Best practices in Landfill Gas Emissions Management
The Kansas Experience

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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.
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”.

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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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Department of Health and Environment

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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!
Department of Health

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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.
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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”.

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Questions

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