. Electronic Reporting

Reporting Initial Design Capacity/NMOC Emission Rate

Submit

By Nov 28, 2016 LFs that were constructed,
reconstructed, or modified

July 17, 2014  August 29, 2016

Within 90 days for affected LFs from the date of the
commencement of construction

Amended Design Capacity Report

Submit

Within 90 days of an \uparrow in the max design capacity
from $< 2.5 \text{ MM m}^3/\text{Mg}$ to $\geq 2.5 \text{ MM m}^3/\text{Mg}$

Thresholds for GCCS

- Design cap ≥ 2.5 MM Mg & ≥ 2.5 MM m³
- NMOC emission ≥ 34 Mg/yr (was 50 Mg/yr)
- Install & start the system within 30 months of ≥ 34 Mg/yr NMOC Report

Industry wants XXX sites to take the entire allowed 30 months before operating the GCCS under XXX. This should allow time for litigation & hopefully allow the agency to provide additional guidance

GCCS Design Plan

- Within 1 yr NMOC Tier Report ≥ 34 Mg/yr
- PE prepares & approves (PE stamped)
- Administrator has 90 days to accept PE Stamp
- If not accepted, Administrator submits design plan to agency for review/approval
- No review \rightarrow implement the plan at own risk

Site-Specific Treatment Monitoring Plan

- Sites with LFG treatment must develop site-specific treatment monitoring plan
- NSPS XXX/EG does not mention timing
- NSPS XXX/EG Preamble mentions submittal with Title V Application
- Requirements become Title V conditions (means they're federally enforceable)

Site-Specific Treatment Monitoring Plan

Example Components

1. Responsible party (job title) for data collection
2. Monitoring methods, frequencies, & operating ranges for each monitored operating parameter (based on manufacturer's recommendations)
3. Procedures & methods used for QA, maintenance, & repair of all continuous monitoring systems

Initial Performance Test

Submit

Test report

Within 180 days

after the initial startup of the approved
control system

Operating Permit (Title V)

If you don't have one → APPLY

- By Nov 28, 2016 for LFs that were constructed, reconstructed, or modified

July 17, 2014  August 29, 2016

- Within 90 days for affected LFs after date of commenced construction

Operating Permit (Title V)

If you do have one → **APPLY TO MODIFY** (maybe)

If > 3 yr of the permit term remains...

reopen to add new requirements

If < 3 yr of the permit term remains...

address in the renewal application

CONSULT YOUR AIR PERMITTING AGENCY FIRST !

Liquids Addition Recordkeeping

Example Components

- Volume of leachate recirculated*
- Volume of all other liquids added*
- Sfc area over which the leachate is recirculated
- Sfc area over which any other liquids are applied
- Total waste in areas w/ recirculated leachate/added liquids*

*records and engineering estimates

Electronic Reporting Submissions

Submit electronic copies of:

- Certain required performance test reports
- NMOC emission rate reports
- NSPS Annual reports
- Tier 4 emission rate reports
- Liquids Addition reports

Electronic Reporting Status

Submit electronic copies of:

- Certain required performance test reports (available)
- NMOC emission rate reports (planned)
- NSPS Annual reports (planned)
- Tier 4 emission rate reports (planned)
- Liquids Addition reports (planned)

Electronic Reporting

Links/References

- EPA's Central Data Exchange (CDX) using the Compliance & Emissions Data Reporting Interface (CEDRI)
- ERT Users Manual:
<https://www3.epa.gov/ttn/chief/ert/ertv5/ERT%20Users%20Guide%20-8-10-16%20Release.pdf>
- CEDRI Users Manual:
<https://www3.epa.gov/ttn/chief/ert/cedriguide.pdf>
- ERT Training Website:
https://www3.epa.gov/ttn/chief/ert/ert_training.html

Electronic Reporting

Electronic Reporting Tool

- Electronic reports only apply to those performance tests conducted using test methods that are supported by the Electronic Reporting Tool (ERT)
- A list of the pollutants and test methods supported by the ERT is available at: https://www3.epa.gov/ttn/chief/ert/ert_info.html
- When the EPA adds new methods to the ERT, a notice will be sent out through the Clearinghouse for Inventories and Emissions Factors (CHIEF) Listserv: <https://www.epa.gov/air-emissions-inventories/emissions-inventory-listservs>
- Sites are encouraged to check the ERT website regularly for up-to-date information on methods supported by the ERT
- Once new form has been available in CEDRI for 90 days, must begin submitting all subsequent reports via CEDRI

