

**State of Maine
Regional Greenhouse Gas Initiative
CO₂ Budget Trading Program**



Offset Project Monitoring and Verification Report

Reduction in Emissions of SF₆

Version 1.0

Issued by **Bureau of Air Quality**

Issued on **June 16, 2009**

Contents

1. Overview	3
2. Submission Instructions	3
3. M&V Report Forms	3
Part 1. General Information Forms	4
Part 2. Category-Specific Information and Documentation Forms	11
Part 3. Independent Verification Form	15

1. Overview

To demonstrate the achievement of CO₂-equivalent emissions reductions from an SF₆ offset project that has received a consistency determination from the Maine Department of Environmental Protection (Department), a Project Sponsor must submit to the Department in accordance with these instructions a fully completed *Offset Project Monitoring and Verification Report – Reduction in Emissions of SF₆ Version 1.0* (“M&V Report”), consisting of the coversheet and all forms and related attachments. Following these instructions will ensure that the M&V Report contains all necessary information and is submitted properly.

The Project Sponsor should review Maine's *CO₂ Budget Trading Program* regulations, 06-096 CMR Chapter 156, addressing offset projects and the award of CO₂ offset allowances. All offset project submittal materials and documents are available at www.maine.gov/dep/air/greenhouse/rggi.

2. Submission Instructions

Submit one (1) complete paper hardcopy of the M&V Report to the Department at the location specified below. Also submit the application forms and any attachments electronically to the CO₂ Allowance Tracking System (COATS) at www.rggi-coats.org. Submit hardcopies of forms requiring signatures as originally-signed copies and scan such signed forms for electronic submission. Facsimiles of the M&V Report are not acceptable under any circumstances.

Department of Environmental Protection
17 State House Station
25 Tyson Drive
Augusta, ME 04333-0017

The M&V Report includes three parts, as described below. Each part comprises specified forms and required documentation. The M&V Report has been created as a Microsoft Word document with editable fields. Enter information directly in the fields provided or submit information or documentation as an attachment, as instructed. Include headers on all attachments indicating the form to which each is attached, the offset project name, and offset project ID code.

The Project Sponsor should save an electronic copy for his or her file to serve as a reference for any necessary remediation.

3. M&V Report Forms

The M&V Report consists of eight (8) forms divided into three parts, as follows:

Part 1. General Information Forms

- Form 1.1 – Coversheet
- Form 1.2 – General Information
- Form 1.3 – Attestations
- Form 1.4 – Project Sponsor Statement
- Form 1.5 – Disclosure of Greenhouse Gas Emissions Data Reporting

Part 2. Category-Specific Information and Documentation Forms

- Form 2.1 – Demonstration of Conformance with M&V Plan
- Form 2.2 – Determination of Emissions Reduction

Part 3. Independent Verification Form

- Form 3.1 – Independent Verifier Certification Statement and Report

The following instructions address each of the forms in numerical order. Note that the forms themselves include many embedded instructions.

Part 1. General Information Forms

The five (5) forms in Part 1 of the *M&V Report* address general requirements applicable to SF₆ offset projects. Instructions for the Part 1 forms are provided below.

Form 1.1 Coversheet

Enter the requested information in the editable text fields in the form. Check the boxes to indicate that all forms are being submitted. For information about entering the Project Sponsor, offset project name and offset project ID code, and RGGI COATS account name and number, see instructions below for Form 1.2, General Information.

Submission of all forms, including the Coversheet, is required. If a form is not submitted, the *Consistency Application* will not be considered complete for commencement of review by the Department

Form 1.2 General Information

Enter the requested information in the editable text fields in the form. If a text field is not applicable or is unanswerable, enter “NA.” Note the following:

Offset Project ID Code: Enter the offset project ID code. The offset project ID code is the alphanumeric code generated when the Project Sponsor creates a record of the offset project in the RGGI CO₂ Allowance Tracking System (RGGI COATS). See the RGGI COATS User’s Guide for more information about creating an offset project record in RGGI COATS, available at www.rggi-coats.org.

