

VERIFICATION REPORT



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Summary:

SCS Global Services conducted a verification of the Blue Source Henrico County Landfill Gas Combustion Project. In this project, methane gas was collected from active and inactive portions of the Springfield Road Landfill located in Henrico County, Virginia. Landfill gas was destroyed in one of two destruction devices: 1) Landfill gas was used to generate electricity from a 4 MW power generating facility constructed by Ingenco and 2) Landfill gas not consumed by the Ingenco power generating facility was burned in an open flare. These activities resulted in a net reduction of CO₂-equivalent emissions.

Blue Source, LLC engaged SCS Global Services to verify its emission reductions from October 1, 2012 to December 31, 2012. SCS Global Services verified the asserted emission reductions against criteria stated in the Verified Carbon Standard (VCS) Standard dated October 4, 2012, v3.3, and the approved consolidated baseline methodology ACM0001: "Consolidated Baseline and Monitoring Methodology for Landfill Gas Project Activities": Version 10.

SCS Global Services conducted an offsite document review for this reporting period. A very recent on-site verification audit in Glen Allen, Henrico County, VA was conducted on October 9, 2012 for the previous monitoring period. The objective of this engagement with Blue Source was to determine, with reasonable assurance, that the calculated emission reductions for this project were, in all material respects, fairly stated. The SCS Global Services verification team conducted its verification in accordance with ISO 14064, Part 3, *Greenhouse gases – Specification with guidance for the validation and verification of greenhouse gas assertions* and with the VCS "Validation and Verification Manual", October 4, 2012, v3.0.

During the verification process, SCS Global Services issued several clarification requests – all of which were addressed sufficiently by the project participants. On the basis of work conducted, SCS Global Services was able to conclude with reasonable assurance that Blue Source asserted vintage 2012 (October 1 through December 31, 2012 only) methane emission reductions were fairly stated. Additional details concerning this conclusion are provided in Section V of this report.

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1 INTRODUCTION

1.1 Objective

The objective of the verification audit activity was to conduct an independent assessment of the Henrico County Landfill Gas Combustion Project (“the project”) to determine with reasonable assurance whether Blue Source, LLC (Blue Source) had quantified, monitored, and fairly reported to the Verified Carbon Standard its landfill gas emission reductions from the project in accordance with the verification criteria, as set out in the guidance documents listed in Section 1.2 of this report.

1.2 Scope and Criteria

The scope of the engagement included quantification, monitoring and reporting of greenhouse gas project emissions reductions associated with the voluntary destruction of landfill gas from an expanded landfill gas collection system at the Springfield Road Landfill in Henrico County, Virginia. The Project consists of two stages. Stage 1 is the expansion of the pre-existing well-field and replacement of a small candlestick flare with a larger capacity flare station. Stage 2 is the implementation of a beneficial use project where the landfill gas (LFG) is destroyed in an on-site power generation facility and the resulting electricity is exported to the grid. The project boundary is defined as the landfill, which is the site where landfill gas is collected via separate header and piping system from a pre-existing landfill gas conveyance and collection system, an expanded collection system built in 2005, (expanded again in 2006 and yet again in 2010), the flare station and the Ingenco 4 MW power generating facility located on the landfill property.

The project developers implemented its methane emission reduction project in accordance with the requirements of the CDM methodology ACM0001– *Consolidated baseline and monitoring methodology for landfill gas project activities*, Version 10 and the Verified Carbon Standard Version 2007.1.

SCS Global Services (SCS) conducted its verification of the reported emission reductions in accordance with the Verified Carbon Standard Version 3.3 (4 October, 2012), the Verified Carbon Standard Program Guide Version 3.4 (4 October, 2012), and ISO 14064:2006 Part 3, Greenhouse gases – *Specification with guidance for the validation and verification of greenhouse gas assertions* and the VCS “Validation and Verification Manual”, October 4, 2012, Version 3.0.

1.3 Level of assurance

The Level of assurance in accordance with Section 5.3.1 of the VCS Standard is reasonable. 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.

1.4 Summary Description of the Project

The Project captures and destroys LFG methane from the Springfield Road Landfill located at 10600 Fords Country Lane, Glenn Allen, Henrico County, VA (latitude/ longitude: 37°40’ 45” N / 77° 33’ 58” W)

The Project consists of two stages. Stage 1 of the Project was the installation of an active gas collection system. During this stage, the gas captured from this system is flared, thereby converting methane to biogenic CO₂. As part of this project phase, in December 2004, Henrico

County decommissioned the pre-existing flare and in June 2005, a larger flare station was installed. An additional 87 wells were installed during this time period. The wellfield was further expanded in 2006 with the addition of 5 new wells. In the fall of 2010, the collection system was expanded again with 18 new wells, bringing the total number of eligible wells to 110.

Stage 2 of the Project involved the implementation of a beneficial use project. The captured biogas is transported to an electrical power generating facility ("Ingenco") that uses modified diesel engines to run generators. This is located on the landfill property. This stage of the project became operational in September 2010 and most of the gas collected from the landfill is destroyed by Ingenco for electricity generation.