Electronic Reporting

CEDRI Roles

Preparer

Certifier

Delegated Certifier

Electronic Reporting

CEDRI Roles

- Preparer: prepares reports for signature, assembles submission packages
 - ✓ **Cannot sign or submit**
 - ✓ **Only role a consultant can have**
- Certifier: responsible official or duly authorized representative that is authorized to sign reports for the facility.
 - ✓ **Signs & submits reports to CEDRI & can perform preparer functions**
- Delegated Certifier: delegated by Certifier to act on behalf
 - ✓ **Can perform same actions as certifier**

Electronic Reporting

Getting Started

1. Go to <https://cdx.epa.gov>
2. Responsible Official registers for CDX
 - ✓ Request access to CEDRI
 - ✓ Request access to your facility
 - ✓ Request the role of Certifier
3. Preparers and Delegated Certifiers register for CDX
 - ✓ Request access to CEDRI
 - ✓ Request access to desired facilities for approval by Certifier
 - ✓ Request the role of “preparer” or Delegated Certifier

Rule Changes and Industry Impacts

1. Wellfield Monitoring
2. Surface Emissions Monitoring
3. NMOC Emission Demonstrations
4. Startup, Shutdown, Malfunction

Wellfield Monitoring Schedule & Operational Standards

Monitor Monthly at Each Wellhead

- N_2 or O_2 concentration
- Pressure < 0
- Temperature < 131 °F

O₂ & N₂ Monitoring

- Document any N₂ level $\geq 20\%$
- Document any O₂ level $\geq 5\%$

O₂ & N₂ exceedances do not need to be corrected in XXX, however AAAA refers to WWW so LFs do need to correct until such time that AAAA is updated

Pressure or Temperature Exceedance Initial

If Pressure ≥ 0 or Temperature $\geq 131^{\circ}\text{F}$
initiate corrective action within 5
calendar days

Pressure or Temperature Exceedance >15 Days

If compliance is not achieved...

Conduct a “root cause analysis” & correct as soon as practicable, but not later than 60 days after initial exceedance

Pressure or Temperature Exceedance >60 Days

If compliance is not achieved...

Conduct a “corrective action analysis” & develop an implementation schedule to achieve compliance as soon as practicable, but not later than 120 days following the initial exceedance

Pressure or Temperature Exceedance >120 Days

If compliance is not achieved...

Submit the root cause analysis, corrective action analysis, and corresponding implementation timeline to the Administrator

Root Cause Analysis Definition

An assessment conducted through a process of investigation to determine the primary cause, and any other contributing causes, of positive pressure at a wellhead

Corrective Action Analysis

Definition

A description of all reasonable interim and long-term measures, if any, that are available, and an explanation of why the selected corrective action(s) is/are the best alternative(s), including, but not limited to, considerations of cost effectiveness, technical feasibility, safety, and secondary impacts

