



Verification Report for

La Perseverancia Biogas Plant Project Cuautla, Morelos Mexico

Climate Action Reserve

Project ID CAR1019

November 10, 2019

Report Prepared for

Energía Renovable de Cuautla
S.A. de C.V.
Calle 30 de Septiembre
s/n col. Ampliación Hermenegildo
Galeana, Cuautla Morelos
Mexico

Report Prepared by

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Summary

Energía Renovable de Cuautla S.A. de C.V. engaged NSF Certification, LLC (NSF) to verify its methane emission reductions from La Perseverancia Biogas Plant project (CAR1019) to the Climate Action Reserve for the reporting period of 15 June 2018 through 14 June 2019.

Energía Renovable de Cuautla S.A. de C.V., the project developer, is a privately-owned “sanitary landfill” located in the municipality of Cuautla in the state of Morelos, Mexico. The “La Perseverancia Biogas Plant” (the “Project”) is listed in the Reserve’s database with the identification number CAR1019.

The project’s methane emission reductions during the cited project reporting period resulted from the collection and destruction of landfill gas in an electricity generation power plant and a closed flare located at 30 de septiembre s/n Col. Ampliación Hermenegildo Galeana, Cuautla, Mexico. The Project reduced emissions into the atmosphere by 12,166 metric tons CO₂-e for the reporting period 15 June 2018 through 14 June 2019.

1. Introduction

1.1 Objective

The objective of this verification audit was to determine, with reasonable assurance, that the La Perseverancia Biogas Plant project had met eligibility requirements and had quantified, monitored, and fairly reported to the Climate Action Reserve its landfill gas emission reductions at the La Perseverancia landfill in accordance with all applicable requirements of the Climate Action Reserve Mexico Landfill Project Protocol, version 1.1, (September 13, 2011.)

1.2 Scope

The scope of the engagement included verification of the quantification, monitoring and reporting of greenhouse gas emission reductions from the project at the La Perseverancia Landfill for the reporting period of 15 June 2018 through 14 June 2019. The scope included verification of the calculated project emissions associated with the combustion of fossil fuel in an electricity generation plant or in a closed flare; and indirect emissions attributed to electricity consumption from project-related activities. And finally, the scope of this verification covered a review of all eligibility rules for this project per the requirements in the Mexico Landfill Project Protocol.

1.3 Criteria

Energía Renovable de Cuautla S.A. de C.V. implemented its methane reduction project in accordance with the requirements of the Climate Action Reserve’s Mexico Landfill Project Protocol, Version 1.1 (September 13, 2011), and the Reserve Offset Program Manual (November 12, 2019). NSF Certification, LLC conducted its verification of the reported emission reductions in accordance with the Climate Action Reserve’s Verification Program Manual (February 8, 2017), 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 Verification Program Manual, emission reduction reports were considered fairly stated if they varied by no more than 5% from a complete statement of the project’s methane emission reductions for projects registering less than 25,000 Climate Reserve Tons (CRTs) in a 12-month period. In addition, qualitative misstatements, where the emission reduction project implementation does not conform to the requirements of the CAR program and protocols were also considered material. For this reporting period, total emission reductions over the 12-month reporting period were less than 25,000 metric tons which meant that the appropriate materiality threshold was 5%.

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 Mark Lutz, NSF's Lead Verifier and reviewed by Tina Sentner, NSF's Independent Reviewer. Conflict of Interest inquiries were completed for NSF, the Lead Verifier and the Independent Reviewer. A finding of low COI risk was confirmed by the Climate Action Reserve.

2.2 Document Review

The Lead Verifier conducted a document review to inform the planning process in advance of performing onsite verification activities. Documents reviewed included the project developer's project documentation submitted to the Climate Action Reserve; documentation prepared for this project including a Monitoring Report – "Plan for the Monitoring of Landfills", a calculation file showing data, baseline emission reductions, project emissions and final calculations ("2018-19_Calculo Reduccion de Emisiones por GEI CAR-2.xlsx"); raw data files derived from their SCADA software, gas flow meter and methane analyzer data; calibration documentation; variance documentation from the Climate Action Reserve, regulatory compliance attestations/supporting documents and equipment information related to flare operations and monitoring equipment.