At the time of this verification, both Stage 1 and Stage 2 continue to be fully implemented.

2 VALIDATION PROCESS, FINDINGS AND CONCLUSION

2.1 VALIDATION PROCESS:

Note: this Validation Process section is intentionally left blank. The Project Description Document, dated 19 November 2007, had previously been validated and the validation includes information for the following:

2.2 VALIDATION FINDINGS:

2.2.1 GAP VALIDATION

Not applicable. The scope of this verification does not include a validation.

2.2.2 METHODOLOGY DEVIATIONS

Not applicable. The scope of this verification does not include a validation.

2.2.3 PROJECT DESCRIPTION DEVIATIONS

Not applicable. The scope of this verification does not include a validation.

2.2.4 NEW PROJECT ACTIVITY INSTANCES

Not applicable. The scope of this verification does not include a validation.

2.3 VALIDATION CONCLUSION

Not applicable. The scope of this verification does not include a validation.

3 VERIFICATION PROCESS

3.1 Method and Criteria

The verification was performed through a combination of document review, e-mails and phone conversations with relevant personnel and independent checks of methodologies and

calculations, as discussed in Sections 3.2 through 3.4 of this report (Document Review, Interviews and Site Inspections.) At all times, the project was assessed for conformance to the criteria described in Section 1.2 of this report. As discussed in Section 2.6, findings were issued to ensure that the project was in full conformance to all requirements.

The methodology mentioned above was carried out in the following steps:

- Appointment of Verification Team;
- Conflict of Interest Review;
- Project Kickoff;
- Document Review of PDD to the current Project Monitoring Plan for the reporting period under review, initial review of data and other documents;
- Development of the Verification and Sampling Plan;
- Review and evaluation of raw data and calculations for the period under review;
- Follow-up: Closure of clarification requests for supplemental data and closure of nonconformances as needed;
- Final statement and Verification Report completion

Appointment of Verification Team

This verification was performed by Mark Lutz, Lead Verifier, and reviewed by Tina Sentner, Internal Reviewer. Mark Lutz and Tina Sentner are lead verifiers approved by SCS Global Services to conduct landfill gas project verifications.

Conflict of Interest Review

Conflict of Interest inquiries were completed for SCS and for the verification team and a finding of low COI risk was confirmed by the SCS internal COI process. The COI assessment was conducted to identify any potential conflict of interests with the verification/project.

Project Kick off

Kick off of the project was initiated via a series of e-mails exchanged between the Lead Verifier and Blue Source. The purpose was to review the timeline of verification; confirm verification criteria; determine any changes in the site, sources, GHG management systems or personnel, and to begin gathering information.

Desk Review

SCS Global Services reviewed the Project Description Document, Project Monitoring Report, and supporting documentation, including raw data and calculations. In addition, a Risk Assessment, Verification Plan and Sampling plan were finalized.

Site Visit

The last site visit was conducted October 9, 2012 for the previous monitoring period. The results of our Risk Assessment indicated that, because there were no significant changes in this project from the previous verification period, an additional site visit was not warranted. Some of the information gathered from the October 9, 2012 site visit was also used for this monitoring period (October 1 to December 31, 2013) to verify the project equipment; to review and evaluate the project GHG management systems and data collection and handling.

Quantitative Review

An assessment of the emission reduction calculation inputs and procedures was performed to review the quantitative analyses undertaken by the Project Proponent, of converting the raw inventory data into emission reduction estimates.

Findings

Throughout the verification, there was an iterative exchange between SCS Global Services and the Project Proponent to gather additional information for review and examination. This exchange can include Findings—New Information Requests (NIR), Non-Conformities (NCR) and Opportunities for improvement issued by SCS Global Services to the Project Proponent. For this project, a number of NIR's and one non conformance were issued. The Project Proponent responded to all NIRs and subsequently all issues were closed by SCS Global Services. See section 3.5 below.

Final Report and Opinion

The last step in the verification process included a final review of the submitted data, completion of the Verification Report, and drafting of the Deed of Representation. The draft report is presented to an internal SCS Global Services Technical Reviewer who determines the Verification Opinion to be justified given the evidence presented. Once completed, the Verification Report and Deed of Representation are presented to the project proponent for approval and subsequent submittal to the VCS.

Exit meeting with client:

The exit meeting entails a review of the verification process, summary of the verification findings and to initiate scheduling for the next verification period.

3.2 Document Review

Based on documents provided by Blue Source, a document review was conducted. The Monitoring Report and supporting documentation were carefully reviewed for conformance to the verification criteria. The Project Description Document was reviewed against the Project Monitoring Report for any variances. In addition, the CDM methodology ACM0001 (Version 10) was compared to the project monitoring plan for correct formula methodology along with referenced tool in this methodology: "Tool to determine project emissions from flaring gases containing methane" (version 1) and "Tool to calculate baseline, project and/or leakage emissions from electricity consumption" (version 1). Per the data described in the Project Monitoring Plan and the original Project Description Document, supplemental data was initially reviewed, including calibration data, calculation factors and aggregated data checks.