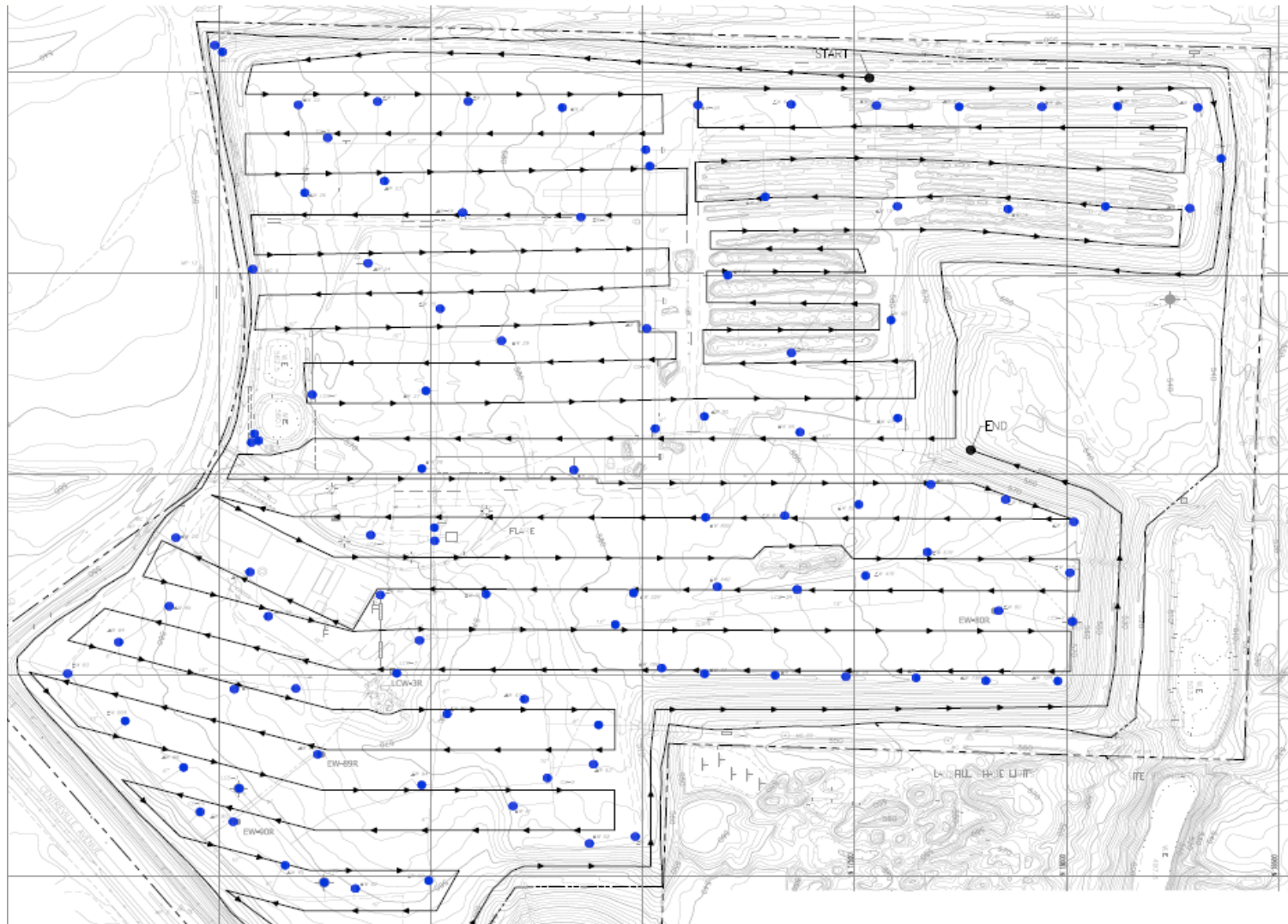
Surface Emissions Monitoring

- Monitor CH₄ emissions every calendar quarter
- Monitor the perimeter of the collection area & along a pattern that traverses the LF at no more than 30-m intervals
- Monitor where visual observations indicate elevated concentrations of LFG
 - ✓ distressed vegetation
 - ✓ cracks or seeps in the cover
 - ✓ **all cover penetrations**

Surface Emissions Monitoring (cont.)

1. Report each location of $\text{CH}_4 \geq 500$ ppm
2. Determine the coordinates (Lat/Lon) using an instrument with an accuracy ≤ 4 m
3. Coordinates must be in decimal degrees ≥ 5 decimals

Surface Emissions Monitoring Example Pattern and Monitoring Points



0 120 240
SCALE IN FEET

LEGEND

- PROPERTY LINE
- - - SOLID WASTE BOUNDARY
- SEMI MONITORING PATHWAY
- EXISTING GRADE (2' CONTOUR)
- EXISTING GRADE (10' CONTOUR)
- COVER PENETRATION