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 communications with project developer personnel, a verification plan and a sampling plan were developed for this engagement.

2.4 Verification Activities

NSF conducted a site visit of La Perseverancia landfill, biogas plant and the flare skid in Cuautla, Mexico, on 1 July 2019. The purpose of the site visit was to confirm the project equipment and collection system associated with the closed flare and engine set and assess the capability of the landfill's management system and procedures to produce accurate, reliable, and reproducible data and information from project activities.

In addition to a site visit, verification activities included a desk review and e-mail correspondence. The nature of verification activities conducted included:

- 1) Confirmation of eligibility, ownership of the project, and quantification of project emission reductions in accordance with the Climate Action Reserve's Mexico Landfill Project Protocol Version 1.1;
- 2) Verification of evidence presented by the project developer to demonstrate its knowledge of and assertion of compliance with applicable air, waste and water regulations;
- 3) Verification of applicable methane and carbon dioxide emission sources within the project boundary and their quantification as defined by the Climate Action Reserve's Mexico Landfill Project Protocol Version 1.1;
- 4) Verification of La Perseverancia Landfill's monitoring of key operational parameters of its landfill gas collection and destruction project;

- 5) Determination of the project's conformity in all material respects with the requirements of the Climate Action Reserve's Mexico Landfill Project Protocol Version 1.1;
- 6) Selecting locations and processes within the scope of the La Perseverancia Biogas Plant project to visit based upon an assessment of risks to fair reporting; and
- 7) Reviewing the basis for and results achieved from the calculated methane emission reductions from its landfill gas collection and destruction project.

3. Verification Findings

3.1 Project Description

Operadora de Ferrocarril operates the sanitary landfill in Cuautla, Morelos State in Mexico, while Energía Renovable de Cuautla S.A. de C.V. maintains the La Perseverancia Biogas Plant project.

During the project reporting period covered by this report, landfill gas was collected and routed to an electricity generation station or to a single closed flare in the event that the electricity generation plant was not in operation. All of these processes are located at the landfill.

During this reporting period, there were a total of 33 vertical wells and 11 horizontal wells in a total of 5 cells.

The blower/flare station at the facility consists of a single closed flare (model IBG-AT-700), a blower, a condensate knockout pot and associated valves, piping, and other equipment. Instrumentation and controls include two thermocouples, one at the flare tip and another one at approximately 80 % of the height of the flare column for exhaust temperature control. A programmable logic controller ("PLC") using "SCADA" software monitored flow from the flare flow meter and flare temperature.

The LFG electricity power plant at La Perseverancia is a diesel 4-stroke engine connected to a generator (Dresser-Rand Guascor, model SGGM560) – a rich internal combustion engine (capable of burning biogas) that generates electricity.

The flare can only be operated when the engine is not running – typically during engine preventive maintenance or repair. During the site visit, the lead verifier observed a valve that directed the landfill gas either to the generator station or to the flare. (It was noted that, for this reporting period, the engine was not running for a great majority of the time and that almost all of the methane destruction occurred with the flare.)

The generated leachate is re-injected into the cells. It was confirmed during the site visit that no other liquid was injected into the cells, therefore the sanitary landfill is not considered to be a bioreactor.

Eligibility

NSF considered evidence to establish the eligibility of La Perseverancia Biogas Plant Project under the Mexico Landfill Project Protocol Version 1.1:

Location: The project is located in the Cuautla municipal area in the state of Morelos – located entirely within Mexico and was eligible as a landfill project under the Climate Action Reserve Mexico Landfill Project Protocol. NSF originally confirmed the location through the site visit on 1 February 2016.

