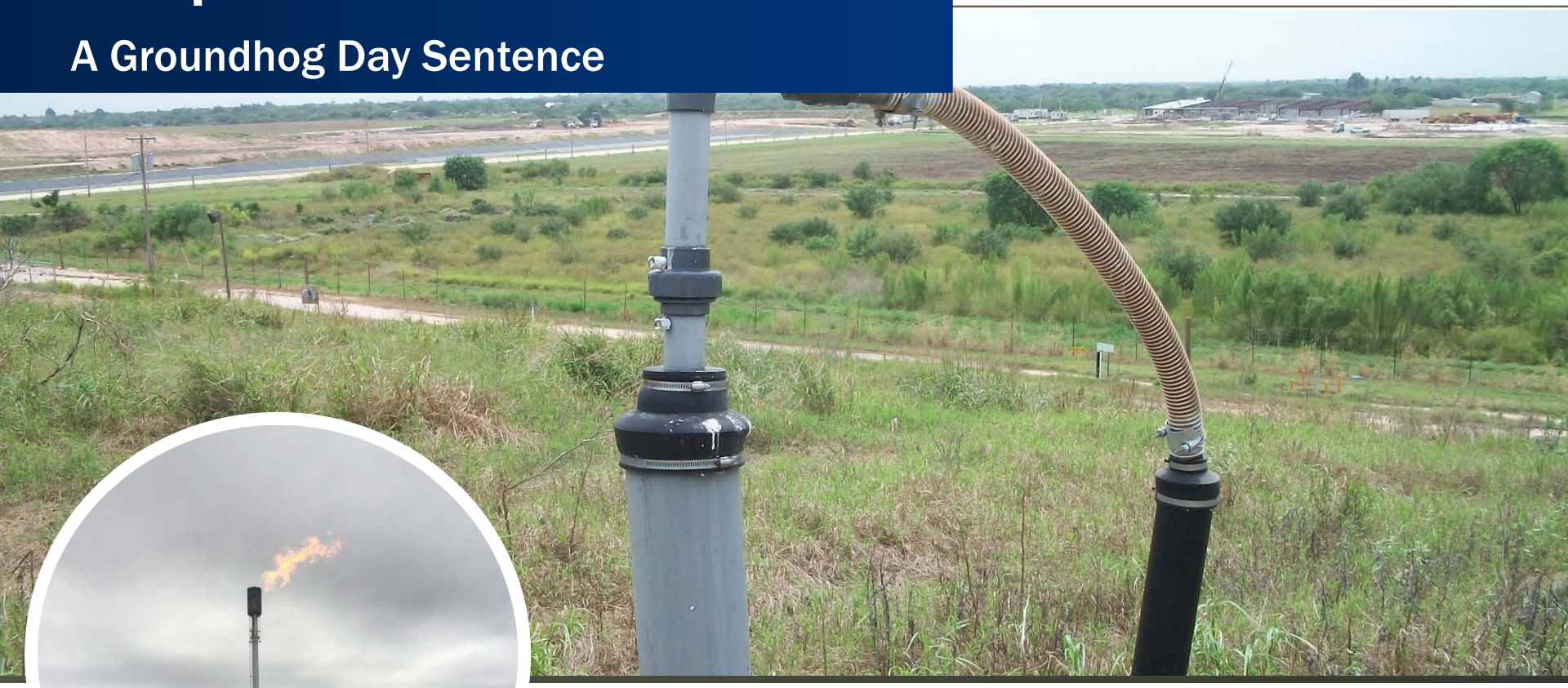
Subpart WWW or XXX

A Groundhog Day Sentence



David Knapp

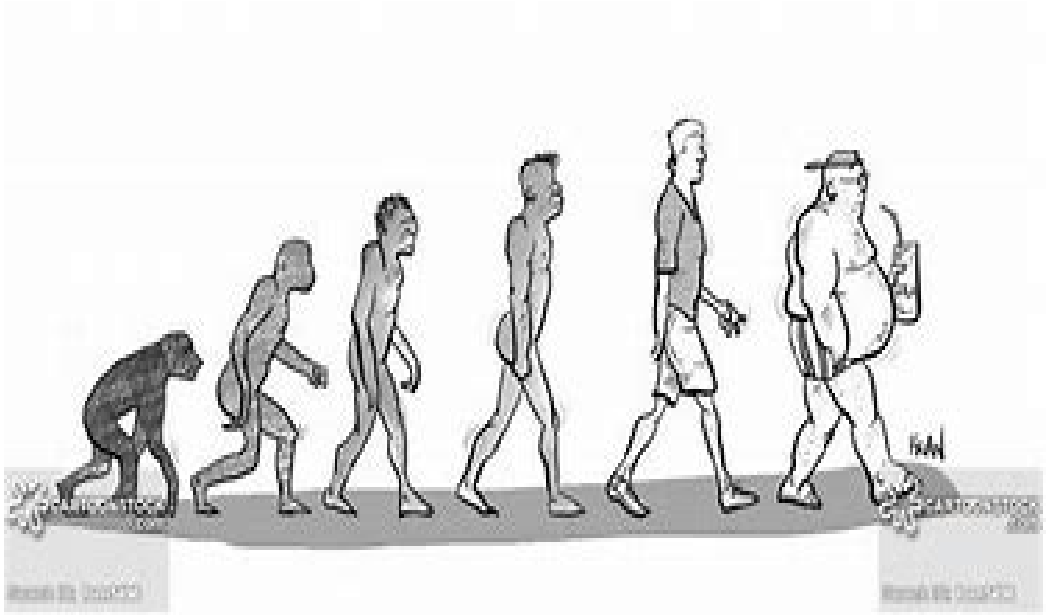
SWANA
South Carolina
Palmetto Chapter

Title V – NSPS History

- In 1991, the U.S. Environmental Protection Agency {EPA) amended Sections lll{b) and lll(d) of the Clean Air Act (CAA} to control air emissions from municipal solid waste landfills as defined in Subtitle D of the Resource Conservation and Recovery Act.
- Section 111 directed the Administrator to establish standards of performance for any category of new stationary source which" causes, or contributes significantly to air pollution which may reasonably be anticipated to endanger public health or welfare."

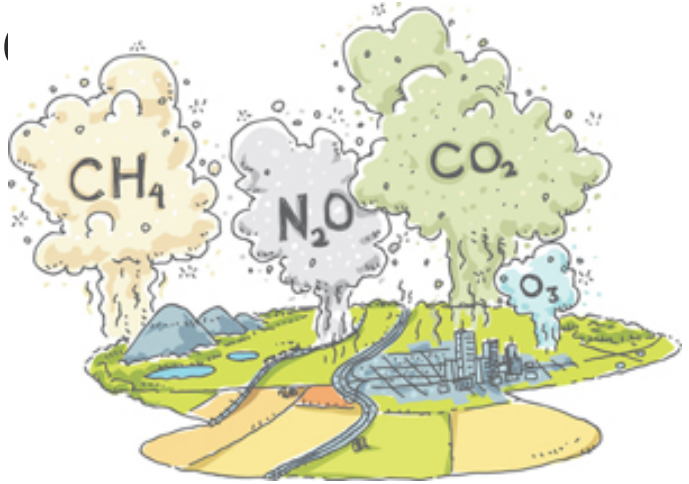
- Municipal landfill air emissions were being regulated because of the adverse health and welfare impacts caused by the following characteristics of landfill gas:
- presence of volatile organic compounds
- presence of toxic and potentially hazardous compounds;
- explosion potential; and
- odor nuisance.

How Did NSPS Evolve?



Evolution History

- 05/30/1991 – Proposed Rule (56 FR 244
- 06/21/1993 – Supplemental Notice (58 FR 33790)
- 03/12/1996 – Final Rule (61 FR 9905)
