

Form MV-2.1E – Demonstration of Conformance with M&V Plan

Provide documentation that procedures and protocols specified in the M&V Plan were performed and records specified in the M&V Plan were generated and retained. Check the boxes in the tables below to indicate that the referenced documentation is provided as an attachment to Form MV-2.1E. All attached documentation must include a header that indicates it is an attachment to Form MV-2.1E, identifies the appropriate table number and reference number in the left-hand column of the table, and includes the offset project name and offset project ID code.

Table 1. Quality Assurance/Quality Control (QA/QC) Program

Procedures and Documentation Required by the M&V Plan	Documentation Provided (check the boxes to indicate attachment of required documentation)
1. Procedures for recording names and contact information for the personnel responsible for project monitoring and documentation	<input type="checkbox"/> List of the individuals responsible for influent monitoring, digester biogas monitoring, and the third-party laboratory used to verify biogas methane concentration, including contact names by location
2. Procedures for recording names and contact information for the personnel responsible for QA/QC of project monitoring and documentation	<input type="checkbox"/> List of the individuals responsible for QA/QC of project monitoring, including contact names by location
3. Procedures for the compilation of an annual QA/QC report summarizing findings of QA/QC activities conducted and any remedial actions taken	<input type="checkbox"/> Annual QA/QC report summarizing all QA/QC activities conducted and remedial actions taken
4. Procedures, if applicable, for annual comparison of methane generated by anaerobic digester, as measured by monitoring equipment, with estimated methane used to generate electricity, as derived from electric generation records	<input type="checkbox"/> Copy of annual comparison of methane generated by the anaerobic digester with estimated methane used to generate electricity, including calculations and data used
5. Procedures for documenting installation and retirement of equipment for monitoring biogas volumetric flow and methane concentration	<input type="checkbox"/> Records of biogas monitoring equipment installed or retired
6. Procedures for quarterly third-party laboratory analysis of methane concentration of sampled digester biogas using U.S. EPA-approved laboratory testing methods, including specification of the testing method to be used	<input type="checkbox"/> List of EPA-approved test procedures used <input type="checkbox"/> Copy of third-party laboratory analysis report of methane concentration of sampled digester biogas and date of analysis

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Table 1. Quality Assurance/Quality Control (QA/QC) Program (continued)

Procedures and Documentation Required by the M&V Plan	Documentation Provided (check the boxes to indicate attachment of required documentation)
7. Procedures to ensure that biogas samples will be taken at the same location as the digester biogas flow meter	<input type="checkbox"/> Signed documentation by sampling technician that digester biogas samples were taken at location of digester biogas flow meter
8. Procedures for QA/QC of influent monitoring data for each facility providing manure or organic food waste to the anaerobic digester	<input type="checkbox"/> List of procedures performed during the reporting period
9. For regional-type digesters, procedures for compilation of monthly receipts and records of manure and organic food waste (kg) received for input into the anaerobic digester from each facility providing manure or organic food waste influent	<input type="checkbox"/> Copies of monthly receipts and records of manure and organic food waste (kg) supplied to the anaerobic digester from each off-site facility
10. For regional-type digesters, for each facility providing organic food waste influent, procedures for ensuring that daily food waste input to the on-site storage tank prior to shipment to the anaerobic digester is at least 1/30 of the total storage tank capacity	<input type="checkbox"/> Copy of monthly records of daily monitoring of the timing and quantities of food waste input to the on-site storage tank and the timing and quantity of influent shipped to the anaerobic digester
11. For regional-type digesters, for each facility providing manure influent, procedures for ensuring that daily manure input to the on-site storage tank or pond prior to shipment to the anaerobic digester is at least 1/30 of the total storage tank capacity	<input type="checkbox"/> Copy of monthly records of daily monitoring of the timing and quantities of manure input to the on-site storage tank or pond and the timing and quantity of influent shipped to the anaerobic digester

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Table 2. Measuring and Monitoring Equipment Maintenance, Operation, and Calibration