Project Start Date: Per protocol guidelines, *"The project start date shall be defined by the project developer, but*



must be no more than 45 days after landfill gas is first destroyed in a project destruction device, regardless of whether sufficient monitoring data are available to report reductions.” NSF originally confirmed during the 1 February 2016 site visit that the project start date occurred on 11 December 2014 by a review of the project’s written operation records as the date that the biogas destruction tests began. This was the date that landfill gas was first destroyed for this project and fulfills protocol guidelines for the start date.

NSF has confirmed that the Project was submitted to the Climate Action Reserve within 6 months of the project becoming operational. Since the project was submitted prior to the operation of the project, this meets Mexico Landfill Project Protocol, version 1.1 guidelines.

Crediting Period: The crediting period for landfill projects is 10 years from the project start date. The crediting period for the La Perseverancia Biogas Plant project extends to 10 December 2024. NSF has concluded that the third reporting period verified in this report is within this first crediting period of the Project.

3.2 Additionality

Legal Requirement Test: NSF reviewed an attestation of voluntary implementation signed by an authorized signatory for Energía Renovable de Cuautla S.A. de C.V. dated 25 June 2019 for the project reporting period 15 June 2018 through 14 June 2019 and found no issues.

There is a federal standard that establishes the control of gas in a sanitary landfill: NOM-083-SEMARNAT-2003. This standard does not establish the minimum amount of gas that must be captured and burned, nor the specific technologies to be used. NSF verified that a discount factor of 0.07 was correctly applied (in their “Calculos” file Equation 5.3). This was applied per the Climate Action Reserve’s Mexico Landfill Project Protocol, Version 1.1 requirements as recognition of non-compliance with this standard. (In the “Federal Regulations” section of the Mexico Landfill Project Protocol, footnote “9” describes the various technical and financial reasons why this standard has not yet been adopted and/or exceeded in landfills in Mexico.)

NSF verified other federal, state and local regulations by a review of the various permits required for this landfill. The following documents were reviewed:

- 1) Operating Permit “To Establish and Operate a Site for the Final Disposal of Solid Waste” (State of Morelos Department of Sustainable Development) Permit #170060FMSDS0154-RSCA, dated 2016.
- 2) The State Water and Environment Commission permit #170060FMCEAMA0154-RS.
- 3) City of Cuautla Operating License 02476
- 4) City of Cuautla Water District document # SOAPSC.D.G.047/17

Our review of all of the above documentation indicated that there were no requirements at the local, state or federal level for the requirement of a landfill gas collection/destruction system or anything other than what is described in NOM-083.

NSF verified the implementation of the project developer’s monitoring plan with respect to how they monitor changes in regulations that could affect the continued eligibility of the landfill gas destruction project and found this process to be adequate. In conclusion, NSF reviewed evidence obtained and has concluded that the project was voluntary.

Performance Standard Test: NSF determined during the site visit that the La Perseverancia Landfill had not previously collected and destroyed landfill gas prior to the implementation of the project. This was confirmed during the original site visit by an interview with the project engineer and a review of the project construction documents indicating the dates of the various jobs. This conforms to the description in the Mexico Landfill Project Protocol, Version 1.1 to scenario “1” (Installation of a landfill gas collection system and a new qualifying destruction device at an eligible landfill where landfill gas has never been collected and destroyed prior to the project start date.)

The project therefore has met the performance standard test described in the Mexico Landfill Project Protocol Version 1.1. According to the Protocol, the project developer who has once passed the performance standard test is eligible to register reductions for the lifetime of the project crediting period, as long as a project is not otherwise determined ineligible due to the regulatory changes that impact the project’s voluntary implementation. NSF has concluded from these facts the project has met the performance standard test.

3.3 Regulatory Compliance

NSF reviewed an Attestation of Regulatory Compliance signed by an authorized signatory for Energía Renovable de Cuautla S.A. de C.V. dated 25 June 2019 for the project reporting period 15 June 2018 through 14 June 2019 and found no issues.

