MSW Landfill Regulation Status Update

California Environmental Protection Agency
Air Resources Board

January 2010

Overview
At its June 25, 2009, public hearing, the Air Resources Board (ARB or Board) approved for adoption California Code of Regulations, title 17, article 4, subarticle 6, sections 95460 to 95476, Methane Emissions from Municipal Solid Waste Landfills ("regulation"). This regulation is a discrete early action greenhouse gas reduction measure, as described in the California Global Warming Solutions Act of 2006 (Assembly Bill 32; Stats. 2006, chapter 488). It will reduce methane emissions from landfills primarily by requiring owners and operators of certain uncontrolled landfills to install gas collection and control systems, and by requiring existing and newly installed gas collection and control systems to operate optimally.

Effective Date
ARB staff is preparing the final rulemaking package for submittal to Office of Administrative Law and is seeking an effective date by March 2010.

Submittal of Design Plans
As of the effective date of the regulation, the Design Plan must be submitted within one year after either:

- determining that the landfill gas heat input capacity is greater than 3.0 MMBtu/hr, or
- within one year of measuring a leak on the landfill surface that exceeds 200 ppmv pursuant to section 95463(b)(2)(B)1.

The submittal of a Design Plan applies to landfills that are required to install active gas collection and control systems.

Any owner or operator of an active landfill subject to the regulation is required to install an active gas collection and control system within 18 months after approval of the Design Plan. Closed or inactive municipal solid waste (MSW) landfills are provided an additional 12 months for installation (for a total of 30 months). An amended Design Plan must be submitted within 90 days of any event that requires a change to the Design Plan.

Surface Methane Emission Standards and Monitoring Spacing Requirements
The regulation establishes a 500 ppmv instantaneous surface monitoring standard and a 25 ppmv integrated surface monitoring standard to ensure that the gas collection system is adequately controlling emissions. The regulation requires a 25-foot walking pattern spacing interval while conducting surface monitoring, which can be increased to 100-foot intervals if the landfill owner or operator has no exceedances of the standards after four consecutive quarterly monitoring periods.

The regulation delays the implementation of these requirements until January 1, 2011. Landfill owners and operators should use this time to make the necessary system adjustments and improvements, establish monitoring protocols and procedures, purchase monitoring equipment, train staff, and develop recordkeeping and reporting systems. The delay applies to all landfills that are subject to the regulation, including those with existing gas collection and control systems. However, landfills that are required to install new gas collection and control systems are required to meet these standards upon commencing system operation. In addition, landfills that are currently subject to local or federal landfill rules will need to continue to ensure compliance with the 500 ppmv instantaneous standard found in those rules.

Recordkeeping and Reporting Requirements
Landfill owners and operators are subject to recordkeeping and reporting requirements which include maintaining records of a landfill's waste acceptance rate, instantaneous and integrating surfacing sampling, component leak checks, equipment downtime, gas flow rates, and control device destruction efficiency testing. The recordkeeping and reporting requirements in the regulation will become enforceable on the effective date of the regulation.

Implementation and Enforcement
The local air pollution control and air quality management districts ("districts") currently implement and enforce rules related to controlling emissions from landfills. Since Assembly Bill 32 did not explicitly provide for district implementation and enforcement of the regulation, ARB staff is working with local air districts in developing agreements or a Memorandum of Understanding by which these agencies can implement and enforce the regulation.

Workgroup Meetings and Guidance Document
As directed by the Board, ARB staff will begin conducting monthly workgroup meetings in late January to work with stakeholders to develop a guidance document. The guidance document will assist landfill owners or operators in complying with the requirements of the regulation and will be used to clarify any outstanding enforcement and implementation issues.

For More Information
If you would like to be informed of the current status of the regulation you can contact Mr. Renaldo Crooks at (916) 327-5618, or visit our website at: http://www.arb.ca.gov/cc/landfills/landfills.htm. The Staff Report: Initial Statement of Reasons for the Proposed Regulation to Reduce Methane Emissions from Municipal Solid Waste Landfills published on May 8, 2009, and the text of all the modifications to the originally proposed regulation are posted on ARB's Internet website for the rulemaking at: http://www.arb.ca.gov/regact/2009/landfills09/landfills09.htm.

