



CLINTON LANDFILL GAS COLLECTION AND COMBUSTION PROJECT

Document Prepared by

Carbon Check (India) Private Ltd.



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Summary:

- **A description of the verification and the project**

Carbon Check (India) Private Ltd. (CC IPL) has been contracted by 3Degrees Group, Inc., the project proponent, to carry out the verification of the project “Clinton Landfill Gas Collection and Combustion Project” in United States/31/. The verification is based on the desk review of the VCS PD /B04/, Monitoring report /02/, supporting emission reduction calculation spread sheets /04/ and other relevant supporting documents made available to the verification team by the project proponent accompanied by the interviews. This verification involves the period of 01-January-2023 to 31-March-2024.

The project “Clinton Landfill Gas Collection and Combustion Project” employs the approved CDM Methodology: ACM0001 Large-scale Consolidated Methodology: Flaring or use of landfill gas, Version 19.0/B02/. The project became operational on 24-January-2007, which has been confirmed from the registered PDD/B04/ and supporting evidence provided by the PP/07/. The credits have been issued during the first crediting period from 01-July-2009 to 30-June-2019. The PDD has been updated and renewed with validation of the second crediting period crediting period: 01-July-2019 to 30-June-2029.

The Clinton Landfill site has been used for the disposal of municipal solid waste and non-hazardous special waste since 1989. The landfill site is located at 9560 Heritage Road in Clinton, Illinois 61727, in DeWitt County, about 25 miles south of Bloomington, IL. and receives approximately 200,000 metric tons of waste annually.

The project aims to capture and destroy methane from the Clinton Landfill in Clinton, Illinois, using combustion engines and flares. The electricity produced from this process is then sold to the local grid, resulting in a net reduction of CO₂e emissions.

- **The purpose and scope of verification**

Purpose: The purpose of the verification is to review the monitoring results and verify that monitoring methodology was implemented according to monitoring plan and monitoring data, used to confirm the reductions in anthropogenic emissions by sources is sufficient, definitive and presented in a concise and transparent manner. In particular, monitoring plan, monitoring report and the project’s compliance with relevant VCS, UNFCCC and host party criteria are verified in order to confirm that the project has been implemented in accordance with previously registered design and conservative assumptions, as documented.

Scope: The scope of the verification is:

- To verify the project implementation and operation with respect to the registered VCS PD /B04/.
- To verify the implemented monitoring plan with the registered VCS PD/B04/. and applied baseline and monitoring methodology/B02/.
- To verify that the actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan.
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that reported GHG emission data is sufficiently supported by evidence.

The verification shall ensure that the reported emission reductions are complete and accurate in order to be certified.

- **The monitoring periods.**

Monitoring period starting from 01-January-2023 to 31-March-2024.

- **The method and criteria used for verification.**

(a) Desk review, involving:

(i) Review of the data and information presented to verify their completeness.

(ii) Review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the quality assurance and quality control procedures.

(iii) Evaluation of data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

(b) Onsite assessment involving:

(i) Assessment of the implementation and operation of the VCS project activity as per the registered VCS PD/B04/.

(ii) Review of information flows for generating, aggregating and reporting the monitoring parameters.

(iii) Interview with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the VCS PD /B04/.

(iv) A cross-check between information provided in the monitoring report and data from other sources such as inventories, purchase records, or similar data sources.

(v) A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the VCS PD/B04/. and the selected methodology/B02/.

(vi) Review of calculations and assumptions made in determining the GHG data and emission reductions.

(vii) Identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

- **The number of findings raised during verification.**

A risk-based approach has been followed to perform this verification. During the course of verification, a total of 08 findings were raised, which includes:

03 Corrective Action Request (CAR); 05 Clarification Requests (CLs);

All the raised findings were successfully resolved by the PP.

- **Any uncertainties associated with the verification.**

The VCS MR /02/, emissions reduction calculations /04/ along with the supporting documents provided are considered to be in line with all the VCS requirements /B01/. The verification team has detected no further uncertainties or quality restriction.