  Nov 8, 1987 waste acceptance
- 11/13/1997 – Proposed Settlement; Municipal Solid Waste Landfills NSPS and EG Litigation (62 FR 60898)
- 06/16/1998 – Direct Final Rule (63 FR 32743)
  Explains how NSPS adapt from mfg to landfills
- 12/16/1998 – Proposed Rule (63 FR 69363)



Evolution History

02/24/1999 – Final Rule; technical amendments and corrections (64 FR 9258)

11/08/1999 – Final Rule (64 FR 60689)
Promulgating a plan to implement the EG plan

04/10/2000 – Final Rule; technical corrections (65 FR 18906)

10/17/2000 – Final Rule; testing amendments (65 FR 61744)

05/23/2002 – Proposed Rule (67 FR 36476)

09/08/2006 – Proposed Rule; amendments (71 FR 53272)

Evolution History

- 07/17/2014 – Proposed Rule (79 FR 41771)
- 08/27/2015 – Proposed Rule (Emission Guidelines - 80 FR 52100)
- 08/27/2015 – Supplemental Proposal (New Source Performance Standards - 80 FR 52162)

Evolution History

- 08/29/2016 – Final Rule
  (Emission Guidelines - 80 FR 59276)
- 08/29/2016 – Final Rule
  (New Source Performance Standards - 80 FR 59332); On August 29, 2016, EPA announced final updates to NSPS
  - reduce emissions from new, modified and reconstructed municipal landfills and guidelines for reducing emissions from existing MSW landfills.

