

USEPA Mandatory Reporting of GHGs for Manure Management Systems

Covers for Manure Storages:
Workshop and Field Day

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Scope of Presentation

- Mandatory Reporting of Greenhouse Gases (GHG) for the Agriculture and Livestock Sectors.
 - 40 CFR part 98, subpart JJ – Manure Management.

Background

- Consolidated Appropriations Act (12/26/2007)
 - Authorized funding for EPA to promulgate a rule requiring mandatory reporting of GHG emissions above appropriate thresholds in all sectors of the economy of the US.
- Proposed rule (Apr. 10, 2009, 74 FR 16448)
 - Two public hearings
 - Approximately 16,800 written public comments

Background (cont'd)

- Final Rule GHG reporting methods built upon existing GHG reporting programs and guidance documents (including those developed by the private sector, State and regional programs, and national voluntary programs).
- Final rule will provide a better understanding of where GHGs are coming from and will guide development of the best possible policies and programs to reduce emissions.

Who is Required to Report?

- Subpart JJ – Manure Management
 - Owners or operators of livestock facilities that contain a manure management system that emits at least 25,000 metric tons (mt) or more of GHGs.
 - Methane (CH₄) and Nitrous oxide (N₂O) per year
 - Expressed as carbon dioxide equivalent
 - Estimated to cover ~100-110 of the largest livestock facilities.
 - Covered facilities calculate emissions using a model, and directly measure methane from any digesters.
- *Enteric fermentation is not covered under this reporting requirement.*
 - *Emissions of methane from the digestive system of cattle or other ruminant livestock.*
- A facility that is subject to this rule only because of emissions from manure management systems is not required to report emissions from any other source category at the facility (e.g., fuel combustion sources) unless the source category is independently subject to the rule.

Animal Population Threshold Level Below Which Facilities Are Not Required to Report Emissions Under Subpart JJ (Table JJ)

Animal Group		Average Annual Animal Population (Head)
Beef		29,300
Dairy		3,200
Swine		24,100
Poultry	Layers	723,600
	Broilers	38,160,000
	Turkeys	7,710,000

Animal Population Threshold Level Below Which Facilities Are Not Required to Report Emissions Under Subpart JJ

- Threshold head populations were calculated using the most conservative assumptions (high VS and N values, maximum ambient temperatures, and the application of an uncertainty factor) to ensure that facilities at or near the 25,000 mtCO₂e threshold level were not excluded from reporting.

Animal Population Threshold Level Below Which Facilities Are Not Required to Report Emissions Under Subpart JJ

- Facilities with more than one animal group present refer to § 98.360(2) to estimate the combined animal group factor (CAGF), which is used to determine if a facility may be required to report.

$$- \text{CAGF} = \sum_{\text{Animal Groups}} (\text{AAP}_{\text{AG, Facility}} / \text{APTL}_{\text{AG}})$$

- CAGF = Combined Animal Group Factor
- AAP = Average annual animal population at the facility, by animal group
- APTL = Animal population threshold level, as specified in Table JJ

Manure Management System Components Included

- Covered facilities estimate and report emissions from
 - Uncovered anaerobic lagoons,
 - Liquid/slurry systems,
 - Storage pits,
 - Digesters, including covered anaerobic lagoons,
 - Drylots, including feedlots,
 - Onsite manure composting,
 - Poultry manure systems,
 - Cattle and swine deep bedding systems, and aerobic treatment.
- GHG emissions from sources at livestock operations unrelated to the stabilization or storage of manure do not have to be reported (e.g., daily spread, P/R/P)

Changes Since Proposed Rule

- Cut-off table included in the rule (see above)
 - Facilities with average annual animal populations below those shown in the cut-off table do not need to report.
 - Facilities with animal populations \geq should refer to the “Applicability Tool.”

Changes Since Proposed Rule

- Removed requirement for monthly sampling of manure for VS and N.
 - State specific defaults provided for most cattle types.
 - National average values provided for other animal types.
- A factor to account for removal of manure solids by a solids separator is included.
 - Default VS and N removal rates provided.
 - Defaults are provided for multiple types of solids separators.

Changes Since Proposed Rule

- Revised the threshold analysis estimates.
 - Corrected conversion factors used in estimating N₂O emissions.
 - Corrected spreadsheet cell reference errors.
 - Updated VS and N values used in the calculations.
- Result of changes: ~100-110 livestock facilities will need to report under the rule.

Guidance and Tools

- Guidance for the Agriculture and Livestock Sectors.
 - <http://www.epa.gov/climatechange/emissions/downloads/infosheets/agricultureguide.pdf>
- Manure Management Systems Tip Sheet
 - <http://www.epa.gov/climatechange/emissions/downloads/infosheets/manuremanagement.pdf>
- “Applicability Tool” provides two tools to assist in determining applicability under the rule.
 - www.epa.gov/climatechange/emissions/GHG-calculator/index.html
 - Detailed applicability table
 - Greater number of manure management system types than cut-off table.
 - Disaggregated by climate zone.
 - Facilities with populations \geq should refer to the “Calculator Tool”
 - “Calculator Tool” (ready by mid-December 2009)
 - Guides facility operator through GHG estimation procedures
 - Designed with a user friendly interface
 - Facilities with GHG emissions \leq 25,000 mtCO₂e do not need to report.

Contacts & Additional Information

- ghgmrr@epa.gov
- www.epa.gov/climatechange/emissions/ghgrulemaking.html
- www.epa.gov/climatechange/emissions/GHG-calculator/index.html