



Verification Report for

EOS Climate
San Francisco, CA USA
EOS-JA-09-01, Second Reporting Period

Climate Action Reserve

U.S. Ozone Depleting Substances
Project Protocol, Version 1.0

July 6, 2010

Report Prepared for

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Project Verification Report

Summary

EOS Climate engaged NSF to verify its destruction of ozone depleting substances from a project defined in accordance with the requirements of the Climate Action Reserve U.S. Ozone Depleting Substances Project Protocol, Version 1.0. The project was comprised of the transportation of collected R-12 refrigerant from collection and storage points in the United States to the Clean Harbors Environmental Services destruction facility located in El Dorado, AR. The destruction facility is a permitted U.S. EPA hazardous waste combustor described by the NAICS code 562211.

The project consisted of two destruction events conducted during the project period from 2010-4-11 to 2010-05-04. It destroyed 62,640 pounds of mostly refrigerant R-12 that were entirely sourced within the United States of America. The project reduced future emissions into the atmosphere of 250,678 metric tons of CO₂-e.

1. Introduction

1.1 Objective

The objective of this verification audit was to determine, with reasonable assurance, that EOS Climate had quantified, monitored, and fairly reported to the Climate Action Reserve its emission reductions from the destruction of U.S.-sourced refrigerant R-12.

1.2 Scope

The scope of the engagement included verification of the quantification, monitoring and reporting of greenhouse gas emission reductions from the project. It also included verification of the calculated project emissions associated with substitute emissions from replacement refrigerants over a ten-year period, and transportation and destruction-related emissions incurred by the project.

1.3 Criteria

NSF verified the reported project emission reductions against criteria in the Climate Action Reserve U.S. Ozone Depleting Project Protocol, Version 1.0. The verification methodology conformed to requirements in Climate Action Reserve Project Verification Manual (June 17, 2009), and ISO 14064:2006 Part 3, *Greenhouse gases – Specification with guidance for the validation and verification of greenhouse gas assertions*.

1.4 Materiality

In accordance with the Climate Action Reserve U.S. Ozone Depleting Project Protocol, Version 1.0, emission reduction reports were considered fairly stated if they varied by no more than 5% from a complete statement of the project's emission reductions. Thresholds of materiality defined by Climate Action Reserve U.S. Ozone Depleting Project Protocol, Version 1.0 allowed verifiers of emission reduction reports to consider as immaterial discrepancies of 5% or less.

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1.5 Level of Assurance

This engagement was performed at the reasonable level of assurance.

2. Verification Approach

2.1 Team Appointment and COI Review

This verification was performed by John Shideler, NSF Lead Verifier, Mike DeBusschere and Simone Robson, NSF Team Verifiers, and reviewed by Janette Lutz, NSF Senior Internal Reviewer. Conflict of Interest inquiries were completed for NSF and for the verification team and a finding of low COI risk was confirmed by the Climate Action Reserve.

2.2 Document Review

The verification team conducted a document review to inform the planning process in advance of performing on-site verification activities. Documents reviewed included EOS Climate's project documentation submitted to the Climate Action Reserve, the basis for emission reduction calculations, project design documentation, procedures, and reports, and regulatory information provided by the destruction facility.

2.3 Planning

NSF's verification approach is risk-based. It draws upon our understanding of risks to fair statement of reported emissions and the operation of controls to reduce such risks. As a result of the document review and preliminary conversations with project management personnel at EOS Climate and a representative of the Clean Harbors destruction facility, a verification plan and a sampling plan were developed for this engagement.

2.4 Verification Activities

As a result of its planning process, NSF conducted a site visit at the Clean Harbors destruction facility in El Dorado, AR. The site visit was conducted from 2010-05-13 through 2010-05-14. Verification activities included:

- Confirmation of the project start date, eligibility, ownership of ODS, and quantification of project emission reductions;
- Consideration of the previous results of our review of the control environment, information management systems and monitoring plans at offices and facilities operated by EOS Climate and Clean Harbors Environmental Services;
- Verification of the controls on the sourcing and traceability of ODS at the aggregation facility, and the destruction facility.