Evolution History

- On May 5, 2017 – the EPA issued a letter granting reconsideration of certain aspects of the 2016 NSPS and stay of effective date for both NSPS and Emission Guidelines

- On May 31, 2017, the EPA issued a 90-day stay on the 2016 NSPS and EG… and Compliance Times for Municipal Solid Waste Landfills

- On August 29, 2017, the 90-day stay expired and the 2016 rules went into effect.

NSPS – Requirements for Landfills

- Install a LFG Collection System, if you exceeded thresholds
- Monitor Surface Emissions
- Monitor Wellhead Temperature, Pressure and Oxygen/Nitrogen Concentrations
- Take actions if certain thresholds are exceeded
- Reporting

Rules Are Important Why?

Environmental Health and Safety

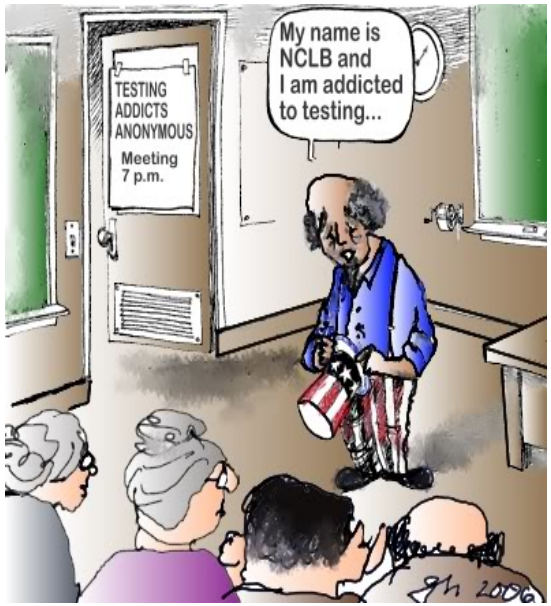
Why Landfills?

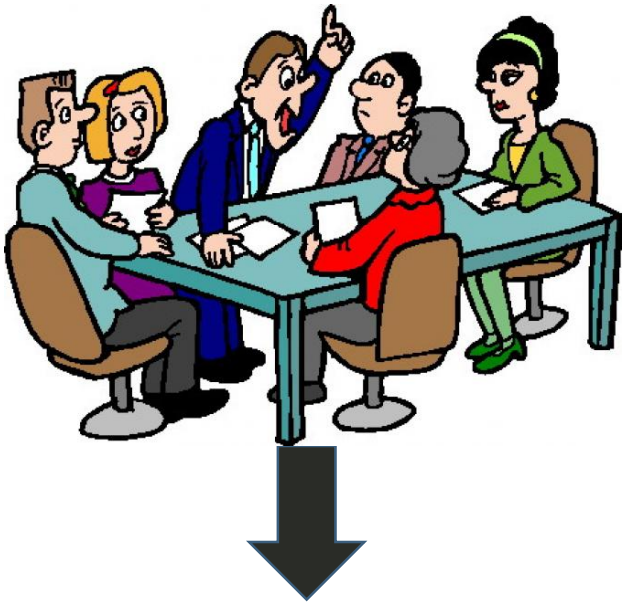
- Both generate about the same amount of gas
  - 3 cubic ft/lb waste

Complying with Rules Important Why?

Civic Responsibility and Avoid Costly Penalties/Fees

Eliminating Requirements Important Why?





Time, Money and Big Brother!

What Can You Do?

- There are options built into 40CFR part 60 that allow you to escape

1. To completely remove Title V along with NSPS – The landfill shall be a closed landfill as defined in §60.751 of this subpart and a closure report shall be submitted to the Administrator as provided in §60.757(d)

What Can You Do?

2. The collection and control system shall have been in operation a minimum of 15 years; and

- *"Operation" from start of GCCS or last well placement? Get the interpretation from local agency and confirmation from EPA. No formal guidance available.*

3. The calculated NMOC gas produced by the landfill shall be less than 50 (now 34) megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart in accordance with the procedures specified in §60.754(b).

Who Escaped?

