

# Landfills and the Mandatory Greenhouse Gas Reporting Rule

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# Who is Required to Report?

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- "Large" greenhouse gas (GHG) emitters
- 25,000 metric tonnes of carbon dioxide equivalent
- Stationary fuel combustion (Subpart C)
- Electric Generating Units subject to Acid Rain Program under Subpart D
- Specific industries under Subparts E-PP

# Affected Landfills

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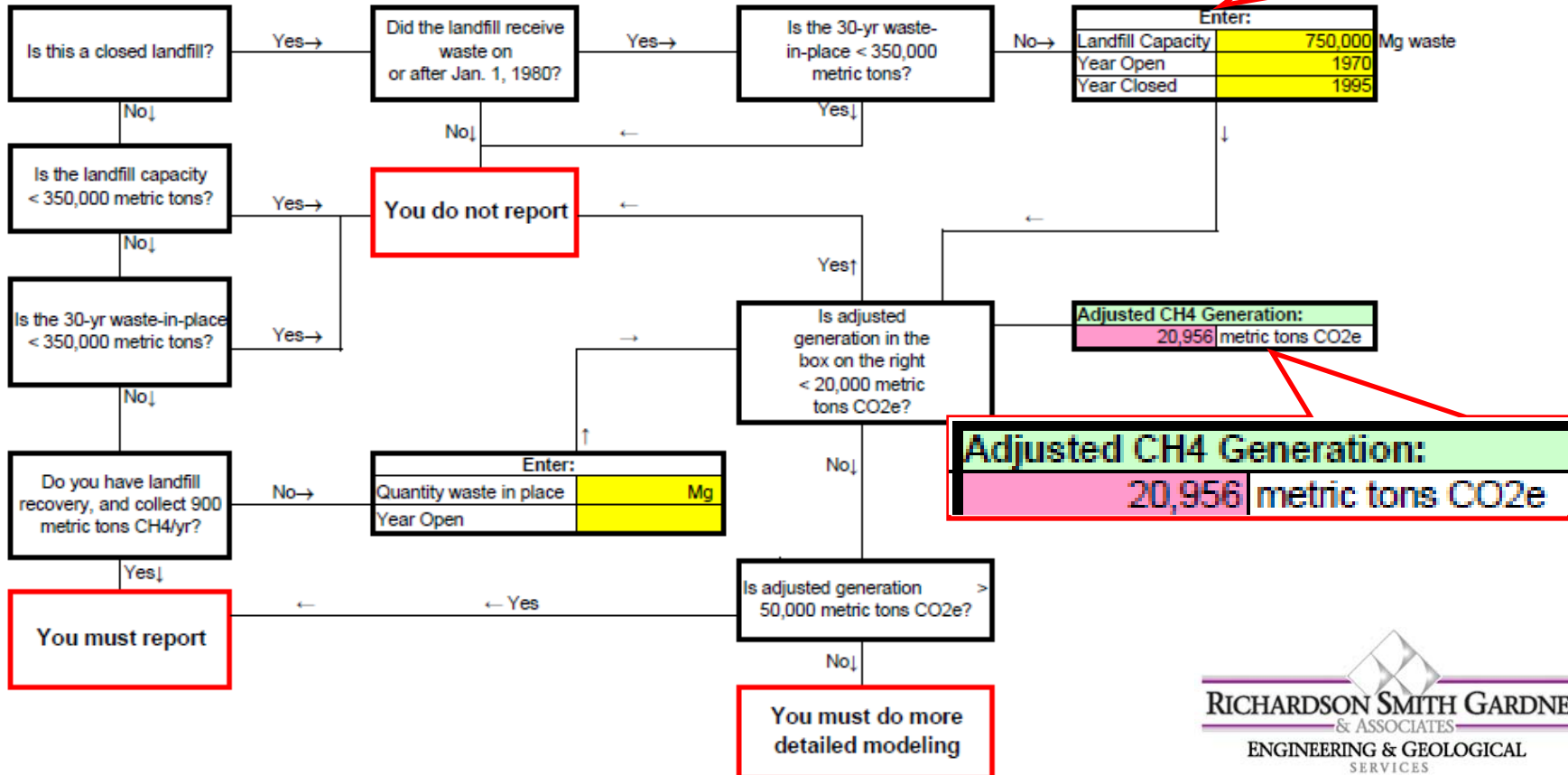
- Subpart HH – Municipal Solid Waste Landfills
- Accepted waste on or after 1/1/1980
- Closed as well as open MSW landfills