Draft Outline for the Summary of Requirements for Reducing Methane Emissions from Municipal Solid Waste Landfills

I. Introduction

A. Purpose of this Document

(To provide clarity, resolution of any remaining issues, and guidance to owners and operators of municipal solid waste landfills and local air district staff concerning the implementation of the landfill regulation)

B. Background

1. What does the regulation require?
2. How does the regulation differ from existing requirements for municipal solid waste landfills?

C. Organization of this Document

II. Summary of the Regulatory Requirements

A. Applicability Determination and Exemptions – (Provide brief overview)

1. Which landfills are exempt?
2. Which landfills are required to do a landfill gas heat input capacity determination?
3. If a landfill has an existing gas collection and control system can the landfill gas heat input analysis (using actual gas recovery data, i.e. gas flow and methane concentration data) be used for determining exemption from all or parts of the regulation?
4. Can landfills with existing gas collection and control systems utilize the surface emissions monitoring exemption (i.e., 200 ppmv surface methane limit) to either avoid or delay compliance with the regulation?

B. Determination for Installing a Gas Collection and Control System – (Provide brief overview)

1. Does the landfill gas heat input capacity analysis apply to landfills having existing gas collection and control systems?
2. Can ARB's Landfill Gas Tool be used to estimate landfill gas emissions and gas heat input capacity?

3. Can other landfill gas emission tools be used to estimate emissions?
4. Does the regulation provide any flexibility to use alternate rate constants for anaerobic decomposition (or "k" values)?

C. Gas Collection and Control System Requirements – (Provide brief overview)

1. What are landfills required to do during 2010 if they have existing gas collection and control systems?
2. How does the regulation apply to active landfills that develop new areas to receive waste?
3. How does the regulation apply to landfill modules (or separate waste management units) that are an expansion of an existing landfill?
4. Are the new waste receiving modules (with no collection system in place) considered separate from the main landfill or considered part of the main landfill?
5. Is the 99 percent destruction removal efficiency for methane applied to both new and in-use control devices or to new control devices only?

D. Surface Methane Emission Standards – (Provide brief overview)

1. Has compliance with the surface methane emissions standards been delayed until January 1, 2011?

E. Alternative Compliance Options – (Provide brief overview)

1. Can the 50,000 square foot grid dimensions be modified to meet specific landfill topography and safety needs?
2. Can an alternate window period for conducting surface monitoring be considered for the wetter regions of the state?
3. Can hand held anemometers be used to determine wind speed at the location of the gas measurements?
4. Does the regulation address alternative monitoring patterns to address safety issues and monitoring instrument obstructions?

F. Monitoring Requirements and Test Procedures – (Provide brief overview)

1. Surface Emissions Monitoring – (Provide brief overview)

   a. Are landfills with existing gas collection systems required to begin their surface emissions monitoring during the first

quarter of 2010 and meet the required spacing and surface methane concentration standards?
b. How is the 50,000 square foot grid designed?
c. Can the landfill owner or operator conduct both the integrated and instantaneous monitoring simultaneously?
d. Can the 50,000 square foot grid dimensions be modified to meet specific landfill topography and safety needs?
e. Does the regulation provide flexibility for an increased monitoring pattern in areas within the landfill footprint that have historic data that shows no methane exceedances over a specified length of time?
f. Does the regulation provide flexibility for the submittal of existing integrated and instantaneous surface emission data from closed landfills that show no exceedance above draft compliance levels that are located within an air district that has already required surface gas monitoring, that have been doing quarterly, then annual monitoring for close to 20 years, instead of conducting quarterly monitoring for one year, to get back to an annual monitoring frequency.

2. Gas Control System Monitoring – (Provide brief overview)

3. Wellhead Monitoring – (Provide brief overview)

G. Recordkeeping and Reporting – (Provide brief overview)

1. Is there anything that needs to be reported within 90 days of the effective date of the regulation?
2. What format and submittal pathway should be used for the Landfill Gas Heat Input Capacity report and other reports?

III. Implementation and Compliance

A. Effective Date – (Provide brief overview)

1. How will the delay of the regulation's effective date affect landfill owners and operators compliance with the regulation?

B. Agreements with Local Air Districts – (Provide brief overview)

1. What agency will implement and enforce the requirements of the regulation?

C. Compliance – (Provide brief overview)

D. Penalties – (Provide brief overview)

1. Are there penalties or consequences for landfills that are noncompliant?

IV. References

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