The following landfills:

- Completing 15 years and showing NSPS <50 Mg
- Completing less than 15 years, but showing NMOC <50 Mg
- Other

- *2 landfills in Florida*
- *5 landfills in New Jersey*
- *3 landfills in New York*
- *2 landfills in California*
- *1 landfill in New Mexico*
- *1 landfill in Arizona*
- *1 pending in Louisiana*
- *Maybe others*

Two Case Studies

Case Study #1

Before

After

Case Study #1

- The landfill had actually closed in December 1987(1+ months after the November 8, 1987 rule went into effect)
- A passive venting system installed in1988 and an active system in 1993
- Preliminary calculations indicated that landfill never exceeded 50 mg

- In 2001 we requested permission to conduct a tier 2

What Started the Process

- Low extraction flow – 150 to 300 SCFM
- Methane concentrations consistently below 35%
- Gas generation model showed marginal production
- Nitrogen was above 35%
- 2001 Tier 2 showed NMOC < 6.5 Mg
- Erratic operation of the flare
- 1987 to 2002 (when we first approached the agency) = 15 years
- This process took almost 10 years

Requirements per 40CFR 60.75x

- The agency claimed Tier 2 data collected too late
- Copy of the closure report demonstrating the 15+ years minimum control period had expired
  - There was no formal closure report
- Initial performance test
  - IPT could not be located
- Data showing the NMOC <50mg
  - These were collected and available

If you spend too much time thinking about a thing, you'll never get it done.
Bruce Lee

What Happened

- The agency denied use of a passive GES, so we could not use a start date of 1987 or 1988
- The 15-year process started in 1993 (year 15 – 2008)
- They accepted a copy of a closure drawing sealed by a PE
- They accepted a technical basis report in lieu of the IPT
- And the collected NMOC samples

Complications

Besides Documentation:

- Landfill – consisted of a closed C&D hill that had been converted into a County park and the MSW hill, on the same property
- This LF was one of the first to seek relief from NSPS
- The agency claimed 2001 Tier 2 data collected too late
- In 2004 the agency concluded that a passive gas system did not meet 40CFR60.752
- Multi-million dollar homes were being built adjacent to the LF
- The Title V renewal permit was due before the last NMOC results would be available

Complications

Besides Documentation:

- The Title V renewal permit was due before the last NMOC results would be available
- The 2009 NMOC results were below 1 Mg/year, but there was an issue with one COC
- Operational compliance fees, if imposed, could bankrupt the department – O2>5%, flare shutdowns for longer than 120 hours
- Other considerations – the system was in need of replacement

Summary

- In 2010 the agency agreed to Rescind the Title V Requirements
- In 2014 the Gas System was abandoned and the County's obligations removed

Case Study #2

Before

After

Case Study #2

- Landfill was permitted to accept MSW and C&D
- No NMOC testing/data available
- Currently open and active
- Flare originally installed for odor control in the late 1990s
- But operated under a Title V permit, w/NSPS
- No MSW accepted since 1993

What Started the Process

- Low extraction flows
- Methane concentrations < 35%
- Erratic operation of the flare
- No surface emissions

What Happened

- The County did not want to relinquish its MSW status
- The Agency was hesitant to allow them to completely abandon Title V
- The permit was up for renewal
- The flare could not or would not operate 24/7
- GEWs were starting to exhibit poor gas quality

What Happened Next

- We compiled several years of data with flow and gas quality at the flare
- We compiled the last year of wellfield data and surface emissions data
- We compiled trash flow logs (scalehouse data)
- We talked to the agency
- Prepared the renewal application with all of the previous conditions except those specifically related to NSPS frequency monitoring
- The agency approved the permit with only 1 caveat – the County would be required to implement monitoring if things changed

Summary

- The permit was approved without the monitoring or reporting requirements
- The County still has not accepted MSW
- The County, as good stewards, monitors the wellfield/flare and conducts SEMs every quarter
- The data stays in their file

Case Study #3

Before

After

Case Study #3

- Landfill stopped accepting waste in 1993
- A passive gas system was installed in 1994
- An active gas system was installed in 2003
- A LFGE facility was built in 2005
- The LFGE ceased operating in 2015
- Then nothing

Case Study #3: What Started the Process

- Cornerstone picked up this project in 2018
- Low extraction flows
- Methane concentrations < 35%
- Erratic operation of the flare
- No surface emissions
- And we did the math, but…
  - We spent the next 6 months getting the system in compliance with the permit, which had not been modified

What Happened Next

- We began the NMOC sampling process in mid-2018
- Three months later, time for sample #2
  - The flare wont start
  - The compressor dies
  - We are losing propane
  - Valves won't operate
  - Thanksgiving/Christmas and
    we are dependent on a muni schedule

- Month 5 – the blower dies (of course we have no backup blower)
- Month 6 – time is running out and the 02 won't go below 12%
- Day 180 – still having GQ issues, but we move on
- Day 182 – we collect an acceptable sample

Summary

- Two NMOC samples have been collected. It is up to the State to determine if sample #2 was collected too late
- Next sampling event scheduled for May 20
- If sample #2 is not accepted then it becomes sample #1 and sample #3 will be collected in August
- The lesson learned – do not wait!
  - Things wear out
  - Things break
  - Gas quality disintegrates
  - The desire to spend money ceases

Contact Information

David Knapp
David.Knapp@cornerstoneeg.com
770-331-4086