A risk assessment was conducted during this phase and was based on preliminary findings to assess the sources and magnitude of potential errors, omissions and misrepresentations for further verification activities. Risks assessed were 1) The inherent risk of a material discrepancy occurring; 2) The risk that the controls of the organization or GHG project will not prevent or detect a material discrepancy; and 3) The risk that the validation or verification will not detect any material discrepancy.

3.3 Interviews

For this verification period, the Project Manager from Blue Source was interviewed for information related to changes in the project such as methodologies, calculations, data aggregation, QA, monitoring equipment, the current Monitoring Plan, etc.

During the previous site visit of October 9, 2012, the following were interviewed:

- Engineers from Draper Aden Associates: Provided information to questions that arose during the document review process; provided information associated with the daily maintenance of the project, including calibration and maintenance of monitoring equipment and well field balancing; provided background information associated with changes that occurred during the reporting period, provided site maps and documentation associated with the flare station and provided permit information.
- The Project Manager from Blue Source LLC associated with this project: Provided information to questions that arose during the document review process; provided in-depth information associated with the Monitoring Plan and Project Description Document, provided information related to the calculation of project reductions for this reporting period; was a point person for responding to needed clarifications and non-conformances.
- Two technicians from Ingenco Renewable Development LLC: Provided information related to the electricity generating plant.

3.4 Site Inspections

SCS Global Services previously conducted a site visit of the Springfield Road Landfill located in Henrico County, Virginia and the electrical generation facility located on the landfill on October 9, 2012. As discussed earlier, there was no additional site inspection for this short monitoring period. The site visit on October 9, 2012 was again relied upon. The nature of verification activities conducted at that time included:

- Verification of the implementation of the landfill gas project to report emission reductions in accordance with the ACM 0001, Version 10, "Consolidated baseline and monitoring methodology for landfill gas project activities";
- Verification of evidence presented by the various project proponents to demonstrate their knowledge of and assertion of compliance with applicable air and water regulations;
- Verification of applicable methane and carbon dioxide emission sources within the project boundary and their quantification as defined by the ACM 0001, Version 10, "Consolidated baseline and monitoring methodology for landfill gas project activities";
- Verification of the Project's compliance with monitoring of key operational parameters of its landfill gas collection and destruction project as noted in the project description;
- Assessment of the capability of the Project's management system and procedures to produce accurate, reliable, and reproducible data and information;
- Determination of the Project's conformity in all material respects with the requirements of the ACM 0001, Version 10, "Consolidated baseline and monitoring methodology for landfill gas project activities";

- Visiting the selected work locations and interviewing personnel, observing operations, and reviewing relevant documents and records, and
- Reviewing the basis for and results achieved from the calculated methane emission reductions from its landfill gas collection and destruction project.

3.5 Resolution of Any Material Discrepancy

SCS Global Services issued five (5) requests for new information and one (1) nonconformity during the verification process. Blue Source responses were sufficient to resolve all clarification requests and non conformities. The findings with the responses provided are summarized in the tables below:

Finding Summary	Status	Due Date	Std Ref	Document Reference	Finding	Client Response	Auditor Response
Finding Type: NIR Finding Number: 2012 (Oct 1 through Dec 31).1 Issue Date: 2/5/13	Closed	02/12/13	N/A	"Blue Source Henrico County Landfill Gas Combustion Project", V 1.0 Monitoring Report	The Project emissions are 260 T CO ₂ e for the Jan to Sept 2012. For Oct to Dec 2012, they are 9 T CO ₂ e. On an annualized basis, the 260 T for Jan to Sept 2012 are 346.7 MT and 36 T for Oct through December. This represents almost a 90% reduction in project emissions. Please clarify why this is so.	The fossil fuel Calculations for Jan-Sept indicate that 88% of the 260 T CO ₂ e come from diesel fuel consumption. The diesel fuel is considered 100% consumed in the monitoring period it is delivered. Whereas the propane & electricity average 3 T CO ₂ e a month. So if there are no additional diesel invoices during the monitoring period then none would be considered consumed.	Answer accepted. Closed
Finding Type: NIR Finding Number: 2012 (Oct 1 through Dec 31).2 Issue Date: 2/5/13	Closed	02/12/13	N/A	"Blue Source Henrico County Landfill Gas Combustion Project", V 1.0 Monitoring Report	On page 18 of the Monitoring Report (5th paragraph on the page, under "Flare Operation"), ..."both thermocouples were successfully calibrated by the manufacturer January 2012." Were these new thermocouples? Thermocouples are not normally considered as being able to be calibrated. Can	These were not new Thermocouples, however Emerson's technician "calibrates" the thermocouple as indicated on "Henrico Landfill Flare Pilot TC 2012.pdf" &	Answer accepted. Closed