- **Summary of the verification conclusion**

CC IPL has performed the verification of “Clinton Landfill Gas Collection and Combustion Project” on the basis of all issues and criteria of VCS Standard version 4.5/B01-1/ and VCS Program Guide version 4.4/B01-2/ for VCS projects and also on the criteria given to provide for consistent project operations, monitoring and reporting. Hence, in CC IPL’s opinion the project correctly applies the baseline and monitoring methodology ACM0001: Large-scale Consolidated Methodology Flaring or use of landfill gas, Version 19/B02/ and meets the relevant UNFCCC requirements for the CDM Methodology, Voluntary Carbon Standard requirements and the relevant host country criteria.

Therefore, CC IPL is able to certify that the emissions reductions from the “Clinton Landfill Gas Collection and Combustion Project” during the period from 01- January 2023 to 31-March-2024 amount to 142,584 metric tonnes of CO₂e.

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1 INTRODUCTION

1.1 Objective

Carbon Check (India) Private Ltd. (CC IPL) has been contracted by 3Degrees Group, Inc., referred to as the Project Proponent (PP), to undertake the verification of the project titled “Clinton Landfill Gas Collection and Combustion Project” in United States for the monitoring period 01-January-2023 to 31-March-2024. Through the verification activities, it is to be confirmed that:

- The project is implemented as described in the VCS Project Description document /B01/.
- The monitoring system is implemented and fully functional to generate emission reductions without any double counting, and
- The data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reductions calculation.

The verification followed the requirements of the current version of the VCS Standard Version 4.5 /B01-1/ and VCS program guide version 4.4/B01-2/ to ensure the quality and consistency of the verification work and the report.

1.2 Scope and Criteria

The verification of this project is based on the registered VCS PD /B04/, the Monitoring Report of this monitoring period /02/, Emission reduction calculation spreadsheets /04/, supporting documents made available to the verifier /05/- /34/ and information collected through performing on site interviews. Furthermore, publicly available information was considered as far as available and required.

CC IPL has employed a risk-based approach in the verification, focusing on the identification of significant risks and reliability of project monitoring and generation of emission reductions.

The verification is carried out on basis of the following requirements, applicable for this project activity:

- VCS Standard (v4.5) /B01/
- VCS Program Guide (v4.4) /B01/
- CDM Methodology: ACM0001 Large-scale Consolidated Methodology: Flaring or use of landfill gas, Version 19.0 /B02/.
- Other relevant rules, including the host country legislation.

The scope of this verification, by independent checking of objective evidence, is as follows:

- To verify that the project is implemented as described in the registered VCS PD.
- To assess the project's compliance with other relevant rules including the host country legislation.
- To confirm that the monitoring system is implemented and fully functional to generate voluntary emission reductions without any double counting.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- To verify that reported GHG emission data is sufficiently supported by evidence.
- The verification shall ensure that the reported emission reductions are complete and accurate in order to be certified.

The method and criteria used for verification consisted of the following phases:

1. Completeness check and desk review.
2. Interviews with stakeholders.
3. Resolution of outstanding issues and issuance of final verification report and applicable VCS Validation and Verification Deeds of Representation.

CC IPL conducts all its work under strict rules to safeguard impartiality and ensure the independence of the verification team. The verification team does not provide any consulting or recommendations for the client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the monitoring activities.

1.3 Level of Assurance

The verification report is based on registered VCS PD /B04/, Monitoring report /02/, supporting documents /05/-/34/ made available to the verifier and information collected through performing interviews.

The verification has been planned and organized to achieve a:

- ☒ Reasonable level of assurance as per VCS Standard (v4.5/B01/)
- ☐ Limited level of assurance

1.4 Summary Description of the Project

Carbon Check (India) Private Ltd. (CC IPL) has been contracted by 3Degrees Group, Inc., the project proponent, to carry out the verification of the project “Clinton Landfill Gas Collection and Combustion Project” in United States. The verification is based on the desk review of the VCS PD /B04/, Monitoring report /02/, supporting emission reduction calculation spread sheets /02/ and other relevant supporting documents made available to the verification team by the project proponent accompanied by the interviews. This verification involves the period of 01-January-2023 to 31-March-2024.