As cross-checks, NSF did the following:

- We checked for publicly-available information regarding compliance at both the federal and the state level. Per the response of the project developer and our own independent search, we could not find any public information at either the federal or state level.
- NSF reviewed the audit process used by the project developer and the landfill operator to monitor compliance to regulations. The owner of the landfill (“Operadora de Ferrocarril Y Manejo de Rellenos S.A. de C.V.”) is registered to a voluntary program called “PROFEPA.” This entity monitors two types of standards: 1) “NOM” (Mandatory standards) and 2) “NMX” (Voluntary Standards.) The landfill contracts with PROFEPA for auditing both of these. NSF reviewed a compliance certificate of a “NOM” audit issued by PROFEPA NC1711381 (May 2016) certifying that the landfill met all regulations relevant to the landfill municipal, state and federal levels.
- In communications with the Environmental Engineer connected with the project developer, NSF verified that, on 5 September 2017 to 8 September 2017, PROFEPA performed another audit that was carried out to verify compliance with the “General Law of Ecological Equilibrium and Environmental Protection” and the Mexican Standard NMX-AA-162-SCFI-2012. The audits examined logbooks, semi-annual reports, procedures, programs and regulations. The audit results established goals to be met by 2020, and were not documented as violations. NSF confirmed that this audit was a “NMX” type audit and was completely voluntary.
- We verified, by an internet search, that the certificate referenced above is pro-active in Mexico. This is a risk assessment which can generate corrective and preventive actions based on their observations. It also lists additional requirements above and beyond regulatory requirements.



Based on the above activities and the fact that our other verification activities (including our site visit) have not found any issues in this area, NSF concludes with a reasonable level of assurance that La Perseverancia Landfill has met the regulatory requirements of the Mexico Landfill Project Protocol v1.1.

3.4 Ownership

NSF reviewed the Attestation of Title signed by an authorized signatory for Energía Renovable de Cuautla S.A. de C.V. dated 25 June 2019 for the project reporting period 15 June 2018 through 14 June 2019 and found no issues. This document asserts that the project applicant had legal rights to any emission reduction credits to be issued by the Climate Action Reserve.

We reviewed a contract, “Cesion de Derechos”, which is an agreement between the two parties (the owner of the landfill and “Energía Renovable de Cuautla S.A. de C.V. – the project developer.) This agreement describes that the owner of the landfill (“Operadora Ferrocarril y Manejo de Rellenos S.A. de C.V”) granted sole rights to any carbon credits related to this project (La Perseverancia Biogas Plant project” to the project developer (“Energía Renovable de Cuautla S.A. de C.V.)

We also reviewed “The Memorandum of Association of Renewable Energy of Cuautla” which established the agreement of the corporation represented by the majority shareholder of “Energía Renovable de Cuautla S.A. de C.V.” with the administrator of the contract. This document establishes that the largest shareholder of this corporation agrees with the “Cesion de Derechos” (referenced above) and that the administrator of the corporation has the authority to effect the “Cesion de Derechos” agreement.

And finally, we reviewed the landfill’s operating permit, solid residue permit and other regulatory documents – all of which recognize Energía Renovable de Cuautla S.A. de C.V. as the operator of the landfill.

From this evidence, NSF has concluded that the project developer, (Energía Renovable de Cuautla S.A. de C.V).is entitled to receive the emission reduction credits that may be issued by the Climate Action Reserve for methane destroyed during this project period.

3.5 Project Boundaries and Emission Sources

The Project included all emission sources from the operation of the landfill gas collection system to the ultimate destruction of the landfill gas in a closed flare and combustion engine.

GHG Sources, Sinks and Reservoirs associated with the baseline scenario:

- CO₂ from the oxidation of CH₄ by soil bacteria. As the landfill is not covered by a synthetic liner, the Mexico Landfill Project Protocol v. 1.1 assumption that 10 percent of the methane produced would be naturally oxidized by soil bacteria has been applied.
- CH₄ vented to the atmosphere.

GHG sources, sinks and reservoirs associated with the project:

- Uncombusted CH₄ from landfill gas in the internal combustion engine and the landfill flare.
- CO₂ resulting from the consumption of imported electricity.
- The gases reviewed include CO₂ and CH₄.