					you provide more information regarding this?	"Henrico Landfill Flare TC 2012.pdf"	
Finding Type: NIR Finding Number: 2012 (Oct 1 through Dec 31).3 Issue Date: 2/5/13	Closed	02/12/13	N/A	"Blue Source Henrico County Landfill Gas Combustion Project", V 1.0 Monitoring Report	On at least two parameters checked (the EF CO ₂ , Propane,y and the EF CO ₂ , Diesel, y on page 9 of the Monitoring Report), the verbiage talks about conversion to "tons" when the actual units are metric "tonnes" (in the following line "Value Applied.) In addition, for EF CO ₂ Diesel,y, the conversion factor is listed as 1,102 to convert kilograms to tons.	These are typos & have been updated in the Monitoring Report.	Reviewed v 2. Answer accepted with release of v2. Closed
Finding Type: NCR Finding Number: 2012 (Oct 1 through Dec 31).4 Issue Date: 2/5/13	Closed	02/12/13	N/A	"Blue Source Henrico County Landfill Gas Combustion Project", V 1.0 Monitoring Report	There are sections in the Monitoring Plan that appear to be not updated to current conditions (examples: Footnote on Page 3, "...operation of the landfill gas to energy part of this project as this phase is not yet completed", Page 4, first paragraph on under section 1.6 - "It is anticipated that the landfill gas capture system will be further expanded in late 2009 or early 2010, page 7, top, "	Went through entire report and changed to reflect current conditions. See v.3 of this Monitoring Report.	Reviewed Monitoring Report v.3. Verified changed to reflect current conditions. Answer accepted. Closed
Finding Type: NIR Finding Number: 2012 (Oct 1 through Dec 31).5 Issue Date: 2/5/13	Closed	02/12/13	N/A	"Blue Source Henrico County Landfill Gas Combustion Project", V 1.0 Monitoring Report	In a separate document....or in the Monitoring Report, can you provide clarification on any changes that occurred during the 3 month reporting period? Flare Skid changes, operational changes, landfill changes, methodological changes, management changes, factor	The document "VCS#441_Changes that have occurred during the current Monitoring Period (Oct-Dec 2012).docx" describes all changes during	Reviewed VCS#441. There was only one "change" noted: A loaner methane analyzer while the standard one was being calibrated. Not

					changes, etc.?	this monitoring period.	considered to have an effect on the ver. risk analysis or calculations. Answer accepted. Closed
Finding Type: NIR Finding Number: 2012 (Oct 1 through Dec 31).6 Issue Date: 2/5/13	Closed	02/12/13	VCS Std VCS V3.0 3.16.2 (page 22)	N/A	Can you provide an explanation of the QC practices used by Blue Source for this reporting period? i.e. Methodology checks, factor updates (if needed), checks on data formulae, etc.	Blue Source's QA/QC procedures checks the calculations & necessary inputs and formulas to confirm accuracy.	Reviewed QA/QC procedure sent from Blue Source. Answer accepted. Closed

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The Project was confirmed as being fully operational throughout this latest monitoring period. Implementation of the project activity was confirmed during the previous site visit on October 9, 2012. The Project continued to be implemented according to the description provided in the validated PDD and the Project Monitoring Plan. The Project's start date of June 3, 2005 was confirmed during the original validation.

The project continued during this verification period as being fully operational with both Stage 1 (the expansion of the existing well field and the construction of a flare and Stage 2 (capturing biogas to be transported to a power generating facility located on-site and used for electricity generation) as being completely implemented.

The project was reviewed for any changes and confirms that there were no substantive changes made during this verification period.

SCS Global Services reviewed evidence for any data, variables or methodologies written in the Monitoring Report that differed from those stated in the validated PDD. SCS also, through an examination of an agreement (still in force) between Ingenco Renewable Development, LLC and Henrico County, verifies that Ingenco continues to own the rights to GHG credits produced from this Project. In addition, Henrico County continues to own and operate the LFG collection system and flare station. Blue Source continues to be contracted with Ingenco to monetize the emission reduction credits associated with the Project.

The initial validation of the project identified two methodology deviations between the monitoring or measurement requirements of the validation criteria and the Project's monitoring plan. The methodology deviations were reviewed by the validation body and found to be acceptable, as summarized in the table below:

Parameter	ACM0001 Requirement	Deviation from Requirement	Validation Conclusion
MDproject, y – Ex ante	Use a first order decay	Emission reductions for	Deviation acceptable.

of the amount of methane that would have been destroyed or combusted during the year.	model per the CDM Annex 10 "Tool to determine methane emissions avoided from disposal of waste at a solid waste disposal site."	2009 through 2018 are estimated using the quantity of waste disposed at the Landfill and the US EPA's LandGEM model.	The gas volumes generated by the LandGEM model are for illustrative purposes only, as emission reductions will be based on <i>ex-post</i> monitoring data of the Project performance.
EFEL,j,y – Emission factor for electricity generation for source <i>j</i> in year <i>y</i> .	Following option A2 of the "Tool to calculation baseline, project, and/or leakage emissions from electricity consumption," a conservative default value of 1.3 tCO ₂ /MWh may be used.	An emission factor for electricity generation (EFEL,j,y) is assigned a value of 0.515 tonnes CO ₂ per MWh based on US EPA's eGrid 2007 for SRVC subregion. This value will be reviewed annually upon the release of updated eGrid data.	The 1.3 tCO ₂ /MWh default value provided by the tool is not representative of the emission intensity of grid-connected electricity generation in the US. Further, the Project does not consume a significant quantity of electricity and electricity consumption does not represent a large emission source for the project. As such, this approach is reasonable.