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- Review, on a sampling basis, of compliance to relevant environmental regulatory requirements at the Clean Harbors destruction facility. The primary focus of inquiry at the destruction facility was compliance with Resource Conservation and Recovery Act (RCRA) regulations for Hazardous Waste Combustors and compliance with Clean Air Act requirements. Verification of awareness of Department of Transportation requirements associated with the shipment of hazardous material was also performed.
- Review of two Certificates of Destruction issued by the Clean Harbors destruction facility in El Dorado, AR;
- Review of the system for weighing incoming ODS and calibrating scales at the Clean Harbors destruction facility in El Dorado, AR;
- Verification of the system at the Clean Harbors destruction facility for sampling ODS containers and analyzing contents for composition and concentration to AHRI 700 standards performed by an independent third-party laboratory;
- Verification that operating parameters during the entire destruction event periods at the Clean Harbors facility were within operating limits specified in their Title V Operating Permit;
- Verification that Clean Harbors' monitoring program and data management system addressed and recorded Protocol and Title V Operating Permit required monitoring parameters continuously during each period of destruction; and
- Verification that EOS Climate's records management system continues to contain procedures for acquisition and retention of all Protocol required information, and that such procedures have been implemented.

3. Verification Findings

3.1 Project Description

EOS Climate planned its first ODS destruction project to include three reporting periods. This verification report covers the second reporting period which EOS Climate is listed in the Climate Action Reserve database as Project 604 "EOS-JA-09-01." EOS Climate acquired R-12 collected refrigerant from the reclaiming facility operated by Hudson Technologies in Champaign, IL, where the refrigerant was treated to remove impurities. The refrigerant was consolidated in two ISO containers which were shipped from Champaign to the Clean Harbors Environmental Services destruction facility in El Dorado, AR. At El Dorado the refrigerant was incinerated at high temperatures to achieve the required minimum destruction and removal efficiency of 99.99 percent.

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3.2 Eligibility and Title

Project Definition. EOS Climate planned its ODS destruction project to include multiple destruction events of eligible ODS at a single destruction facility spanning a period of time not to exceed 12 months. The second reporting period of this project included two destruction events in which eligible ODS (CFC-11, CFC-12, CFC-114, and CFC-115) were destroyed at a single qualifying destruction facility. Destruction of the ODS occurred over three weeks in separate batches from April 11, 2010 through April 19, 2010, and from April 29, 2010 through May 4, 2010. Two Certificates of Destruction were issued by Clean Harbors Environmental Services (COD-1221588-41910 and COD-SECU-1221572-5-4-10).

Project Developer and Ownership. EOS Climate, Inc., of San Francisco, CA, is the project developer. EOS Climate demonstrated its ownership of the destroyed ODS through a Lease Agreement with Hudson Technologies to provide purified refrigerant to EOS. The agreement between Hudson Technologies and EOS Climate provides states “that subject to the rights and obligations of the parties as set forth herein, the risk of loss, and all right, title and interest in and to the Product, and all right, title and interest in VERs and carbon credits, and the full unencumbered legal and beneficial title to all corresponding climate reserve tonnes, other emissions or environmental benefits, and all other attributes related thereto, shall pass from Hudson to EOS upon delivery of the Product”. EOS Climate attested to their ownership of the emission reductions through a signed Attestation of Title which NSF reviewed. The Attestation of Title appeared free from defect.

Qualifying Destruction Facility. The ODS in this second reporting period was destroyed at a RCRA-permitted hazardous waste combustor, Clean Harbors Environmental Services, in El Dorado, AR.

Single Application of Certificates of Destruction. The Attestation of Title obligated EOS Climate to report emission reductions from the second reporting period that is the subject of this verification report to the Climate Action Reserve and to no other registry, and not to sell or transfer the project reductions other than by permitted transfers under the terms of its agreement with the Climate Action Reserve. NSF interviewed the president and chief financial officer of EOS Climate as part of the first reporting period verification and believes on the basis of their statements that EOS Climate will not seek to report their ODS emission reductions for this reporting period to any other registry.

Regulatory Compliance. NSF reviewed the Attestation of Regulatory Compliance completed by EOS Climate. In addition, NSF conducted a review of all permits required for Clean Harbors’ destruction facility, summarized operating parameters and reviewed performance during the destruction events against the permit performance requirements. NSF reviewed the regulatory compliance audits and inspection reports of facilities operated by the Clean Harbors destruction facility. NSF also conducted a review of documentation related to the transportation of ODS from Hudson Technologies to Clean Harbors, and found no deficiencies to the requirements of the U.S. Department of Transportation. At the Hazardous Waste Combustor facility operated by Clean Harbors, NSF re-verified that its Title V, RCRA and NPDES permits were current, that the facility remains a permitted RCRA HWC with a current CPT demonstrating a DRE in excess of

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99.99% with a material less combustible than the destructed ODS, that required monitoring contained within the Title V permit and Section 6.7 of the Protocol was conducted for the entire period of the destruction events and within limits, that there were no outstanding NOV's from any regulatory agency.