All gases have been converted to CO₂ equivalents.

3.6 Performance Against Project Protocol/Methodology

The project was implemented in conformity with the Mexico Landfill Project Protocol version 1.1.

Conditions Affecting Landfill Gas Collection. During a review of the flow data, it was noted that there was an increase between the 2nd reporting period and this 3rd reporting period (June 15, 2018 through June 14, 2019.)

Factors noted for this reporting period: a) There was an increase in the blower pressure in 2019, causing more gas to flow; b) The winter of 2018/2019 was a very wet one - causing more microbiological activity and; c) 17 wells were temporarily disabled in cells 2 and 3 in May and June 2019 as a result of some adjustments to the well field.

In addition, during this 3rd reporting period, there were no major problems with the SCADA system this reporting period, resulting in more emission reductions as compared to the previous reporting period.

NSF also noted that there was very little use of the engine / generator set this reporting period. This was due to maintenance issues and a decision by management to replace the engine with a new one that would be better suited for landfill gas usage. We verified that a new engine has been bought, but was not online during the reporting period.

The project developer used one weekly methane percentage value for calculating methane totals from the landfill during the reporting period. This was accomplished by using a portable gas analyzer and obtaining values on each of the 7 lines (from the 7 sections of the landfill where landfill gas was collected) once a week. The values on each of these lines were recorded on a checklist, transferred to an Excel file and averaged each week to get a final weekly methane percentage value. NSF looked at a sample of this checklist and confirmed that the weekly averages were obtained and were calculated correctly.

Monitoring and Measurement Equipment. The project required the development and implementation of project monitoring, cleaning/inspections of flow meters and methane analyzers (per the project's monitoring plan) and periodic calibrations of landfill gas flow metering devices per protocol requirements.

For the flowmeters: During the site visit, it was noted that daily inspection and cleaning (as needed) was done and records were kept for both flow meters (one flow meter for the flare and other one at the electricity generation station.) This was done per the details in the Monitoring Plan.

Instead of performing calibration field checks, the project developer elected to have the flowmeter calibrated by a certified calibration service provider (see below) at the end of but no more than two months prior to the end date of the reporting period to meet the Mexico Landfill Project Protocol requirements.

NSF reviewed flow meter calibration and maintenance records that indicated that the flow measurement equipment was cleaned and calibrated (also per the Monitoring Plan) on a yearly basis by an approved outside 3rd party—Tectrol S.A de C.V.—and that calibration schedules (once per year) exceeded the manufacturer's guidance of 18 months. These calibrations were performed corresponding to the flow rates expected at this landfill.

The two flowmeters (sn #448777 and #448778) were both FCI STI51 models and checked at six span points representing a range of flows. All span point checks indicated a drift of less than 5% per protocol requirements. In



addition, they were both calibrated annually: 3 May 2018 and the last calibration on 3 May 2019 which was within ± 2 two months of the end of the reporting period (14 June 2018.)

For the methane analyzer, the Mexico Landfill Project Protocol allows that methane can be measured weekly, but the project developer must account for the uncertainty associated with these measurements by applying a 10% discount factor to the total quantity of methane collected and destroyed. With data information supplied by the project developer and with the inspection of samples of the raw data and spreadsheet calculations, NSF concluded that methane was measured weekly and recorded and that there was a 10% discount factor correctly applied to the total quantity of methane collected and destroyed per protocol requirements.

The landfill owns and maintains one portable gas analyzer used to collect weekly landfill gas data: a Landtec GEM5000 portable meter, sn #502852.

NSF reviewed the calibration and maintenance records that indicated that the analyzer was inspected / cleaned and field calibrated to a known gas on a weekly basis at each time of use.

