

EASTERN MICHIGAN
U N I V E R S I T Y™

**PHYSICAL PLANT
OPERATIONAL & MAINTENANCE
ADMINISTRATIVE PROCEDURE**

Section	Subject	Effective date	Procedure Number
Administration	Greenhouse Gas Monitoring Plan (GHG)	May 30, 2013	A-25

Introduction:

The EPA issued a Rule in 40 CFR 98 on September 22, 2009 mandating GHG reporting of emissions data for the purposes of developing the best possible policies and programs to reduce the emissions thought primarily responsible for climate change. EMU is included by virtue of exceeding the threshold emission value of 25,000 metric tons of carbon dioxide equivalent (CO₂e) per year, primarily through the combustion of natural gas. EMU is therefore one of an estimated 10,000 facilities subject to the mandate and thought to be responsible in aggregate for approximately 85% of the total U.S. GHG emissions.

Compliance and Enforcement:

A violation occurs each day that the requirements of the Rule are not met. The supervising law is the Clean Air Act, section 114 (42 U.S.C. 7414) regarding monitoring. Penalties are part of the Clean Air Act, section 120 (42 U.S.C. 7420).

Deadlines:

The Monitoring Plan, this document, is to be substantially in place by January 1, 2010, with finalization no later than April 1, 2010. It is not submitted to the EPA; the finalized Plan is to be kept on site as part of the record-keeping requirements.

The first reporting year is calendar 2010 emissions with submission no later than March 31, 2011. EMU will take advantage of the Abbreviated Report option available only for CY 2010. Data collection via best available monitoring methods is to begin January 1, 2010. Following year reports must be the full report format that requires combustion unit level reporting.

The need for monitoring devices, a major impact of this rule because of its strict deadlines, is not required for EMU. Engineering calculations may be substituted for actual emissions measurement. Fuel input as measured by utility-owned and regulated billing meters is sufficient as the major variable for these calculations. These may be aggregated or combined in various ways as defined by the Rule, some of which need clarification for application at EMU and the second reporting year of 2011. However, that data is presently being collected and the manipulation of the data can be investigated during CY 2010 prior to the first reporting deadline.

Responsibilities:

The Chief of Operations will administer the EMU GHG Monitoring Plan and subsequent annual reporting. The Chief of Operations will serve as the Designated Representative for the certification of reports and overall integrity of the GHG Monitoring program. This role is similar to that presently performed for various environmental permits and reports, as the "Responsible Official." A Certificate of Representation, for the Designated Representative and any Alternate Designated Representative, must be filed with the Administrator of the EPA, in the prescribed format.

The Designated Representative or the Alternate Designated Representative may name one or more Delegated Designated Representatives for the purpose of submission of electronic documents and correspondence. This is done by an electronic submission and includes certain prescribed statements.

The Energy Sustainability Manager will manage, schedule and coordinate the GHG Monitoring program in the areas of data collection, report compilation and thoroughness. This will include such matters as the management of expenses and progress reports to the Chief of Operations.

The Heating Plant Foreperson will be the Primary Preparer of the reports in a role similar to existing environmental reporting and emissions responsibilities. Specific tasks will be data collection/verification, drafting of reports, and day to day correspondence with regulators and/or consultants to the extent needed. Also included are responsibilities for formatting of data as prescribed, actual submission of documents and retention of records/documents as required. As Primary Preparer he is also required to inform the Principal Engineer of the progress and program needs in order to attain legally required compliance within the program deadlines.

Reportable GHGs:

The Rule specifically requires that EMU report CO₂ (carbon dioxide), CH₄ (methane), and N₂O (nitrous oxide) emissions from most of its stationary combustion sources. Additionally, various fluorinated hydrocarbons can be required. EMU has some fluorinated hydrocarbons on campus incidental to their use in refrigeration, laboratory or electrical switchgear insulation and will not report their use because either they are exempted (like SF₆ in switchgear) or their use does not result in emissions from a reportable process.

Methods of Data Collection:

After review of the Rule, the Primary Preparer has determined that EMU must follow only the methods in 40 CFR 98, Part A, General Provisions and Part C, General Stationary Fuel Combustion Source. University research and development, emergency generators and mobile sources are exempted. Electrical generation emissions methods in Part D, are exempted because EMU is not already required to report CO2 under the Acid Rain Program. The above exemptions for EMU are allowed because the EPA is collecting the GHG emissions from these sources “upstream” in their data sources. EMU’s Cogeneration gas turbine emissions will be reported as part of the combustion calculated under the Tier 1 method, along with Heating Plant boiler emissions, which is less rigorous than the Part D methods.

Nearly all fuel input data will be from the MichCon (EMU’s LDC) billing meters for natural gas consumption. These are regulated under MPSC Administrative Rules and exempt from the QA/QC requirements of the EPA Rule. Accuracy is mandated by Rule 460.2354 to be 100% +/- 1.0%. Boilers #1,2,3 and 4 (duct burners) at the Heating Plant are aggregated under the “Common Pipe” method as CP1. Combustion Turbine fuel, separately metered, cannot be aggregated as CP1, but is an input to Boiler #4.

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