

Regional Greenhouse Gas Initiative
CO₂ Budget Trading Program



**Massachusetts
Department of Environmental Protection**

Massachusetts CO₂ Budget Trading Program

Offset Project Monitoring and Verification Report

Reduction in Emissions of Sulfur Hexafluoride

Version 1.0

Issued by

Issued on

Contents

1. Overview	3
2. Submission Instructions	3
3. M&V Report Forms	4
Form 1.1 – Coversheet	5
Form 1.2 – General Information.....	6
Form 1.3 – Attestations	7
Form 1.4 – Project Sponsor Statement	8
Form 1.5 – Disclosure of Greenhouse Gas Emissions Data Reporting.....	9
Form 2.1 – Demonstration of Conformance with M&V Plan	10
Form 2.1 – Demonstration of Conformance with M&V Plan (continued)	11
Form 2.2 – Determination of Emissions Reduction	12
Form 2.2 – Determination of Emissions Reduction (continued)	13
Form 3.1 – Independent Verifier Certification Statement and Report.....	14

1. Overview

To demonstrate the achievement of carbon dioxide (CO₂)-equivalent (CO₂e) emissions reductions from a sulfur hexafluoride (SF₆) offset project that has received a consistency determination from the Massachusetts Department of Environmental Protection (MassDEP), a Project Sponsor must submit to MassDEP in accordance with the instructions (see accompanying instructions packet), a fully completed *Massachusetts 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 the Massachusetts CO₂ Budget Trading Program regulations, 310 CMR 7.70(10) for information regarding offset projects and the award of CO₂ offset allowances. All Massachusetts offset project submittal materials and documents are available at <http://www.rggi.org/offsets>.

2. Submission Instructions

The Project Sponsor should submit the completed *M&V Report*, and all attachments, via the Regional Greenhouse Gas Initiative (RGGI) CO₂ Allowance Tracking System (COATS) at <http://www.rggi-coats.org> under the established general account identified in the Massachusetts *Consistency Application* for the project. For additional information, consult the RGGI COATS User's Guide, available at <http://www.rggi-coats.org>.

The *M&V Report* includes three (3) 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. If attachments are being submitted as separate electronic documents, please include the form numbers in the file names of the documents.

When submitting documents electronically via RGGI COATS, it is not necessary to submit a scanned or paper hardcopy of the application forms. The Project Sponsor must retain the completed original copy of the *M&V Report* and attachments with the original signed documents. MassDEP reserves the right to request the original signed application documents at any time.

A completed hardcopy and/or CD of the *M&V Report* may also be mailed to: Climate Strategies Group, Massachusetts Department of Environmental Protection, Bureau of Waste Prevention, 6th Floor, One Winter Street, Boston, MA 02108-4747.

Questions about this form and how to submit it should be directed to climate.strategies@state.ma.us or 617-574-6815.

3. M&V Report Forms

The *M&V Report* consists of eight (8) forms divided into three (3) 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

Note that although the forms include many embedded instructions, Project Sponsors are advised to consult the accompanying instructions packet for full instructions and documentation requirements.

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.

<hr/> Project Sponsor Signature	<hr/> Date
<hr/> Printed Name	
<hr/> Title	
<hr/> Organization	

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 310 CMR 7.70(10). 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 under 310 CMR 7.70 (10) is contingent on meeting the requirements of 310 CMR 7.70 (10). The Project Sponsor authorizes MassDEP 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 MassDEP. 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 MassDEP or its agent any and all documentation relating to the offset project at MassDEP's request. The Project Sponsor submits to the legal jurisdiction of Massachusetts.

<input type="text"/> Project Sponsor Signature	<input type="text"/> Date
<input type="text"/> Printed Name	
<input type="text"/> Title	
<input type="text"/> Organization	

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 Massachusetts 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 Massachusetts 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. Each attachment must include a header that indicates it is an attachment to Form 1.5, identifies the number of the appropriate table and the reference number in the left-hand column of the table, and includes the offset project name and offset project ID code. If attachments are being submitted as separate electronic documents, please include the form numbers in the file names of the documents.

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. If attachments are being submitted as separate electronic documents, please include the form numbers in the file names of the documents.

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 (1) 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

Form 2.1 – Demonstration of Conformance with M&V Plan (continued)

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. If attachments are being submitted as separate electronic documents, please include the form numbers in the file names of the documents.

Using data from the Entity-wide SF₆ Inventory Tracking System, enter the requested information below:

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

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

Enter the following data (all SF₆ values in pounds (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})]**

Offset Project Name

Offset Project ID Code

Form 2.2 – Determination of Emissions Reduction (continued)

3. Enter emissions reduction (short tons CO₂e) (emissions in reporting year (lbs) – emissions in baseline year (lbs)) X GWP¹ of SF₆ (22,200)/2000:

¹ GWP: global warming potential; SF₆ (22,200).

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. If attachments are being submitted as separate electronic documents, please include the form numbers in the file names of the documents. Note that the Project Sponsor must retain the completed original copy of the *M&V Report* and attachments, including the verifier’s original signed documents. MassDEP reserves the right to request the original signed documents at any time.

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 310 CMR 7.70(10) 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 (CO₂e) emissions reductions in accordance with 310 CMR 7.70(10)(e)2, 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 (CO₂e) emissions reductions in accordance with 310 CMR 7.70(10)(e)2. 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.

<hr/> Verifier Representative Signature	<hr/> Date
<hr/> Printed Name	
<hr/> Title	