NOTE: C&Ds may be added in the future

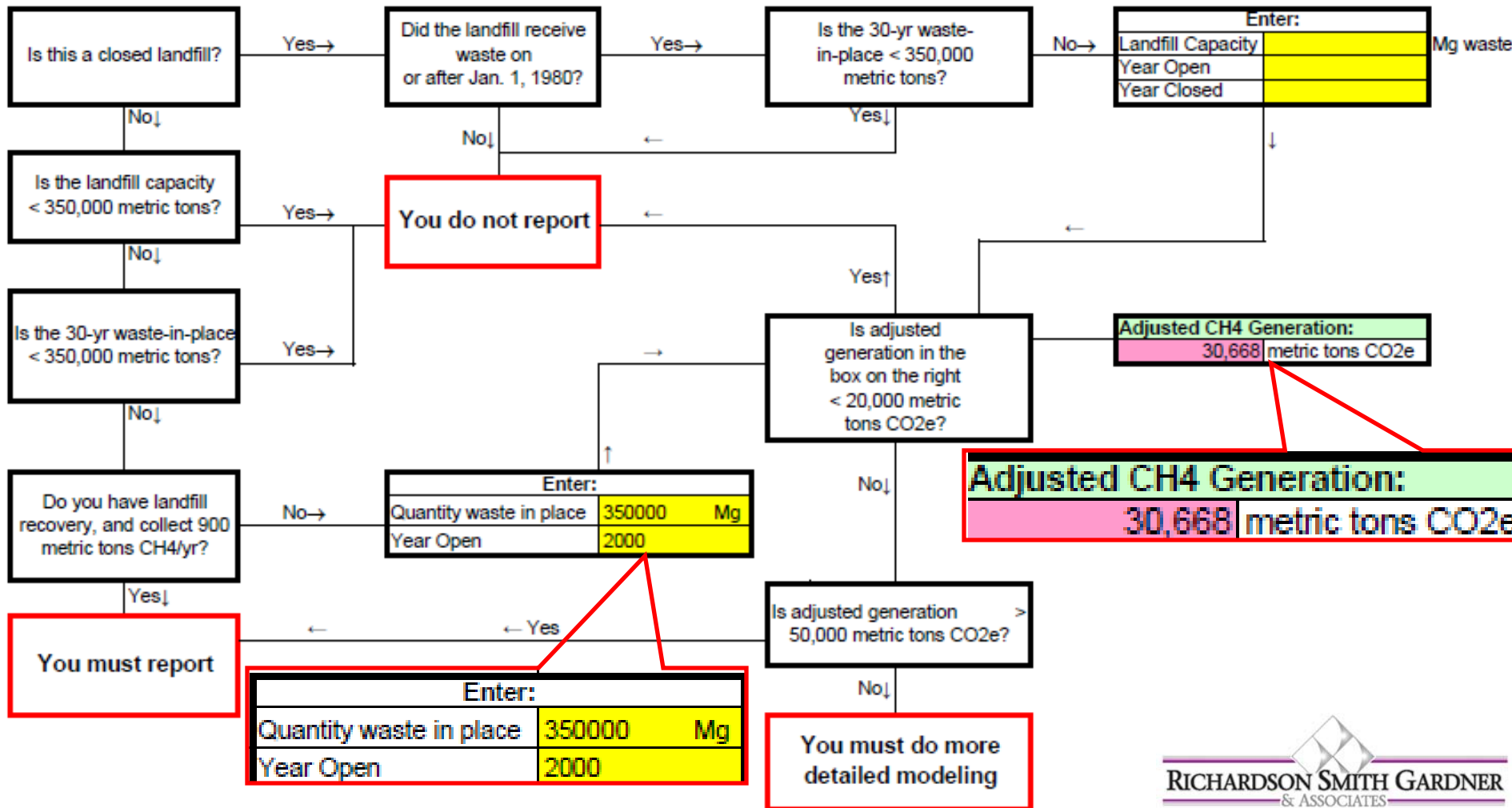
# Applicability Tool – Closed Landfill

**MSW Landfill Utility**  
Use this utility to help assess if your facility must report under the Mandatory Greenhouse Gas Reporting Rule

Enter:	
Landfill Capacity	750,000 Mg waste
Year Open	1970
Year Closed	1995



# Applicability Tool – Open Landfill



# Passive Flares $\neq$ Collection/Control

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# Subpart C Reporting

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- If reporting under Subpart HH
- Report Subpart C combustion devices
- Unless exempt:
  - Portable equipment
  - LFG flares
  - Emergency generators
  - Non-Title IV/Non-40 CFR 75 generators

# Waste Acceptance Rates

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- First year of waste acceptance
  - If unknown, assume 50 years prior to reporting date
- Annual waste acceptance
  - If unknown, use one of three methods
    - Assume prior rates equal first recorded year
    - Use population data
    - Calculate average rate (Capacity ÷ Age)
  - NIST Handbook 44 Compliant scales starting 2010



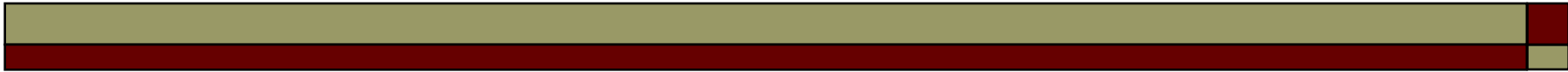
# Landfill Gas Flow

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- Measured continuously
- 5% accuracy required
- EPA approved thermal mass meters
  - Standardize flow using 60°F/14.7 psi
  - Specify when ordering or during calibration

OR

- Measure LFG temperature and pressure weekly



# Landfill Gas Methane Content

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- Measured continuously OR weekly
- 5% accuracy required
- EPA approved NDIR meters
  - Portable handhelds or in-line analyzers

NOTE: Correct for moisture content

- Typically with in-line analyzers measuring "dry" gas
- Relative humidity measurement of LFG approved by EPA

# Default Values/Factors

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## □ Destruction Efficiency

- If Landfill owns destruction device, lower of:
  - Manufacture rating, or
  - 99%
- If Landfill DOES NOT own destruction device:
  - Assume 100%

## □ Collection Efficiency based on cover type

- Daily cover = 60%
- Intermediate cover = 75%
- Final cover with geomembrane = 95%

## □ 10% oxidation (uncaptured methane)

# Deadlines

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- 1/28/2010 – Request extended BMM deadline
- 3/31/2010 – Implement compliant metering/calibration practices
- 4/1/2010 – Implement GHG Monitoring Plan
- 1/30/2011 – Submit designation to EPA of person(s) responsible for reporting
- 3/31/2011 – Submit 2010 GHG report

# Clarifications from EPA

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- C&D Likely to report in the future
- Passive vent flares are not reported
- Standard temperature = 60°F
- Relative humidity in lieu of moisture content
- 10% methane oxidation applied to all fugitive LFG, regardless of cover type

# Questions?

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For additional info:

<http://www.epa.gov/climatechange/emissions/subpart/hh.html>

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