During this verification period, additional deviations were noted between the monitoring systems described in the validated PDD and those described in the monitoring report, as follows:

Parameter	Monitoring	Deviation	Verifier Conclusion
PDD states on page 37- "Annual verification" under the 'Schedule' in section 7.	Alternative verification periods	Verification for this last verification period was for 16 months instead of the annual verifications.	Deviation acceptable. . Does not impact eligibility, conformance, or performance of Project against ACM0001
PDD states on page 2 that "The Landfill's NMOC emissions will be assessed annually to ensure that the Landfill is not required to install a collection system."	Alternative monitoring method	A five- year assessment is done. Also, monitoring is performed by the County and Engineering firm constantly reviewing any new local, state, regional or federal updates to the regulations as well as	Deviation acceptable. Does not impact eligibility, conformance, or performance of Project against ACM0001.

		performing the appropriate documentation for the Title V and GHG reporting.	
PDD states on page 31- "Section 4.4 "Emission reductions are calculated as the difference between the baseline methane emission rate and project emissions from electricity and fuel consumption at the site." but no equation was given therefore Equation 17 was included.	None – for clarification purposes only	Added equation 17 in the Monitoring Report : $ER_y = BE_y - PE_y$ Where: ER_y = Emission reductions in year y (tCO ₂ e) PE_y = Project emissions in year y (tCO ₂ e) BE_y = Baseline emissions in year y (tCO ₂ e)	Deviation acceptable. Does not impact eligibility, conformance, or performance of Project against ACM0001.
PDD states on page 25- Methane Density at 70 F & 1 atm is 0.000669 to be used in the calculations	Alternative factor	The correct value is 00664321412 for 0 degrees & 1 atm, because 0 degrees is what all flows are adjusted to.	Deviation acceptable. Does not impact eligibility, conformance, or performance of Project against ACM0001.

There were no remaining issues from the previous validation or verifications.

4.2 Accuracy of GHG Emission Reduction or Removal Calculations

The verification process was focused on independent testing and checking of the supplied spreadsheets to ensure that they were consistent with the formulas and equations described in ACM0001 (Version 10) and the validated PDD. In addition, checks of raw data used in the calculations, including flows and methane content and utility and fossil fuel invoices, were checked to the values used in the final calculations and tested for transcription or mathematical errors.

SCS Global Services reviewed emission reduction calculations for the reporting period, using the following specific tests and checks:

- Samples of raw data were tested for continuity and consistency of flow rates, methane content and for handling of outliers.
- Excel formulas that transposed data from one worksheet to another were checked.
- All formulas used were tested to ACM 0001 v10 and to the validated PDD.
- Samples of raw data were examined and followed through to final calculations.

- Samples of raw data were also examined for operation of the flare to the required parameters (temperatures and flow rates) defined in the validated PDD.
- Samples of spreadsheet aggregation formulas were checked for accuracy.
- Default factors were verified to the validated PDD.
- Data from project emissions were checked against samples of original invoices.
- Independent calculations, using aggregated spreadsheet data, were used to compare final results from Blue Source spreadsheets

SCS Global reviewed the project monitoring data for methane fraction (W_{CH_4}), total LFG eligible for the project ($MD_{project,y}$), and total landfill gas destroyed by the generation of electricity ($MD_{electricity,y}$) as used to calculate the amount of methane destroyed by the project.

Incremental flow was first calculated by taking the flare flow difference between the aggregated monitoring periods from the raw data. The incremental methane destroyed flow was then calculated based on the above parameters with temperature and maximum flow capacity taken into consideration.

Landfill gas flare methane was calculated as the summation of aggregated LFG gas flow multiplied by the methane content and density of methane per cubic meter from which project emissions of the residual gas stream in the flare was subtracted.

Incremental methane destroyed from each destruction device was aggregated on a monthly basis and the annual monthly summaries were brought forward to the emission reduction calculation spreadsheet for further calculation. The methane destroyed by the Project ($MD_{project,y}$) was calculated based on the quantity of methane flared and the methane used to generate electricity as follows:

$$MD_{project,y} = MD_{flared,y} + MD_{electricity,y}$$

Raw data collected for $MD_{flared,y}$ and $MD_{electricity,y}$ included landfill gas flow, operational hours, and methane fraction on a continuous electronic basis by an electronic data logger. Our review of the raw data confirmed the project correctly adjusted flow to standard conditions of 70 degrees F and 1 atm as required by the PDD. All data was adjusted according to the parameters in the PDD and formulas used were appropriately notated on the top of each work sheet.