Project Information: Enter project information. The name of the offset project should be the same name entered by the Project Sponsor when creating a project record in RGGI COATS. The project location entered should be the primary location of the project if the project consists of actions at multiple locations. The summary narrative of the project should indicate all locations where project actions occur or will occur.

Project Sponsor: Identify the Project Sponsor and provide his or her contact information. The Project Sponsor is the natural person who is the Authorized Account Representative for the RGGI COATS general account identified in the *Consistency Application*.

Project Sponsor Organization: Provide the full legal name of the organization the Project Sponsor represents, including any alternative names under which the organization also may be doing business (e.g., John Doe Enterprises, Inc., d/b/a JDE). If the Project Sponsor is representing himself or herself as an individual, enter “NA”.

RGGI COATS General Account Name and Number: Enter the RGGI COATS general account name and number. The RGGI COATS general account identified in the *Consistency Application* is the RGGI COATS account into which any awarded CO₂ offset allowances related to the offset project will be transferred.

Form 1.3 Attestations

Sign and date the form. Submit the originally signed form as part of the paper hardcopy *M&V Report*. Scan the signed and dated form for submission as part of the electronic version of the *M&V Report*.

Form 1.4 Project Sponsor Statement

Sign and date the form. Submit the originally signed form as part of the paper hardcopy *M&V Report*. Scan the signed and dated form for submission as part of the electronic version of the *M&V Report*.

Form 1.5 Disclosure of Greenhouse Gas Emissions Data Reporting

Check the appropriate box in the form to indicate whether greenhouse gas emissions data related to the offset project have been or will be reported to any voluntary or mandatory programs, other than the CO₂ Budget Trading Program. For each program for which data have been or will be reported, provide the program name, the program type (voluntary or mandatory), program contact information (website or street address), the categories of data reported, the frequency of reporting, when the reporting began or will begin, and reporting status (prior, current, future). The Project Sponsor must disclose future reporting related to current commitments made to voluntary programs as well as future reporting mandated by current statutes, regulations, or judicial or administrative orders.

Offset Project Name

Offset Project ID Code

Form 1.1 – Coversheet

Project Sponsor (RGGI COATS Authorized Account Representative)

Project Sponsor Organization

Reporting Period

RGGI COATS General Account Name

RGGI COATS General Account Number

Check the boxes below to indicate submission of the following required forms:

- Form 1.2 – General Information
- Form 1.3 – Attestations
- Form 1.4 – Project Sponsor Statement
- Form 1.5 – Disclosure of Greenhouse Gas Emissions Data Reporting
- Form 2.1 – Demonstration of Conformance with M&V Plan
- Form 2.2 – Determination of Emissions Reduction
- Form 3.1 – Independent Verifier Certification Statement and Report

Offset Project Name Offset Project ID Code

Form 1.2 – General Information

Project Sponsor (RGGI COATS Authorized Account Representative)

Telephone Number **Fax Number** **Email Address**
Street Address
City **State/Province** **Postal Code** **Country**

RGGI COATS General Account Name

RGGI COATS General Account Number

Name of Offset Project

Project Commencement Date

Summary Description of Offset Project

Project City

Project County

Project State

Project Sponsor Organization

Primary Street Address

City

State/Province

Postal Code

Country

Brief Description of Project Sponsor Organization

Telephone Number

Website URL

Independent Verifier (Company/Organization)

States Where Verifier Accredited

Primary Street Address

Website URL

City

State/Province

Postal Code

Country

Point of Contact for Project

Contact Telephone Number

Contact Fax Number

Contact Email Address

Contact Street Address

City

State/Province

Postal Code

Country

Offset Project Name

Offset Project ID Code

Form 1.3 – Attestations

The undersigned Project Sponsor certifies the truth of the following statements:

1. All offset projects for which the Project Sponsor or project sponsor organization has received CO₂ offset allowances, under the Project Sponsor's or project sponsor organization's ownership or control (or under the ownership or control of any entity which controls, is controlled by, or has common control with the Project Sponsor or project sponsor organization) are in compliance with all applicable requirements of the CO₂ Budget Trading Program in all participating states.
2. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this *M&V Report* and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Project Sponsor signature

date

printed name

title

organization

notary

Offset Project Name

Offset Project ID Code

Form 1.4 – Project Sponsor Statement

The undersigned Project Sponsor hereby confirms and attests that the offset project upon which this Monitoring and Verification Report is based is in full compliance with all of the requirements of Maine’s CO₂ Budget Trading Program. The Project Sponsor holds the legal rights to the offset project, or has been granted the right to act on behalf of a party that holds the legal rights to the offset project. The Project Sponsor understands that eligibility for the award of CO₂ offset allowances is contingent on meeting the requirements of Maine’s CO₂ Budget Trading Program. The Project Sponsor authorizes the Department or its agent to audit this offset project for purposes of verifying that the offset project, including the Monitoring and Verification Plan, has been implemented as described in the *Consistency Application* that was the subject of a consistency determination by the Department. The Project Sponsor understands that this right to audit shall include the right to enter the physical location of the offset project and to make available to the Department or its agent any and all documentation relating to the offset project at the Department’s request. The Project Sponsor submits to the legal jurisdiction of the State of Maine.

Project Sponsor signature

date

printed name

title

organization

notary

Offset Project Name

Offset Project ID Code

Form 1.5 – Disclosure of Greenhouse Gas Emissions Data Reporting

Check the box below that applies:

- No greenhouse gas emissions data related to the offset project referenced in this *M&V Report* have been or will be reported to a voluntary or mandatory program other than the CO₂ Budget Trading Program.
- Greenhouse gas emissions data related to the offset project referenced in this *M&V Report* have been or will be reported to a voluntary or mandatory program other than the CO₂ Budget Trading Program. Information for all such programs to which greenhouse gas emissions data have been or will be reported is provided below.

Name of Program to which GHG Emissions Data Reported

Check all that apply:

- Reporting is currently ongoing
- Reporting was conducted in the past
- Reporting will be conducted in the future
- Reporting is mandatory
- Reporting is voluntary

Enter Frequency of Reporting

Enter Reporting Start Date

Program Contact Information – Address

Program Website

Categories of Emissions Data Reported

Name of Program to which GHG Emissions Data Reported

Check all that apply:

- Reporting is currently ongoing
- Reporting was conducted in the past
- Reporting will be conducted in the future
- Reporting is mandatory
- Reporting is voluntary

Enter Frequency of Reporting

Enter Reporting Start Date

Program Contact Information – Address

Program Website

Categories of Emissions Data Reported

Add extra pages as needed.

Part 2. Category-Specific Information and Documentation Forms

The two (2) forms in Part 2 of the *M&V Report* address documentation of conformance with the Monitoring and Verification Plan (M&V Plan) and determination of CO₂-equivalent emissions reductions during the reporting period. Instructions for the Part 2 forms are provided below.

Form 2.1 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 in Form 2.1 to indicate that the referenced documentation is provided as an attachment to Form 2.1. Each attachment must include a header that indicates it is an attachment to Form 2.1, identifies the appropriate table number and the reference number in the left-hand column of the table, and includes the offset project name and offset project ID code.

Form 2.2 Determination of Emissions Reduction

Enter the requested SF₆ values in Form 2.2. The SF₆ values must be derived from the Entity-wide SF₆ Inventory Tracking System.

Provide the Entity-wide SF₆ Inventory Tracking System for the reporting year in spreadsheet form (or other appropriate database form) as an attachment to Form 2.2. The attachment must include a header that indicates it is an attachment to Form 2.2 and identifies the offset project name and offset project ID code. For submission of the electronic version of the *M&V Report*, provide the spreadsheet as a distinct electronic file.

Offset Project Name

Offset Project ID Code

Form 2.1 – 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 2.1. All attached documentation must include a header that indicates it is an attachment to Form 2.1, identifies the appropriate table number and the reference number in the left-hand column of the table, and includes the offset project name and offset project ID code.

