Landfill Methane Enforcement Program

CAPCOA Enforcement Symposium 2017

CALIFORNIA AIR RESOURCES BOARD

November 8, 2017

Outline

- Landfill GHG Regulation Overview
- MOU Overview
- Landfill Enforcement Activities
  - L and D Case Settlement
  - CA Statewide Methane Survey
- Conclusion

Methane Emissions from Municipal Solid Waste Landfills

- Methane is a potent GHG, 21 times the GWP of carbon dioxide
- Landfills are the second largest man-made source of methane in California
- Municipal solid waste landfills represent about 1-2 percent of the statewide greenhouse gas inventory

Applicability and Exemptions

Applicability

- All MSW landfills that received solid waste after January 1, 1977

Exemptions

- Hazardous waste landfills
- Landfills that received only construction and demolition waste or non-decomposable solid waste
- Closed or inactive MSW landfills having <450,000 tons of waste-in-place

Landfill GHG Regulation

- Establishes statewide standards for municipal solid waste (MSW) landfills
- Smaller MSW landfills must track and report waste-in-place
- Large MSW landfills have most significant requirements
  - Gas collection and control systems
  - Surface emission monitoring

Monitoring and Testing Requirements

- Quarterly surface emissions monitoring for landfills
- Quarterly component leak testing
- Monthly wellhead monitoring
- Annual gas control device testing

Surface Methane Emission Standards

- Instantaneous Monitoring
  - 500 ppmv emission standard
  - Used to identify surface leaks
- Integrated Monitoring
  - 25 ppmv emission standard
  - Good indicator of how well the gas collection system is operating overall
- Establishes timelines to correct exceedances

Recordkeeping and Reporting Requirements

- Waste acceptance rates
- Surface methane monitoring data
- Component leak checks
- Gas flow rates
- Control device destruction efficiency testing results

Alternative Compliance Requests

- Allows flexibility due to site-specific nature of landfills
- Landfill owner/operator must demonstrate need for an alternative and demonstrate equivalent levels of methane control and enforceability
- Subject to approval by Air Pollution Control Officer or ARB

Reporting Requirements

- Annual reports
- Surface methane monitoring reports
- Component leak checks
- Gas flow rates
- Control device destruction efficiency testing results

Landfill Memorandum of Understanding

Purpose:

- Agreement between ARB and air districts for air districts to implement and enforce Landfill GHG regulation
- Provides for coordination between ARB and air districts to reduce methane emissions from MSW landfills

CARB Case Settlement

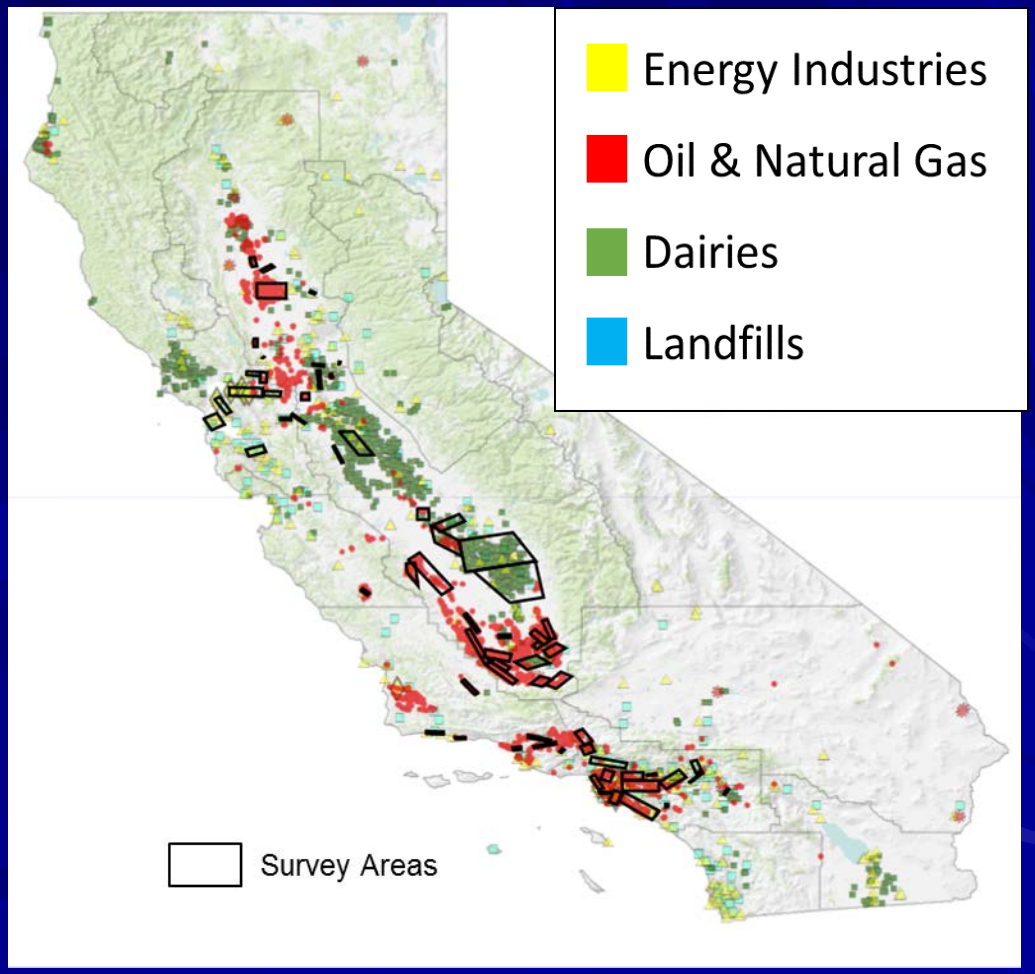
- L and D Landfill
  - Primary waste: Construction and demolition waste material
  - Used green waste as “Alternative Daily Cover”
- Failed to monitor, maintain records and report as required
  - Case settled for $70,000