3.3 Additionality

Legal Requirement Test. NSF reviewed the Attestation of Voluntary Implementation submitted by EOS Climate. In addition, NSF reviewed internal records generated by EOS Climate as part of its project monitoring to determine, on a periodic basis, whether any of the states in which refrigerant is collected, had recently modified their regulations to require ODS destruction. EOS Climate found no such modified regulations. NSF confirmed that the websites EOS Climate visited corresponded with the states that provided the refrigerant for destruction. NSF concluded that no changes had occurred in state law that would require ODS destruction.

Performance Standard Test. EOS Climate met the Performance Standard Test because it destroyed ODS that did not originate with U.S. federal government installations or stockpiles and a permitted HWC. NSF verified this by sampling data that demonstrated that the source of R-12 refrigerant was Hudson Technologies and that the ODS was destroyed at Clean Harbors.

3.4 Project Boundaries and Emission Sources

Sources, Sinks and Reservoirs. The point at which refrigerant was first collected in cylinders of 500 lbs. or more was at the Hudson Technologies facility according to the requirements of 40 CFR 82 Subpart F. ODS was provided by Hudson Technologies from sealed inventory containers to EOS Climate in sealed ISO transports delivered to Clean Harbors. NFS verified that for this project reporting period, the relevant sources, sinks and reservoirs (SSRs) were SSR 2, SSR 4, SSR 5, SSR 6, and SSR 7.

3.5 Performance Against Project Protocol/Methodology

Monitoring and Operations Plan. In accordance with protocol requirements, EOS Climate had established a monitoring and operations plan entitled "EOS Climate ODS Destruction Monitoring and Operations Plan for Project EOS-JA-09-01." This document, which was reviewed at version 4/28/10, Revision 14, addressed monitoring, operations and reporting and described how relevant parameters required by the protocol in Table 6.2 were to be collected and reported.

Reserve ODS Tracking System. NSF verified that EOS Climate had made entries in the Reserve ODS Tracking System prior to verification. For the second reporting period, Clean Harbors Environmental Services issued two certificates of destruction dated 4-19-2010 and 5-4-2010. The certificates of destruction included the information required by section 6.1 of the US ODS project protocol.

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Point of Origin Documentation. NSF verified, through records, that the refrigerant destroyed in the second reporting period had originated at the Hudson Technologies refrigerant reclaim facility in Champaign, IL. Bill of lading from Hudson Technologies to Clean Harbors, shipment weigh records from both Hudson Technologies and Clean Harbors, and the contract between Hudson Technologies and EOS Climate were reviewed. Reporting Period Two ODS was documented by Hudson Technologies as having met the requirements of the Protocol and the pre-existing inventory Protocol Clarification issued by CAR dated May 7, 2010 and that none of the ODS was from a US Government Stockpile and all of the ODS was of US origin. EOS Climate obtained written certifications for the origin of the ODS from Hudson Technologies. In addition, EOS Climate verified the existence of Hudson ODS inventories at the time of Protocol adoption using publicly available and audited financial inventory reports for the year ending December 31, 2009. EOS Climate calculated that less than 5% of the existing Hudson refrigerant supply at the time of Protocol adoption was provided to EOS Climate for this reporting period. NSF reviewed the SEC 10-K Financial Report provided by EOS, verified the calculations and concurs the inventory from Hudson for the second reporting period was in existence and represented a minor portion (less than 4%) of Hudson's inventory on hand December 31, 2009.

Custody and Ownership. The refrigerant that EOS Climate purchased and delivered from Hudson Technologies was entirely sourced within the United States of America. NSF previously verified a sampling of purchase records at the Hudson Technologies facility. EOS Climate acquired title to refrigerant which had already been collected and stored at Hudson Technologies facilities in sealed containers. EOS Climate obtained title of the refrigerant from Hudson Technologies upon shipment until it was received by the Clean Harbors Environmental Services' destruction facility in El Dorado, AR. At that point ownership of the refrigerant transferred to Clean Harbors for the purposes of destruction. Title to the emission reductions that resulted from destruction remained with EOS Climate from the time the ODS was shipped from Hudson Technologies. NSF verified the status of ODS ownership and the ownership of ODS destruction credits by reviewing and documenting with EOS Climate the Refrigerant Lease Agreement between Hudson Technologies and EOS Climate, bill of lading from Hudson Technologies to Clean Harbors on behalf of EOS Climate, and the agreement between EOS Climate and Clean Harbors.