Table 1. SF₆ Inventory Management and Auditing Protocol

Procedures and Documentation Required by the M&V Plan	Documentation Provided (check the boxes to indicate attachment of required documentation)
SF₆ Inventory Management and Auditing Protocol	
1. Procedures for records retention	<input type="checkbox"/> A list of all records retained
2. Procedures for the maintenance of cylinder-specific logs, including maintenance of a master sheet identifying all cylinders using unique identifiers, and a standardized cylinder log form	<input type="checkbox"/> Copy of master sheet identifying all cylinders <input type="checkbox"/> Copy of one representative completed standardized cylinder log form for each substation or other designated location
3. Procedures for confirming meters and scales for the filling and weighing of cylinders are consistently calibrated to manufacturer specifications	<input type="checkbox"/> Demonstration that meters and scales are consistently calibrated to manufacturer recommendations (e.g., dated receipts of calibration activities, etc.)
4. An entity-wide training plan for the inventory management team in the use of the Entity-wide SF ₆ Inventory Tracking System as a data source, the use of the SF ₆ mass-balance method, and recordkeeping and retention practices	<input type="checkbox"/> Copies of training records (e.g., presentations or training materials and signed attendance lists) for training in the use of the Entity-wide SF ₆ Inventory Tracking System as a data source, the use of the SF ₆ mass balance method, and recordkeeping and record retention practices
5. Procedures for audits of all aspects of inventory management, including all inventory tracking systems, data entry, and maintenance of cylinder logs	<input type="checkbox"/> Copies of training records (e.g., presentations or training materials and signed attendance records) for training in auditing procedures
6. A template for a report on the findings of audits including identification of needs for corrective actions that should be taken	<input type="checkbox"/> Copies of the reported findings of audits performed, including the date of audits and any corrective actions that were taken

Offset Project Name

Offset Project ID Code

Table 2. Quality Assurance/Quality Control (QA/QC) Protocol

Procedures and Documentation Required by the M&V Plan	Documentation Provided (check the boxes to indicate attachment of required documentation)
Quality Assurance/Quality Control (QA/QC) Protocol	
1. QA/QC procedures for: (i) entity-wide inventory of SF ₆ gas procurements and disbursements; (ii) entity-wide inventory of all SF ₆ -containing operating equipment; (iii) all cylinder logs; and (iv) emissions calculations	<input type="checkbox"/> A copy of the annual quality assurance and quality control report that describes all procedures taken to QA/QC the following in accordance with the M&V Plan: (i) entity-wide SF ₆ gas procurements and disbursements; (ii) entity-wide inventory of all SF ₆ -containing operating equipment; (iii) all cylinder logs; and (iv) review of emissions calculations
2. An entity-wide training plan for QA/QC officers	<input type="checkbox"/> Copies of training records (e.g., presentations or training materials and signed attendance records) for training in QA/QC procedures

Offset Project Name

Offset Project ID Code

Form 2.2 – Determination of Emissions Reduction

Provide the Entity-wide SF₆ Inventory Tracking System for the reporting year as an attachment to Form 2.2. The attachment must include a header that indicates it is an attachment to Form 2.2 and includes the offset project name and offset project ID code. Using data from the Entity-wide SF₆ Inventory Tracking System, enter the requested information below:

1. Enter SF₆ emissions in baseline year (lbs):

2. Enter SF₆ emissions in reporting year (lbs):

Enter the following data (all SF₆ values in lbs):

V_{iby} = SF₆ inventory in cylinders, gas carts, and other storage containers (not SF₆-containing operating equipment) at the beginning of the reporting year

V_{iey} = SF₆ inventory in cylinders, gas carts, and other storage containers (not SF₆-containing operating equipment) at the end of the reporting year

= **Change in SF₆ Inventory in cylinders, gas carts, and other storage containers (not SF₆-containing operating equipment) (V_{iby} - V_{iey})**

PA_{psd} = SF₆ purchased from suppliers or distributors in cylinders

PA_e = SF₆ provided by equipment manufacturers with or inside SF₆-containing operating equipment

PA_{rre} = SF₆ returned to the reporting entity after off-site recycling

= **Total Purchases/Acquisitions (PA_{psd} + PA_e + PA_{rre})**

SD_{op} = Sales of SF₆ to other parties, including gas left in SF₆-containing operating equipment that is sold

SD_{rs} = Returns of SF₆ to supplier (producer or distributor)