California Statewide Methane Survey

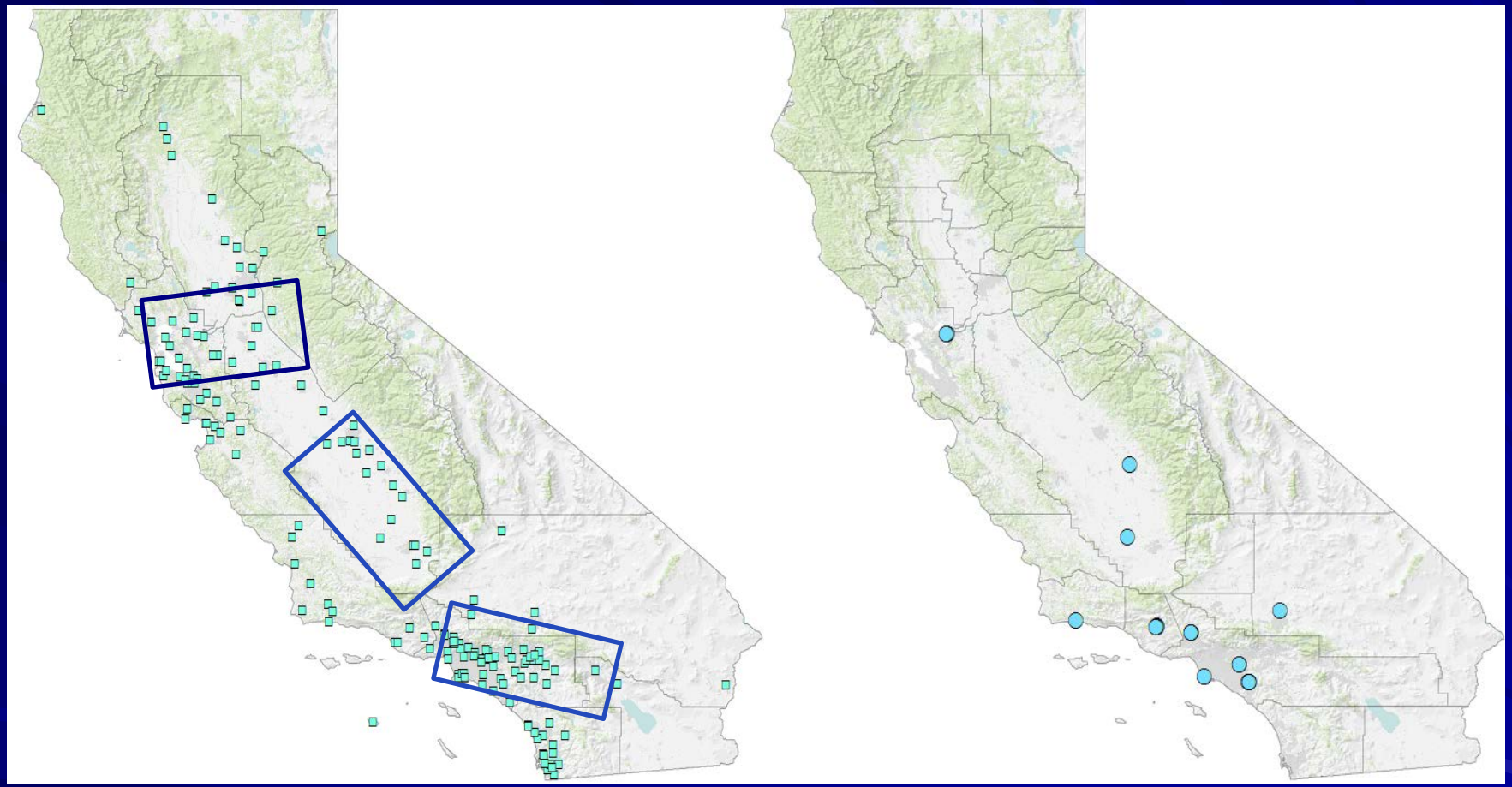
- Joint collaboration between CARB, CEC, and NASA/JPL
- Timeline:
  - Phase 1 completed in 2016
  - Phase 2 ongoing in 2017
  - Additional funds from NASA for enhanced data analysis (2018)

Survey Area

- Survey area selected to capture majority of methane point sources in California
- CARB-funded Phase 1 study completed in 2016
  - 15,000 km^2
  - Phase 2 study started in August 2017



Study Results – Waste Sector



Small fraction of landfills present persistent large plumes,
but some show almost no methane

Conclusion

Enforcement Strategies:

- Inspection and investigation of landfills with significant methane plumes

- ARB and air district partnership via MOU

Questions?

Jeff Lindberg, Manager

District Support Section

(916) 229-0756

jeff.lindberg@arb.ca.gov