Concentrated ODS Composition and Quantity Analysis Requirements. Eligible ODS is reclaimed in Champaign, IL, by Hudson Technologies to remove impurities (water and oil). The ODS was then placed in bulk storage until it was shipped in bulk ISO containers to the Clean Harbors facility in El Dorado, AR. Upon arrival at Clean Harbors each ISO container was weighed and weigh tickets retained to establish pre- and post-destruction weight. A single, 120,000 lb. Fairbanks scale was used at Clean Harbors for the weighings. Calibration records of the scales were re-reviewed for this reporting period and found to demonstrate the required accuracy, such calibrations being conducted monthly. Time limits for weighings pre- and post-destruction according to the protocol were respected. Samples were drawn from the containers by DOT trained Clean Harbors laboratory technicians and shipped off-site to an independent AHRI-certified laboratory for analysis by gas chromatography. NSF verified that the laboratory performing ODS testing was an independent lab with ARI-700-2006 certification. All sampling requirements of the protocol were found by NSF to have been met and appropriate records

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retained. The analysis of the samples drawn from both containers demonstrated that the refrigerant in each container was more than 90% CFC-12 by weight.

Destruction Facility Requirements. The Clean Harbors destruction facility in El Dorado, AR, is a RCRA-permitted hazardous waste combustor. According to the protocol, RCRA-permitted hazardous waste combustors are considered to meet the TEAP requirements by default, and no further testing for TEAP compliance is required. NSF re-verified both the regulatory compliance of the destruction facility and its conformity with the requirements of the Reserve's ODS protocol. NSF re-reviewed Clean Harbors' destruction equipment monitoring and control system, its current Title V permit and RCRA permit in detail, the latest CPT report results and compared them to permit limits, compared performance parameters recorded during the reporting period destruction events with permit limits, and confirmed required monitoring equipment was used and that calibration of monitoring equipment was current and within Protocol allowances. NSF also re-tested operating personnel on use of the monitoring data base and controls and reviewed printouts from the data monitoring system generated at NSF's request during the verification for the specific reporting period destruction for all parameters required by the Protocol and Title V permit.

Monitoring Parameters. NSF verified that EOS Climate had carried out the monitoring required by the ODS protocol. The requirements were summarized in EOS Climate's "EOS Climate ODS Destruction Monitoring and Operations Plan for Project EOS-JA-09-01," as described above in an earlier paragraph.

3.6 Project Management System

Management System. NSF re-verified the EOS Climate management system by reviewing changes to the EOS Climate Management System provided by the company headquarters for this second reporting period. NSF found a continued adequate control environment for the project, including information management, authorizations for key activities, management reviews, and recordkeeping.

Project Documentation. NSF verified that the required documents for the project's second reporting period had been completed and submitted to the Reserve. These included the Project Submittal form, the signed Attestation of Title form, the signed Attestation of Regulatory Compliance form, and the signed Attestation of Voluntary Implementation form.

3.7 Calculation of GHG Emission Reductions

NSF independently calculated project emission reductions from information on the independent laboratory analysis reports and the certificates of destruction, and found EOS Climate's claimed emission reductions varied from ours by approximately 0.04 percent.

3.8 Corrective Action Requests/Recommendations

NSF issued corrective action requests and recommendations for improvement. Corrective action was completed satisfactorily prior to issuance of this verification report.

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3.9 Approved Variances or Deviations

There were no applications by EOS Climate for variances from any protocol requirements for the second reporting period of this project.

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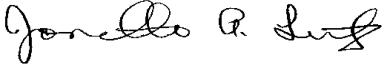
4. Verification Results

4.1 Verification Team Recommendation

Based on the verification activities described above, the verification team has concluded that the EOS Climate ODS project, in its second reporting period, has achieved the following emission reductions:

Reductions/Removals from 11 April – 04 May 2010		Metric tons CO ₂ -e
Project baseline		271,185
- Project emissions		20,507
- Project adjustments (explain)		N/A
= Net project emission reductions/removals		250,678

4.2 Verification Audit Summary

Project Developer	EOS Climate Inc. 71 Stevenson St., Suite 400 San Francisco, CA 94105 USA
Project Location	Clean Harbors Environmental Services 309 American Circle El Dorado, AR 71730
Project Type	Destruction of Ozone Depleting Substances
Project Period	24 FebruaryReporting Period 2, April 11 – May 4, 2010
Protocol/Methodology	Climate Action Reserve, US Ozone Depleting Substances Project Protocol, v. 1
Emissions/Removals Verified	Vintage 2010: 250,678 metric tons CO ₂ -e
Verification Conclusion	Based upon the verification activities described above, NSF has concluded that EOS Climate's reported 2010 vintage emission reductions of 250,678 metric tons CO ₂ -e reported to the Climate Action Reserve for the period 11 April – 04 May 2010, are, in all material respects, fairly stated.
Lead Verifier	 John C. Shideler, 2010-07-06
Internal Reviewer	 Janette Lutz, 2010-07-09
<i>This verification statement is valid when signed and dated by an NSF internal reviewer.</i>	