Baseline emissions were then further correctly calculated using the formula:

$$BE_y = (MD_{project,y} - MD_{BL,y}) * GWP_{CH_4}$$

The pre-project collection system (the baseline deduction $MD_{BL,y}$) was equal to historic data calculations that were derived from the validated PDD.

Project emissions from electricity use and propane consumption were calculated and deducted from the overall emission reductions created by the project in conformance with the validated Project Description using equation:

$$ER_y = BE_y - PE_y$$

A Red Lion data logger was verified as having been used during this verification period with the capability to record flow, methane concentration and flare temperature. Per the CDM "Tool to determine project emissions from flaring gases containing methane" version 1, a flare efficiency of 98% is used if the methane monitoring is continuous. The raw data was verified as being continuous and the aggregated data was checked in this time period to test that the correct percentages were used to calculate emissions.

All calibrations for the flow meters to both the flare and to the Ingenco plant were checked to verify that they were calibrated to manufacturers' specifications. All calibrations for the methane analyzers were also checked to verify that they were calibrated to manufacturer's specifications. The following is a synopsis of calibrations for the flow meters and gas analyzers:

For the Landfill gas flow meters:

The validated PDD states that the flowmeters will be calibrated at least annually. At the flare: Flowmeter Model Rosemont 3095 Multi-Variable Pressure Transmitter, Serial #: 130579: Calibrated January 2012 which is within the PDD's instructions for frequency and was within manufacturer's tolerances.

At the Ingenco Electricity Generation plant: Flow meter Model Rosemont 3095 Multi-Variable Pressure Transmitter, Serial #: 306661: Calibrated August 2012 within manufactures' recommendations. which is within the PDD's instructions for frequency and was within manufacturer's tolerances.

For the Gas Analyzers:

The validated PDD states that the methane analyzers will be calibrated per manufacturer's recommendations (at least annually.) The Landtec FAU-TDL continuous gas analyzer (SN# 1037) was in operation during the monitoring period from October 1st – November 7th; it was removed & sent to the manufacturer to be calibrated. The manufacturer provided a "loaner" meter (SN#1006), which was installed until December 18 when SN#1037 was returned from Landtec and reinstalled.

The following tables summarize the history, analyzers used, dates of use and factory calibration dates:

History	Make	Model	Serial #	Calibrated
As of beginning of verification period to November 7, 2012	Landtec	FAU-TDL Continuous gas analyzer	1037	4/23/2012
Loaner used November 7 to December 18, 2012	Landtec	FAU-TDL Continuous gas analyzer	1006	11/2/2012
Original meter re-installed December 18, 2012	Landtec	FAU-TDL Continuous gas analyzer	1037	12/7/2012

Project emissions were subtracted from total emission reductions. Project emissions consisted of indirect emissions of CO₂ from electricity consumption and direct emissions of CO₂ from the combustion of propane as the flare pilot fuel and the diesel used to start the generators used at Ingenco. SCS Global Services noted very minor calculation errors, but they had no material impact on the overall calculations. Independent calculations of the final emission reductions (after non-conformances were resolved and new calculations were submitted) showed very little

difference with the emission reduction calculations supplied by Blue Source, LLC and were immaterial.

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

Because there was no on-site visit for this verification period, the quality of evidence relied on communication with the Project Manager from Blue Source and documentation. The documentation that was provided by Blue Source LLC included emission data, the data collection process and the quality systems associated with this project. Documented evidence included raw electronic flow records, aggregated flow data on a number of spreadsheets, methane analyzer records, calculation records, invoices and equipment calibration records.

SCS Global reviewed evidence of the above data sources to a sampling plan and did an independent review of the factors associated with methodology and the calculations themselves.

The evidence provided was sufficient for verification of the project and consistent with the requirements of the VCS Standard, v3.3 (Oct 4, 2012), ACM0001 (Version 10), the validated PDD and the Project Monitoring Report and meets generally accepted evidentiary standards for best practice in GHG accounting.

4.4 Management and Operational System

The management and responsibilities for the operational system for this project is shared by Henrico County Landfill personnel, the contracted Engineering company tasked to manage this Project (Draper Aden Associates) and Blue Source LLC.

SCS Global Services interviewed key personnel during the previous site visit on October 9, 2012 connected to the Blue Source Henrico County Landfill Gas Combustion Project and assessed the management control environment of Henrico County Landfill Management, Draper Aden Associates, Ingenco technicians and Blue Source LLC. Controls include staffing key positions with competent personnel, exercising supervisory and management oversight, and managing data.

Through the document review process and through interviews both with the project engineers and a representative from Blue Source LLC., a good understanding of the division of responsibilities between all parties was demonstrated. Based on site interviews with Draper Aden Associates and Blue Source LLC, we confirmed that the division of responsibilities follows the descriptions in Henrico County Landfill's "Project Monitoring Report."