NSF also reviewed portable analyzer calibration and maintenance records. Per protocol guidelines, "If a portable instrument (for example, a portable methane analyzer) is used, the instrument must be maintained and calibrated according to the manufacturer's specifications and calibrated at least once a year by a laboratory authorized by the manufacturer or in an ISO 17025. NSF noted that the last factory calibration was performed on 5 February 2018, but there was no factory calibration for 2019. The project developer had applied for a variance to this requirement and the variance was approved by the Reserve on 22 May 2019, per certain conditions. (See section 3.10 of this report for further details.)

NSF concluded that the gas analyzer in use conforms to protocol requirements - with the exception of the variance noted above.

The Monitoring Plan and missing data calculation procedures were reviewed for consistency with the Mexico Landfill Project Protocol requirements. No discrepancies with requirements were found. There were no instances of missing data substitutions observed during the reporting period.

The Project utilized SCADA software for collecting data from the PLC. For this reporting period, NSF examined recorded daily and weekly data in Excel files and a number of aggregated Excel data files to verify that flow data was measured continuously and recorded every 15 minutes per the Mexico Landfill Gas Project Protocol. Also, NSF verified that these values were totalized and recorded daily per additional Mexico Landfill Gas Project Protocol requirements.

NSF verified that spreadsheet formulas were consistent with the Reserve's Mexico Landfill Gas Project Protocol and that operating parameters (flare temperatures and flow, in particular) have been met. In addition, the project did not count methane destroyed in the flare when the flare's temperature sensor recorded temperatures lower than 260 degrees C. NSF also verified that flow data on the Excel spreadsheets did not need correction to 0 degrees C and 1 atm. because the flowmeters were already adjusted to these parameters.

The Project maintains metered electrical service powering the blower/flare skid and the electricity generating plant. Monthly records of electricity consumption attributed to the Project's operations were reported in kilowatt hours on records provided by the project. NSF found that the calculations of the CO₂-e emissions from this usage of electricity were found to be correctly applied in the Project emissions. In addition, NSF confirmed that the

electricity generating plant maintains detailed engine operation records in the plant and that the records show their hourly operating status.

3.7 Project Management System

NSF verified the project's management system in the site visit conducted on 1 July 2019. In particular, our verification looked to confirm continued adequacy of the following elements:

- Definition and maintenance of an appropriate control environment by landfill management and personnel, including the electricity generation plant;
- Training and competence of landfill project management and operating/data management personnel;
- Identification and management of legal requirements related to the landfill operations;
- Identification and maintenance of records required by the landfill project;
- Landfill site and gas collection, combustion equipment and engine specifications;
- Quantification methods and calculations for project emissions; and
- Checking and corrective action mechanisms.

Based on this review, NSF found an adequate control environment existed for the project and that the records were kept per protocol requirements.

3.8 Calculation of GHG Emission Reductions

The La Perseverancia Biogas Plant project emission reductions were calculated per the formula defined in the Mexico Landfill Project Protocol, Version 1.1 (September 13, 2011). The basic formula was:

Landfill gas destroyed:

- the portion of methane oxidized in the baseline scenario,
- carbon dioxide emissions from fossil fuel (propane and diesel) consumption (not applicable),
- methane emissions from being complete destruction of natural gas (not applicable),
- indirect carbon dioxide emissions resulting from the use of electricity from the grid,
- pre-project adjustment for methane destruction in the baseline scenario – not applicable (no pre-project emissions).
- the discount factor to account for uncertainties associated with the project monitoring equipment (a 10% discount for weekly methane concentration readings),
- the NOM-083 discount applicable to Mexican Landfills,

= Project Emission Reductions

In the case of the La Perseverancia Biogas Plant project, the verification team reviewed data downloaded from the data logger and compared a sample to the emission reduction calculations, verified data completeness for the reporting period, scanned data for data gaps and for out-of-range values, reviewed spreadsheet formulas for consistency with Protocol equations, and recalculated emission reductions. In addition, we confirmed that the correct destruction efficiency values (.995 for a closed flare and .995 for the rich-burn engine) and was used in the emission/reductions calculations. For electricity generation, we reviewed the hourly generation records and confirmed the correspondence of the landfill gas flows to the generation times.