The project “Clinton Landfill Gas Collection and Combustion Project” is a project which employs the approved CDM Methodology: ACM0001 Large-scale Consolidated Methodology: Flaring or use of landfill gas, Version 19.0/B02/. The project became operational on 24-January-2007, which has been confirmed from the registered PDD/B04/ and supporting evidence provided by the PP/07/. The credits have been issued during the first crediting period from 01-July-2009 to 30-June-2019. The PDD has been updated and renewed with validation of the second crediting period crediting period: 01-July-2019 to 30-June-2029.

The project aims to capture and destroy methane from the Clinton Landfill in Clinton, Illinois, using combustion engines and flares. The electricity produced from this process is then sold to the local grid, resulting in a net reduction of CO₂ emissions.

The Clinton Landfill site has been used for the disposal of municipal solid waste and non-hazardous special waste since 1989. The landfill site is located at 9560 Heritage Road in Clinton, Illinois 61,727, in DeWitt County, about 25 miles south of Bloomington, IL. and receives approximately 200,000 metric tons of waste annually.

The project proponent for the project activity is 3Degrees Group, Inc.

The total GHG emission reductions achieved from this Project activity during this monitoring period (01-January-2023 to 31-March-2024) are 142,584 tCO_{2e}.

The project activity has been implemented as described in the registered VCS PD/B04/ and the emission reductions are calculated conservatively as per the applied methodology /B02/.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The method and criteria used for verification:

The verification consists of the following three phases:

1. Completeness check and desk review of the monitoring plan, monitoring report, monitoring methodology, VCS PD, applicable tools in particular attention to the frequency of measurements, quality of metering equipment including calibration requirements, QA/QC procedures and other relevant documents.
2. Onsite interviews (including follow-up interviews with project stakeholders, when deemed necessary). The onsite interviews include the following:
 - An assignment of implementation and operation of project activity with respect to validated VCS PD/B04/
 - Review of information flows for generating, aggregating and reporting the monitoring parameters.
 - Onsite Interview with relevant personals to determine whether the operational and data collection procedures are implemented and in accordance with the monitoring plan of the validated VCS PD/B04/,
 - Cross check of information and data provided in the monitoring report with purchase records or similar data sources.
 - Review of assumptions made in calculating the emission reductions (if any);
 - Implementation of QA/QC procedure in-line with the VCS PD and methodology requirements.
3. Resolution of outstanding issues and the issuance of the final Verification report and as applicable the VCS Verification Deed of Representation

2.2 Document Review

During the document review, CCIPL has applied standard auditing techniques to assess the quality of information provided. The verification was performed primarily based on the review of the monitoring report and the supporting documentation/05-34/. This process included:

- A review of data and information presented by the PP to verify their completeness.
- A review of the MP and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment including calibration requirements, and the QA/QC procedures, and
- An evaluation of data management and the QA/QC system in the context of their influence on the generation and reporting of emission reductions.

The monitoring report (version 1.0 dated 26-June-2024) /01/ was initially reviewed and CCIPL requested the PP to present the supporting information and documents /05-34/. The documents were reviewed by CCIPL. Through the process of the verification, the revised monitoring report and the supporting documents were evaluated to confirm the actions taken by the PP to the CARs and CLs issued by the verification team.

The list of documents referred to during the course of this verification has been provided in Appendix-1.

2.3 Interviews

A physical onsite visit to the project activity was undertaken on 06-August-2024 to assess the implementation and operation of the project activity and to review evidence, and interview key personnel to confirm evidence associated with the data generation, aggregation, and calculation and reporting of the monitoring parameters. The onsite visit assessment addressed:

- An assessment of the project implementation and operation as per the PD (including physical inspection to confirm physical existence and operation of project components);
- Review of information flows for generating, aggregating and reporting the monitoring parameters;
- Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the monitoring report /02/.

The key personnel interviewed, and the main topics of the interviews are summarized in the table below.