Henrico County's Public Works Department has partnered with Draper Aden Associates to oversee monitoring activities. In particular, DAA handles all the operations and management of gas collection system; has field technicians that balance the well field and downloads the data from the Red Lion data logger for off-site storage. DAA staff download the data from the data logger and submit data to Blue Source for integration into emission reductions calculations. Blue Source saves the raw data files and then, after applying the appropriate emission reduction parameters, creates the emission reduction calculations that undergo an internal QA/QC checklist. DAA also assists the County in areas of permitting.

There were some operational system redundancies noted that made the system more robust: A GEM analyzer is used as a double check for the continuous analyzer readings, even though the continuous analyzer is calibrated per manufacturer's recommendations. Also, Draper Aden

Associates periodically monitors the data for outliers on a regular basis, along with Blue Source LLC.

Data permanence is assured through redundancy of data saved by both Henrico County Landfill and by Blue Source, LLC. The data is also backed up by these two entities. At least once per week, data from the PLC is uploaded to the server

Project monitoring is documented in the Project Design Document (November 19, 2009). For this verification period, SCS Global Services reviewed version "Henrico County Monitoring Report Oct-Dec 2012 version 3.0."

In conclusion, SCS Global Services has determined that the project is in conformance with the latest Monitoring Report (version 3.0) and continues to have adequate management and operational systems in place with respect to monitoring and reporting, as determined through observation during this site visit and a desktop review of project documentation.

5 VERIFICATION CONCLUSION

Blue Source, LLC has supplied a Project Monitoring report, Validated Project Design Document and the necessary evidence requested during the verification process to enable SCS Global Services to arrive at an opinion on the Blue Source Henrico County Landfill Gas Combustion Project. The emission reductions generated from the capture and destruction of landfill gas methane via a flare and a beneficial use project consisting of the destruction of landfill gas using converted diesel generators for electricity generation have been compiled in a transparent manner, the data was found to be accurate within the uncertainty limits of the measurement equipment and emission reduction calculations were found to include all the required sources.

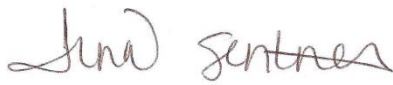
SCS Global Services has determined that the Blue Source Henrico County Landfill Gas Combustion Project, developed by Henrico County, Draper Aden Associates, Blue Source, LLC and Ingenco, is in conformance with the Consolidated Baseline Methodology ACM001, version 10. Furthermore, the Project Plans and data are considered accurate, complete, transparent, and free of material misstatements. The GHG emission reductions are considered verified to a reasonable level of assurance.

Summary of Verified Emission Reductions (tonnes CO₂e):

Reporting Period: October 1, 2012 to December 31, 2012	
GHG Emission Reductions or Removals	tCO ₂ e
Baseline Emissions	15,887
Project Emissions	162
Leakage	Not Applicable for this project.
Net GHG emission reductions or removals	15,725

** Emissions rounded off to nearest whole number. Total Emission Reductions rounded down to nearest whole number*

Verification Summary:

Project Developer	Blue Source, LLC., as credit originator for the Blue Source Henrico County Landfill Gas Combustion Project
Project Location	10600 Fords County Lane, Glenn Allen, VA, USA
Project Type	Landfill gas destruction
Project Periods:	1 October – December 31, 2012
Verification Objective	To determine, with reasonable assurance, that Blue Source, LLC had quantified, monitored, and fairly reported to the Verified Carbon Standard its landfill gas emission reductions in accordance with all applicable criteria.
Verification Scope	The scope of the engagement included the quantification, monitoring and reporting of greenhouse gas project emissions reductions associated with the operation of 1) open flaring, and 2) modified diesel engine electricity generators.
Nature of Data Verified	Historical
Protocol/Methodology	CDM ACM0001, version 10 Verified Carbon Standard Version 3.3 (4 October, 2012) Verified Carbon Standard Program Guide Version 3.4 (4 October, 2012),
Emissions/Removals Verified	Vintage 2012 (October 1 – December 31, 2012): 15,725 metric tons of CO ₂ -equivalent
Verification Conclusion, with Reasonable Assurance	Based upon the verification activities described above, SCS Global Services has concluded that the reported 2012 vintage methane emission reductions are, in all material respects, fairly stated.
Representation	SCS Global Services represents that the Emission Reductions verified in this report have occurred in accordance with the applicable VCS rules.
Lead Verifier	 Mark Lutz, Lead Verifier, April 8, 2013
Internal Reviewer	 Tina Sentner, April 11, 2013
This verification statement is valid when signed and dated by an SCS Global Services internal	

reviewer.

APPENDIX I: LIST OF FINDINGS

NIR 2012 (Oct 1 through Dec 31).1 dated 02/05/2013

Standard Reference: N/A

Document Reference: "Blue Source Henrico County Landfill Gas Combustion Project", V 1.0 Monitoring Report

Finding: The Project emissions are 260 T CO₂e for the Jan to Sept 2012. For Oct to Dec 2012, they are 9 T CO₂e. On an annualized basis, the 260 T for Jan to Sept 2012 are 346.7 MT and 36 T for Oct through December. This represents almost a 90% reduction in project emissions. Please clarify why this is so.