The verification team also verified the correct calculation of project emissions based on a review of data and estimates of indirect CO₂-e emissions from use of electricity from the grid and by reviewing calculations for the project for this verification period.

3.9 Corrective Action Requests/Recommendations

All requests for corrective action raised by NSF during this reporting period were addressed to NSF's satisfaction and closed. These findings are detailed in our List of Findings, a private document.

3.10 Approved Variances or Deviations

There was one variance requested for this reporting period and one registration extension determination.

1) Variance Request: Dated April 30, 2019 and approved by the Climate Action Reserve for this Project, dated May 22, 2019. The Protocol requires that if a portable instrument is used (such as a handheld methane analyzer), the portable instrument shall be maintained and calibrated per the manufacturer's specifications, and calibrated at least annually by the manufacturer, by a laboratory approved by the manufacturer, or at an ISO 17025 accredited laboratory.

Energía Renovable de Cuautla, S.A. de C.V. had requested a variance for La Perseverancia to use weekly calibration checks for its GEM5000 methane analyzer in lieu of a missed annual factory calibration in 2019.

The Climate Action Reserve granted this variance based on the following conditions:

- *"The verifier confirms weekly calibration checks were made according to the device's user manual."*

NSF has confirmed through records reviewed during the site visit that the GEM 5000 analyzer was subject to a weekly calibration check before use. This was done through the use of a weekly checklist ("Calibracion de campo de GEM-5000") that corresponds to the requirements in the GEM 5000 user manual for checking the analyzer to a known gas and recalibrating as needed.

- *"The verifier confirms the calibration checks returned no drifts in excess of +/-5%."*

NSF has confirmed through records reviewed during the site visit ("Calibracion de campo de GEM-5000") and through an interview with the landfill engineer that that the GEM 5000 analyzer calibration checks returned no drifts in excess of +/-5% during the reporting period.

-*"The verifier confirms the project's monitoring plan incorporates processes to perform annual calibrations of the GEM5000, every 12 months or less."*

NSF has confirmed that La Perseverancia's monitoring plan incorporates a policy for annual calibrations. In section 8 of their monitoring plan "Instruments of quality assurance / quality control (QA/ QC)": "The GEM5000 is maintained and calibrated by the manufacturers every year to have correct readings. The calibrations of the methane analyzer are documented to show that the calibration has been carried out by the equipment manufacturers (LANDTEC)."



4. Verification Results

4.1 Verification Team Recommendation

Reductions/Removals from 15 June 2018 through 31 December 2018 Metric tons CO ₂ -e	
Project baseline	7,814.71
- Project emissions	41.92
- Project adjustments	0.00
= Net project emission reductions	7,772 *

* Rounded down to the nearest whole number



Reductions/Removals from 1 January 2019 through 14 June 2019. Metric tons CO ₂ -e	
Project baseline	4,423.54
- Project emissions	28.85
- Project adjustments	0.00
= Net project emission reductions	4,394 *

* Rounded down to the nearest whole number

4.2 Verification Audit Summary

Project Developer	Energía Renovable de Cuautla S.A. de C.V.
Project Location	Cuautla, Morelos, Mexico
Project Type	Collecting and Destroying Methane from Landfills
Project Period	15 June 2018 through 14 June 2019
Protocol/Methodology	Climate Action Reserve, Mexico Landfill Project Protocol, Version 1.1
Emissions/Removals Verified	Vintage 2018: 7,772 metric tons of CO ₂ -e Vintage 2019: 4,394 metric tons of CO ₂ -e
Verification Conclusion	Based upon the above, NSF has concluded that the La Perseverancia Biogas Plant project 2018 and 2019 vintage methane emission reductions of 12,166 metric tons (CO ₂ -e) reported to the Climate Action Reserve are, in all material respects, fairly stated.



Lead Verifier	 Mark Lutz, 10 November 2019
Independent Reviewer	 Tina Sentner, November 27, 2019
<i>This verification statement is valid when signed and dated by an NSF independent reviewer.</i>	