S. No.	Name	Organization	Topic	Audit team members
/i/	Eden Harris	3Degrees Group, Inc.	Project implementation and operation, monitoring procedure, Monitoring and measuring system, Collection of measurements, Observations of established practices, Testing of the accuracy of monitoring equipment, Data and information flow, Data Verification of monitoring parameters, On-site Flare operation, Operational parameters, Electricity Generation and supply to the Eskom grid, Metering of the electricity, Thermocouple functionality and CER calculation	Vijay Mathew (Team leader/Technical Expert)
/ii/	Sofia Barker	3Degrees Group, Inc.	Project implementation and operation, Project design, monitoring procedure, data and information flow, compliance of monitoring plan with monitoring methodology and approved VCS-PD, Roles and responsibility, Qualification and Training, CER calculation and completeness of monitoring report, Electronic Monitoring system, Data collection and data flow	Vijay Mathew (Team leader/Technical Expert)
/iii/	Joe Robinson	GFL Environmental	Project implementation and operation, monitoring procedure, Monitoring and measuring system	Vijay Mathew (Team leader/Technical Expert)

/iv/	Andrew Whelpley	GFL Environmental	Project implementation and operation, monitoring procedure, Monitoring and measuring system	Vijay Mathew (Team leader/Technical Expert)
/v/	Clay Reeves	GFL Environmental	Project implementation and operation, monitoring procedure, Monitoring and measuring system	Vijay Mathew (Team leader/Technical Expert)

2.4 Site Visits

Carbon Check has conducted an on-site inspection to confirm the implementation and operation status of the VCS project. A reasonable level of assurance has been maintained through the on-site visit for the purpose of verification as follows:

- 1) An assessment of the implementation and operation of the project activity as per the registered VCS PD /B04/
- 2) A review of information aggregating and reporting of the monitoring parameters
- 3) Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the MP (section 2.3 above)
- 4) A cross-check between the emission reduction information provided in the MR /02/ and data from other sources (section 2.3 above).
- 5) A check of the monitoring equipment for calibration performance, and observations of monitoring practices against the requirements of the VCS PD and the applied monitoring Methodology /B02/
- 6) A review of calculations and assumptions made in determining the GHG data and ERs /04/, and
- 7) An identification of QA/QC procedures in place to prevent, or identify and correct, any errors or omissions in the reported monitoring parameters.
- 8) The duly calibration/testing of all monitoring equipment was checked.
- 9) The monitoring processes, routines and documentations were audited to check their proper application.
- 10) The monitoring data were checked completely.

2.5 Resolution of Findings

CC IPL, during this verification, identified issues related to the monitoring, implementation or operation of the VCS project that could impair the capacity of the proposed VCS project to achieve project emission reductions or influence the reporting of emission reductions. CC IPL has identified and discussed these issues within the Verification report in Appendix.

- **Clarification requests (CLs):** Project reporting lacks transparency and further information is needed to determine if a material discrepancy is present.
- **Corrective action requests (CARs):** The VVB has identified a material discrepancy or non-conformance that the project proponent must address.

The verification team identified 03 CAR and 05 CLs. All CARs and CLs raised by Carbon Check during this verification are resolved by the PP.

2.5.1 Forward Action Requests

Forward Action Request (FAR) is to be raised when the monitoring and reporting require attention and/or adjustment for the next verification period. FARs does not relate to VCS requirements for issuance of ERs achieved during subject monitoring.

CC IPL has not raised any FAR during this verification.

2.6 Eligibility for Validation Activities

The project activity falls under sectoral scope 13 and the CC IPL is accredited for validation /verification of project activities under this scope.

3 VALIDATION FINDINGS

3.1 Methodology Deviations

The following methodology deviation was identified in the Monitoring Report and approved for the Project during the current verification. These deviations were also applied during the previous monitoring period (01-July-2021 to 31- December-2022).

