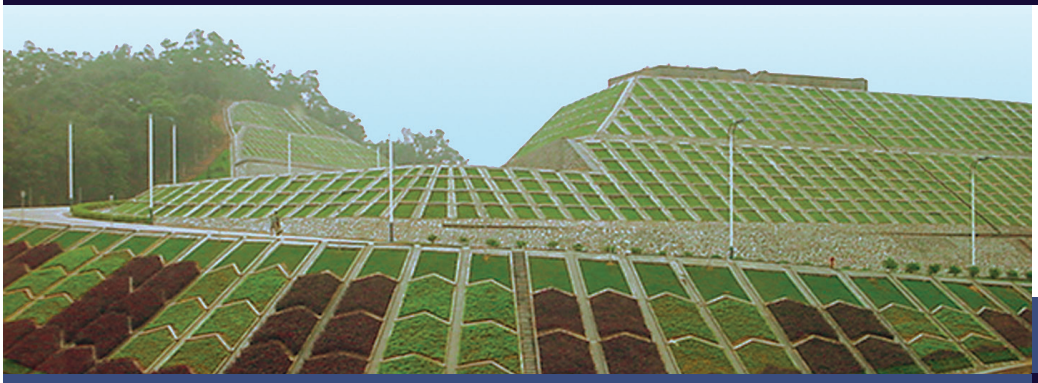

Keeping You **Connected**

For the entire reporting regulation, go to:
http://www.epa.gov/climatechange/emissions/ghgrulemaking.html

www.golder.com

Mandatory Reporting of Greenhouse Gases Final Rule

On September 22, 2009, the US Environmental Protection Agency (EPA) finalized the Mandatory Greenhouse Gas Reporting Rule. This rule will affect over 13,000 facilities throughout the U.S. that emit greenhouse gases (GHG). There are 25 industrial categories with specific requirements, 5 supplier categories, and special rules for mobile sources. Those subject to the rule must monitor, maintain records, and report their actual emissions of CO_2, CH_4, N_2O, SF_6, HFCs, PFCs, and other fluorinated gases. The data collected will be used in developing future policies (controls). Here are some key points for facilities subject to the GHG Reporting Rule:

Who must report and under what conditions?

- This rule impacts facilities emitting 25,000 metric tons or more of CO_2 equivalent (CO_2e) GHG emissions per year, although some smaller emitters may also have to report.
- There is no mechanism for small-source deminimus cut-offs. All identified on-site sources must be included.
- Portable equipment, emergency generators or equipment are not included.
- Accuracy of emissions data will be ensured through specific monitoring, recordkeeping, and verification requirements.

When does this start?

- Monitoring and recordkeeping for calendar year 2010 emissions begins on January 1.
- The first annual GHG report is due March 31, 2011 for calendar year 2010 then annually thereafter.

What are the first actions that must be taken?

- A monitoring plan must be prepared identifying key individuals collecting the data, data collection methods, calculation procedures, quality assurance protocols, equipment logs and repair procedures.

What kind of report is required?

- Annual reports will be submitted directly to EPA using a web-based reporting system.
- Reports are to be certified as correct by a designated representative of the owner or operator.
- Facilities with emissions slightly below the threshold are wise to keep track of their emissions and control the emissions that could cause them to exceed the threshold..

Municipal Solid Waste Landfills Subpart HH

Municipal Solid Waste Landfills are a specific industrial group required to report GHG emissions. The requirements for landfills are as follows:

- MSW landfills that accepted waste on or after January 1, 1980 and have a capacity or waste-in-place greater than 350,000 metric tons may be subject to the rule.
- MSW landfills that generate CH_4 in amounts equivalent to the 25,000 metric tons CO_2e or more per year are subject to reporting requirements. This is equivalent to an LFG generation rate of 240 scfm @ 50% methane.
- Subpart HH requires reporting of GHG emissions from the MSW landfill, LFG gas collection system, and LFG destruction devices (including flares, engines, turbines, boilers, etc. at the landfill).
- Subpart HH does not include hazardous waste, construction and demolition, or industrial landfills at this time.
- The annual report must include CH_4 generation, CH_4 emissions from the landfill, and annual CH_4 collected and destroyed.
- Annual CO_2, CH_4, and N_2O emissions from stationary combustion devices must be reported following the guidelines in Subpart C.

What are the details?

- Specific formulas for Subpart HH default values are provided for calculating CH_4 generation. Procedures are available when waste disposal tonnages are not available..
- CH_4 emission reductions due to oxidation in the cover are allowed (10% specified).
- Missing data procedures are used when certain data are missing or when a monitor malfunctions.
- CH_4 destruction efficiency is based on the manufacturer's guarantee or 99%, whichever is less.
- Transport of LFG to an off-site third party is considered to achieve 100% control efficiency for the landfill.
- Emission of CH_4 through the surface to the atmosphere is the difference between CH_4 generation and collection adjusted for soil oxidation.
- Composition of collected LFG is to be analyzed by EPA standard methods.
- Correction for non-methane organic compounds in the LFG stream is required.
- LFG flowmeters must meet EPA approved specifications.
- Calibration of all equipment (including scales) is required based on manufacturers' recommendations.
- Procedures to ensure accuracy of the estimates of disposal quantities, gas flow rate, and gas composition must be documented.
- CH_4 destruction calculations are based on 1) continuously monitoring LFG flow rate, CH_4 concentration, Temperature (T), Pressure (P), and moisture content; or 2) monitor LFG flow rate continuously, collect weekly grab samples (near the flowmeter) and record CH_4 concentration, T, P, and moisture content.

What information is required to be included in the report?

- Operation status (open or closed)
- Year of initial waste receipts
- Actual or anticipated closure year
- Design capacity
- Whether or not leachate recirculation is used
- Historical annual waste receipts
- Method of estimating waste disposal quantity and rationale for method
- Waste composition reported as a percentage of municipal waste, biosolids, or other (for which k values have been established); Report degradable organic carbon content and decay rate (k)
- Measured fraction of methane in the LFG
- Surface area of the landfill containing waste
- Cover types
- Oxidation fraction for each cover type and area
- Average oxidation rate used in calculations
- Modeled annual methane generation rate for the reporting year

For landfills with GCCS, the report must include the following:

- Volumetric flow of LFG generated
- CH_4 concentration
- Average monthly temperature and pressure data unless flowmeter corrects to standard conditions
- On-site or off-site destruction
- Hours of operation of onsite destruction device, hours of operation of backup device (if used)
- Annual quantity of collected methane
- Description of GCCS including manufacture, capacity, number of wells), surface area and depth for segregated areas, collection efficiency, and annual operating hours.

Golder can help you prepare for and comply with the GHG reporting rule

Golder's staff has extensive experience in the solid waste industry and is available to support you in meeting the requirements of this new regulation. Our landfill gas design group can assist with the specifications for monitoring equipment. Our regulatory compliance staff can prepare your initial monitoring plan using a template we have developed to make preparation more streamlined and cost effective, including establishing the monitoring and recordkeeping systems, preparing the worksheets for electronic data management, and assisting in the verification of the data collected. Our staff can assist you directly, or prepare and submit the reports to the EPA on your behalf.

Golder has 1,200 professionals in more than 45 offices across the country. Golder has a long and continuous involvement with solid waste projects. During our more than 40 years serving the waste industry, Golder has successfully completed projects at over 900 waste management facilities in 22 countries. This experience allows us to deliver site-specific solutions for waste reduction, recycling, composting, secure disposal, LFG management, leachate management, environmental monitoring, and asset monitoring.

To find the office nearest your facility, please visit our website at
www.golder.com

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