NOTES

1. TYPICAL SPACING FOR THE MONITORING PATH IS APPROXIMATELY 30 METERS (100 FT.). SOME LOCAL VARIATIONS MAY OCCUR TO ACCOMMODATE LANDFILL PARKING AND FIELD CONDITIONS AT THE TIME OF MONITORING.
2. THE FACILITY MAY INCLUDE DANGEROUS AREAS SUCH AS ROADS, THE ACTIVE FILL AREA, TRUCK TRAFFIC AREAS, CONSTRUCTION AREAS, AREAS WITH SNOW OR ICE COVER, AND SLOPES STEEPER THAN OR EQUAL TO 3:1 FROM SURFACE TENDING.
3. MONITORING TO BE PERFORMED IN ACCORDANCE WITH NSPS 40 CFR 60.756(F).
4. GRADE MAP TAKEN FROM SHEET 2 DATED JANUARY 1999, FROM A SET ENTITLED "LANDFILL GAO AND LEACHATE EXTRACTION SYSTEM MONITORING AS-BUILT PLANS" PREPARED BY THE CONSULTANT. ALL EXISTING CONTOURS BASED ON SETBACKED 1997 AERIAL PHOTOGRAPHY.

NMOC Emissions Determination Tiers

1. Tier 1 – mass-based emission rate
2. Tier 2 – site-specific NMOC emission concentration
3. Tier 3 – site-specific methane generation rate constant

Tier 4 – surface methane emissions demonstration

New in Subpart XXX

Onerous!

Tier 4 Demonstration

- Optional surface CH₄ emissions demonstration
- Must be conducted every calendar quarter
- Allowed only if LF's NMOC $\geq 34 < 50$ Mg/yr
- Not allowed if both Tier 1 & Tier 2 show NMOC emissions >50 Mg/yr
- Can operate voluntary CCS during Tier 4 demonstration (with some restrictions)

Rule Changes & Industry Impacts

- Wellfield Monitoring
- Surface Emissions Monitoring
- NMOC Emission Demonstrations
- Startup, Shutdown, Malfunction

Startup, Shutdown, Malfunction (SSM)

**XXX applies at all times, including periods of SSM
If GCCS is not operating...**

- The system must be shut down
- All valves that could contribute to venting must be closed within 1 hr of GCCS not operating
- Keep & submit records of all periods when the GCCS doesn't operate
- Monitoring equipment malfunctions – repair as soon as practicable

Summary

First Actions

For sites that commenced construction, reconstruction, or modification July 17, 2014  August 29, 2016

<u>Action</u>	<u>Deadline</u>
Submit Design Capacity /NMOC ER Report	November 28, 2016
Submit Operating Permit Application	Within 90 days of applicability
Submit GCCS Design Plan	Within 1 year NMOC Tier Report \geq 34 Mg/year
Perform & Submit Report, Initial Performance Test	Within 180 days of required installation date
Complete Site-Specific Treatment Monitoring Plan	No Timeframe in Regulation. Recommended submittal with GCCS Design Plan
Submit Permit Modification to Include NSPS XXX	November 28, 2016 or as required
Begin Recordkeeping for Leachate Recirculation	August 29, 2016
Register for Electronic Reporting (suggested)	1 Month before 1st report due

Summary

First Actions (cont.)

For sites that commenced construction, reconstruction, or modification after August 29, 2016

<u>Action</u>	<u>Deadline</u>
Submit Design Capacity /NMOC ER Report	Within 90 days of applicability
Submit Operating Permit Application	Within 90 days of applicability
Submit GCCS Design Plan	Within 1 year NMOC Tier Report \geq 34 Mg/year
Perform & Submit Report , Initial Performance Test	Within 180 days of required installation date
Complete Site-Specific Treatment Monitoring Plan	No Timeframe in Regulation. Recommended submittal with GCCS Design Plan
Submit Permit Modification to Include NSPS XXX	As required by agency
Begin Recordkeeping for Leachate Recirculation	When rule applicable
Register for Electronic Reporting (suggested)	1 Month before 1st report due

40 CFR 60 Subpart XXX

Regulatory Citations

- § 60.760 Applicability
 - Designation of affected source
 - Delegation of authority
- § 60.761 Definitions
- § 60.762 Standards for air emissions
- § 60.763 Operational standards for GCCS
- § 60.764 Test methods & procedures

40 CFR 60 Subpart XXX

Regulatory Citations (cont.)

- § 60.765 Compliance procedures
- § 60.766 Monitoring of operations
- § 60.767 Reporting requirements
- § 60.768 Recordkeeping requirements
- § 60.769 Specifications for active CS

Questions?

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