Client Response: The fossil fuel Calculations for Jan-Sept indicate that 88% of the 260 T CO₂e come from diesel fuel consumption. The diesel fuel is considered 100% consumed in the monitoring period it is delivered. Whereas the propane & electricity average 3 T CO₂e a month. So if there are no additional diesel invoices during the monitoring period then none would be considered consumed.

Auditor Response: Answer accepted. Closed

Closing Remarks: The Client's response adequately addresses the finding.

NIR 2012 (Oct 1 through Dec 31).2 dated 02/05/2013

Standard Reference: N/A

Document Reference: "Blue Source Henrico County Landfill Gas Combustion Project", V 1.0 Monitoring Report

Finding: On page 18 of the Monitoring Report (5th paragraph on the page, under "Flare Operation"), ..."both thermocouples were successfully calibrated by the manufacturer January 2012." Were these new thermocouples? Thermocouples are not normally considered as being able to be calibrated. Can you provide more information regarding this?

Client Response: These were not new Thermocouples, however Emerson's technician "calibrates" the thermocouple as indicated on "Henrico Landfill Flare Pilot TC 2012.pdf" & "Henrico Landfill Flare TC 2012.pdf"

Auditor Response: Answer accepted. Closed

Closing Remarks: The Client's response adequately addresses the finding.

NIR 2012 (Oct 1 through Dec 31).3 dated 02/05/2013

Standard Reference: N/A

Document Reference: "Blue Source Henrico County Landfill Gas Combustion Project", V 1.0 Monitoring Report

Finding: On at least two parameters checked (the EF CO₂, Propane,y and the EF CO₂, Diesel, y on page 9 of the Monitoring Report), the verbiage talks about conversion to "tons" when the actual units are metric "tonnes" (in the following line "Value Applied.") In addition, for EF CO₂ Diesel,y, the conversion factor is listed as 1,102 to convert kilograms to tons. These look like typos, but need clarification that they are, indeed, typos.

Client Response: These are typos & have been updated in the Monitoring Report.

Auditor Response: Reviewed v 2.Answer accepted with release of v2. Closed

Closing Remarks: The Client's response adequately addresses the finding.

NCR 2012 (Oct 1 through Dec 31).4 dated 02/05/2013

Standard Reference: N/A

Document Reference: "Blue Source Henrico County Landfill Gas Combustion Project", V 1.0 Monitoring Report

Finding: There are sections in the Monitoring Plan that appear to be not updated to current conditions (examples: Footnote on Page 3, "...operation of the landfill gas to energy part of this project as this phase is not yet completed", Page 4, first paragraph on under section 1.6 - "It is anticipated that the landfill gas capture system will be further expanded in late 2009 or early 2010, page 7, top, " In the future, methane composition may be metered continuously.....", Page 14, under "any comment: "The temperature reading from the thermocouple.....However on a go forward basis, the thermocouples will be checked annually, Page 19, third paragraph, "Accordingly, the temperature of the flare is monitored using a thermocouple and the temperatures are recorded on the strip charts....."), page 21, third paragraph from the bottom, "In the future, if methane composition is metered on a continuous basis....", Page 22 first paragraph "Given that methane composition measurements are not taken continuously,..."

Client Response: All findings cited changed. Report changed to reflect current conditions.

Auditor Response: Reviewed Monitoring Report v.3. Verified changed to reflect current conditions. Answer accepted. Closed

Closing Remarks: The Client's response adequately addresses the finding.

NIR 2012 (Oct 1 through Dec 31).5 dated 02/05/2013

Standard Reference: N/A

Document Reference: "Blue Source Henrico County Landfill Gas Combustion Project", V 1.0 Monitoring Report

Finding: In a separate document....or in the Monitoring Report, can you provide clarification on any changes that occurred during the 3 month reporting period? Flare Skid changes, operational changes, landfill changes, methodological changes, management changes, factor changes, etc.?

Client Response: The document "VCS#441_Changes that have occurred during the current Monitoring Period (Oct-Dec 2012).docx" describes all changes during this monitoring period.

Auditor Response: Reviewed VCS#441. There was only one "change" noted: The use of a loaner methane analyzer while the standard one was being calibrated. This is not considered a real change and has little effect on the verification risk analysis or calculations. Answer accepted. Closed

Closing Remarks: The Client's response adequately addresses the finding.

NIR 2012 (Oct 1 through Dec 31).6 dated 02/05/2013

Standard Reference: VCS Standard: VCS Version 3, 3.16.2 (page 22)

Document Reference: N/A

Finding: Can you provide an explanation of the QC practices used by Blue Source for this reporting period? i.e. Methodology checks, factor updates (if needed), checks on data formulae, etc.

Client Response: Blue Source's QA/QC procedures checks the calculations & necessary inputs and formulas to confirm accuracy.

Auditor Response: Reviewed QA/QC procedure sent from Blue Source. Answer accepted. Closed

Closing Remarks: The Client's response adequately addresses the finding.