<p>Procedures and Documentation Required by the M&V Plan</p>	<p>Documentation Provided (check the boxes to indicate attachment of required documentation)</p>
<p>1. Monthly records of digester biogas flow rate performance tests to ensure: (1) flow readings are being recorded at least every 15 minutes; (2) the accuracy of digester biogas flow meter readings is within +/- 5 percent of manufacturer specifications; and (3) methane concentration instrument manufacturer specifications for precision and accuracy are met</p>	<p><input type="checkbox"/> Copy of monthly biogas flow rate performance tests</p> <p><input type="checkbox"/> Copy of data for one sample day per month of flow meter readings in intervals of at least 15 minutes</p>
<p>2. Records of the type of biogas flow meter installed (differential pressure or hot wire anemometer)</p>	<p><input type="checkbox"/> Copy of specification sheet for the biogas flow meter installed</p>
<p>3. Records of the date and location of flow meter installation</p>	<p><input type="checkbox"/> Copy of flow meter installation information, including date and location</p>
<p>4. Records of performance of maintenance schedules for digester biogas flow meter and methane concentration instrument in accordance with manufacturer recommendations and specifications</p>	<p><input type="checkbox"/> Copies of maintenance schedules and records of maintenance activity conducted</p> <p><input type="checkbox"/> Copy of manufacturer recommended maintenance schedule and specifications for digester biogas flow meter and methane concentration instrument</p>
<p>5. Daily records of collected digester biogas flow rates</p>	<p><input type="checkbox"/> Copies of records of daily measured digester biogas flow rates</p>
<p>6. Weekly or daily records of methane concentration (daily records if onsite continuous methane concentration analyzer used)</p>	<p><input type="checkbox"/> Copies of weekly or daily records of methane concentration (daily records if onsite continuous methane concentration analyzer used)</p>
<p>7. Monthly records of calculation of digester biogas flow rate standardization (in standard cubic feet) to correct for site-specific pressure and temperature measurements (note, this procedure is not necessary when using flow meters that automatically measure temperature and pressure and express digester biogas flow in standard cubic feet)</p>	<p><input type="checkbox"/> Monthly calculation records of standardization of daily digester biogas flow from recorded cubic feet per day to standard cubic feet per day</p>

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Table 2. Measuring and Monitoring Equipment Maintenance, Operation, and Calibration (continued)

Procedures and Documentation Required by the M&V Plan	Documentation Provided (check the boxes to indicate attachment of required documentation)
8. Monthly records of field data used for flow measurement standardization, including barometric pressure and biogas temperature and pressure measurements (note, not applicable when using flow meters that automatically measure temperature and pressure and express digester biogas flow in standard cubic feet)	<input type="checkbox"/> Copies of records of field data used for digester biogas flow measurement standardization
9. Monthly records of the number of hours the digester biogas flow meter was inoperable	<input type="checkbox"/> Copies of monthly records of the number of hours the digester biogas flow meter was inoperable (in hours per month)
10. Monthly records of the amount of methane combusted (in standard cubic feet) in the combustion device	<input type="checkbox"/> Copies of monthly records of the amount of methane combusted (in standard cubic feet) in the combustion device
11. Monthly records of electric generation and heat rate (in Btu/kWh) (note, only applicable to offset projects with an electric generation component)	<input type="checkbox"/> Copies of monthly records of electric generation <input type="checkbox"/> Copies of monthly records from source tests showing the measured heat rate, or copies of monthly records used to derive heat rate based on MMBtu of heat input and KWh of electricity generation
12. Annual records of the calibration procedures conducted for digester biogas flow meter in accordance with manufacturer specifications	<input type="checkbox"/> List of calibration activities conducted and receipts for services rendered if performed by outside contractor <input type="checkbox"/> List of manufacturer recommendations for calibration of digester biogas flow meter
13. Records of the dates and results of digester flow meter calibration, and the portable instrument and procedures used to check installed flow meter accuracy, including field measurements and flow calculations	<input type="checkbox"/> List of dates of digester flow meter calibration <input type="checkbox"/> Copy of calibration field measurement data and flow calculations, and the portable instrument and procedures used to check installed flow meter accuracy

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Table 2. Measuring and Monitoring Equipment Maintenance, Operation, and Calibration (continued)

Procedures and Documentation Required by the M&V Plan	Documentation Provided (check the boxes to indicate attachment of required documentation)
14. Records of calibration procedures conducted for methane concentration monitoring instrument (daily records if applicable to continuous methane concentration monitoring instrument; monthly records if applicable to portable methane concentration monitoring instrument)	<input type="checkbox"/> List of calibration activities conducted and receipts for services rendered if performed by outside contractor <input type="checkbox"/> List of manufacturer recommendations for calibration of methane concentration monitoring instrument
15. Records of the dates and results of methane concentration monitoring instrument calibration (applicable to both continuous methane concentration monitoring instrument and portable methane concentration monitoring instrument)	<input type="checkbox"/> List of dates of methane concentration monitoring instrument calibration <input type="checkbox"/> Copy of calibration field measurement data for methane concentration instrument