

# Best practices in Landfill Gas Emissions Management The Kansas Experience

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at  
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# Basis

- **K.S.A 65-3407(f)** - Plans, designs and relevant data for the construction of solid waste processing facilities and disposal sites shall be prepared by a professional engineer licensed to practice in Kansas and shall be submitted to the department for approval prior to the construction, alteration or operation of such facility or area.
- **Kansas Solid Waste Regulations require -**
  - Quarterly monitoring for landfill gas at the landfill perimeter and all on-site structures.
  - Each Municipal Solid Waste Landfill with a permanent gas collection system is to evaluate the feasibility of processing the gas for beneficial use.
  - Provide for collecting and draining gas condensate.
  - Etc.
  - Etc.

# The Kansas Landfill Permit Engineer

- Reviews the design plans to issue permits.
- “Oversees” construction before authorizing disposal in newly constructed units. Construction is to be overseen by an independent PE and this includes the installation of LFG systems.
- Reviews and approves site-specific Facility Operating Plans.
- Is quite knowledgeable about the specific landfill.

# Landfill Permit Engineers know:

- The location of unlined landfill units.
- Location of composite-lined units.
- Locations of any piggyback composite-lined units.
- The characteristics of waste, and the kinds of cover materials that may have been used, in different disposal units.
- The Units that may receive liquids as authorized by the RD&D rule.

# Two key events in Kansas

- August 2007, Kansas' Bureau of Waste Management (BWM) signed up to be a State Partner in the EPA Landfill Methane Outreach Program.
- November 2009, Kansas was approved to implement the EPA Research, Development and Demonstration (RD&D) permit program.

# EPA LMOP Partner?

- Sign up and take it seriously!
- Kansas gained immensely
  - The 2009 Kansas tour (EPA LMOP and their contractor and a Kansas landfill permit engineer)
  - The attendance at the LMOP conferences
  - BWM encourages consideration of three areas:
    - Not only LFG but other sources of this renewable gas.
    - Facilitate enhanced waste stabilization in MSWLFs. Let us not leave entombed MSW containments for future generations to address.
    - Define a mechanism for post closure “termination”.

# Kansas' RD&D efforts

- Liquids addition to enhance waste stabilization.
- Alternate final covers that are sustainable and appropriate for the region.

# Liquids Addition

- Different parties have different interests and different responsibilities.
- Being aware of those drivers without compromising on the advantages is key.



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OCT 19 2012



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PRECISION  
SOUND  
PULSAR



# LFG wells in active areas

- When you get over two thousand tons a day of waste, you have to keep landfilling the waste. That is the primary purpose of the landfill.
- So landfill personnel get creative, a little overzealous maybe!





# Final Cover CQA

- Asked for the integrity of LFG wells before and after construction of final cover in an area of the landfill.
- One aspect of landfill Construction Quality Assurance (CQA). To Assure Quality Construction without damaging existing landfill features, such as LFG wells.
- Wells pinched off.
- Wells leachate/condensate-logged and incapable of being pumped.



# CAA/RCRA

- Clean Air Act or Resource Conservation & Recovery Act
- Both
- Not double regulation
- Complementing one another
- Facilitates meaningful approvals without compromising on regulatory requirements

# Result

- Best landfill gas management practices
- Without “over-regulating”.

# ??Questions??



*Our Mission: To protect and improve the health and environment of all Kansans.*

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