Methane concentration was measured on a non-continuous basis during the monitoring period. The VCS PD identifies that methane concentration is to be continuously monitored at the flare and monitored at least twice weekly at the engines via a handheld gas analyzer. CDM Tool 08; Tool to determine the mass flow of a greenhouse gas in a gaseous stream allows for non-continuous methane concentration readings, but also requires at least two samples per week.

The project deviated from the continuous methane monitoring frequency stipulated in CDM Tool 08, Section 6, Data/Parameter Table 10 of CDM Tool 08 /B03/ as methane concentrations in the gas stream were not measured continuously during part of the reporting period. The deviation was caused by pandemic-related supply chain delays resulted in the delayed return of the continuous methane analyzers to the facility. VVB has reviewed the communications from the landfill manager and confirms that the pandemic-related supply chain delays resulted in the delayed return of the continuous methane analyzers to the facility. The interviews during the onsite visits confirm the same. The analyzers, sent for servicing in 2021, were not reinstalled at Flare 4 until 20-April- 2023 and at the engine skid until 13-October- 2023. The continuous

analyzers began logging methane concentration data at Flare 4 on 30-June-2023 and at the engine skid on 01-November-2023. During this period, handheld gas analyzers were used as an interim solution. The deviation began in a previous reporting period and continued into the current reporting period. This deviation applied from 01-January-2023 through 30-November-2023, as the continuous analyzers were fully restored and operational by the end of 2023, which has been confirmed by the Verification team during onsite visit. The deviation was therefore temporary.

CDM Tool 08 identifies the following criteria for the use of non-continuous methane concentration data:

- As per paragraph 7(a) of Appendix A, CDM Tool 08, the maximum waste treatment capacity of the landfill is 200 tonnes waste per day. The Clinton landfill daily waste treatment capacity is greater than 200 tonnes of waste per day. Therefore, a conservative 10 percent discount was applied to all non-continuous methane readings to account for any methane fluctuations due to the size of the landfill. The Monitoring Report/02/ provides sufficient justification and cited sources for the use of a ten percent discount all of which have been confirmed to be accurate.

- Sampling is conducted with a minimum frequency of two samples per week. The project used non-continuous methane concentration readings that were taken at a frequency which ranged from twice weekly to less than weekly throughout the reporting period. For any seven-day period in which two methane samples were taken, the methane concentration from the first sample reading for the engine skid and Flare 4 are applied across consecutive days until the next methane sample reading within the seven-day period was taken. A data analysis has been performed and provided which concluded that the approach of applying methane readings consecutively until the next reading is taken in a seven-day period is conservative when compared to an approach of averaging all methane readings taken within a seven day period. VVB reviewed this analysis to confirm that the approach being implemented is in fact conservative.

As per paragraph 7(b) of the Appendix to the Tool to determine the mass flow of a greenhouse gas in a gaseous stream (Tool 08) /B03/, non-continuous monitoring of the methane fraction in landfill gas is permitted provided that: the sampling frequency must be in accordance with the 'Sampling and surveys for CDM project activities and programme of activities' guideline, and in any case, at least two samples per week shall be taken.

During the current monitoring period, to address the non-compliance with the sampling frequency requirement, the project applied the methodological deviation and conducted a confidence/precision analysis as per the sampling guideline. The project applied a 10% conservative deduction to all handheld methane readings, which is a conservative compensatory measure designed to meet or exceed the 95/10 confidence/precision requirement set out in the Standard for Sampling and Surveys for CDM Project Activities and PoAs /03/. Verification team has reviewed the statistical analysis provided in the ERR Calculation Spreadsheet /03/. The analysis demonstrates that the reported values meet the reliability requirement of 10% precision at a 95% confidence level. The VVB further confirms that the requirements of Tool 08 Appendix, paragraph 7(b), have been met through the application of a justified deviation and supporting confidence/precision analysis.

This analysis compared the use of a ten percent discount relative to the adherence to a 95/10 confidence/precision level as referenced in AMS-III.G.v10 / the Standard for Sampling and Survey of CDM Activities. VVB reviewed this analysis which confirmed that the application of a ten percent discount to all non-continuous methane samples is below a 95-precision level. This demonstrated that the methane variation is not likely to exceed ten percent in either direction and thus justified the application of a ten

percent discount as a reasonably conservative approach (i.e. the methane concentration after the application of a ten percent discount is less than the precision level of 95 percent, and therefore results in lower emission reductions). It should also be noted that no emission reductions are being claimed during any seven-day period(s) with one or fewer methane readings were taken.