SD_{df} = SF₆ sent to destruction facilities

SD_{sor} = SF₆ sent off-site for recycling

= **Total Sales/Disbursements (SD_{op} + SD_{rs} + SD_{df} + SD_{sor})**

CNP_{ne} = Total SF₆ nameplate capacity of new SF₆-containing operating equipment at proper full charge

CNP_{rse} = Total SF₆ nameplate capacity of retired SF₆-containing operating equipment at proper full charge

= **Total Change in SF₆ Nameplate Capacity (CNP_{ne} - CNP_{rse})**

= **Total SF₆ Emissions [(V_{iby} - V_{iey}) + (PA_{psd} + PA_e + PA_{rre}) - (SD_{op} + SD_{rs} + SD_{df} + SD_{sor}) - (CNP_{ne} - CNP_{rse})]**

3. Enter emissions reduction (short tons CO₂e) (emissions in reporting year (lbs) - emissions in baseline year (lbs)) X GWP of SF₆(22,200)/2000:

Part 3. Independent Verification Form

The form in Part 3 of the *M&V Report* addresses requirements and documentation related to the independent verifier certification statement and report. Instructions for the form in Part 3 are provided below.

Form 3.1 Independent Verifier Certification Statement and Report

An accredited verifier must sign and date the form. Submit the originally signed form as part of the paper hardcopy *M&V Report*. Scan the signed and dated form for submission as part of the electronic version of the *M&V Report*.

Provide the independent verifier report as an attachment to Form 3.1. The verifier report must include a header that indicates it is an attachment to Form 3.1 and includes the offset project name and offset project ID code.

The verifier report must document the following:

1. The verifier has reviewed the entire *M&V Report* and evaluated the contents of the report in relation to the applicable requirements of Maine's CO₂ Budget Trading Program.
2. The verifier has evaluated the adequacy and validity of information supplied by the Project Sponsor to determine CO₂-equivalent emissions reductions in accordance with Maine's CO₂ Budget Trading Program, and the documentation required in the *M&V Report*.
3. The verifier has evaluated the adequacy and consistency of methods used by the Project Sponsor to quantify, monitor, and verify CO₂-equivalent emissions reductions in accordance with the applicable requirements of Maine's CO₂ Budget Trading Program and the Monitoring and Verification Plan submitted as part of the *Consistency Application*.

The verifier report must include the following contents, in the order listed below:

- Cover page with report title and date
- Table of contents
- List of acronyms and abbreviations
- Executive summary
- Description of objective of report
- Identification of the client, including name, address, and other contact information
- Identification of the offset project
- Description of evaluation criteria (applicable regulatory provisions and documentation required in the *M&V Report*)
- Description of the review and evaluation process, including any site visits and interviews
- Identification of individuals performing the verification work, including the verification team leader and key personnel, and contact information for the team leader

- Description of the materials provided to the verifier by the Project Sponsor
- Evaluation conclusions and findings, including level of assurance provided

Offset Project Name

Offset Project ID Code

Form 3.1 – Independent Verifier Certification Statement and Report

An accredited independent verifier must sign and date the form. Attach the accredited verifier report. The attached verifier report must include a header that indicates it is an attachment to Form 3.1 and includes the offset project name and offset project ID code

Name of Accredited Independent Verifier

I certify that the accredited independent verifier identified above reviewed this *M&V Report*, including all forms and attachments, in its entirety, including a review of the following:

1. The verifier has reviewed the entire *M&V Report* and evaluated the contents of the report in relation to the applicable requirements of Maine’s CO₂ Budget Trading Program and the required documentation that must be provided in the *M&V Report*.
2. The verifier has evaluated the adequacy and validity of information supplied by the Project Sponsor to determine CO₂-equivalent emissions reductions in accordance with Maine’s CO₂ Budget Trading Program, and the required documentation that must be provided in the *M&V Report*.
3. The verifier has evaluated the adequacy and consistency of methods used by the Project Sponsor to quantify, monitor, and verify CO₂-equivalent emissions reductions in accordance with Maine’s CO₂ Budget Trading Program and the Monitoring and Verification Plan submitted as part of the *Consistency Application*.

A verification report is attached that documents the verifier’s review of the items listed above and includes evaluation conclusions and findings.

Verifier Representative signature

date

printed name

title

notary