- National protocols for measuring methane content of biogas by a semi-continuous analysis shall be followed. Methane sampling is carried out in accordance with manufacturer recommended procedures and adhere to the landfill's standard operating procedures which document the procedures to be followed for methane sampling.

- The biogas flow rate is monitored continuously. The methane content measured by sampling for a given period can be used directly only if the average flow rate during the following week does not fluctuate by more than +/- 20% as compared to the mean value of the flow rates for the period during which the methane content is measured by sampling. The biogas flow rate was monitored continuously during the period in which non-continuous methane concentration is applied. Additionally, a flow analysis was conducted which demonstrated that the biogas flow did not fluctuate more than +/-20% during the period when non-continuous methane is applied.

VVB approved this deviation because it meets the criteria for permitted methodology deviations. This deviation is not related to and does not impact any of the ACM0001 Methodology Section 2.2 applicability conditions, or Section 5 baseline and additionality conditions and selections/B02/. This deviation, however, is related to the procedures for measurement and monitoring. As described above, this deviation results in a comparatively accurate and conservative representation of methane concentration by following the procedures in CDM Tool08 and applying an additional 10 percent discount to measured methane samples.

Verification team has been confirmed that the handheld methane analyzers were calibrated in accordance with the manufacturer's specifications. Calibration records /15/ reviewed during the verification demonstrate that the handheld devices were consistently operated within their valid calibration windows throughout the reporting period. the accuracy of handheld methane analyzers is ensured by the meter manufacturer and/or third party performing manufacturer-specified calibrations /15/, Based on this review, the verification team confirms that the use of handheld analyzers maintained the required level of accuracy for methane concentration measurements and is considered acceptable for the purposes of monitoring during the temporary deviation.

The Verification team reviewed calibration records /15/ and Handheld Methane Summary 2023–2024 /09/ and confirms that all handheld methane analyzers used during the reporting period were calibrated in accordance with the project's monitoring plan and standard operating procedure /26/. The VVB has cross-checked the standard operating procedure /26/, which mandates field calibration of handheld gas analyzers each day prior to their use.

Based on the Review of calibration records /15/ and Handheld Methane Summary 2023–2024 /09/, VVB confirms that the Elkins Envision handheld gas analyzers with serial numbers s/n 1003017 and 2010230B were calibrated on 16-August-2023 and 24-July-2023, respectively, before they were first used to take readings on 01-February-2024 and 05-February-2024, respectively. These analyzers were not used at all before their calibration dates. Analyzers s/n 1003016, 1905215B, 2106201B, and 2204204B have two calibration records within the 12-month calibration window stipulated in the project monitoring plan. While the 2022 calibration for Elkins Envision analyzer s/n 1003016 occurred more than a year before the January 2023 calibration, no readings from the analyzer were taken in January of 2023.on the evidence

reviewed, the VVB concludes that all handheld methane analyzers were properly calibrated and used in accordance with the project's monitoring plan.

The use of a 10 percent discount for methane concentration sampling is best practice and has been established by other reputable protocols and CDM Methodologies. VVB confirmed that in the deviation description sources cited, a ten percent discount is in fact an appropriate discount to be applied to instances of non-continuous methane readings.

The following Methodology deviations applied at crediting period renewal and thereafter:

- Destruction Efficiencies: The project applies a 96% flare efficiency to estimate emission reductions, consistent with protocols under US EPA 40CFR60.18. Although the flare may exceed 96% efficiency in practice, using this standard ensures conservative and reliable estimates. Additionally, the flare flow volumes are only recorded when the thermocouple temperature exceeds 500°F, ensuring that proper combustion always occurs. This approach maintains accuracy in the GHG reduction calculations. VVB confirms that using a 96% flare efficiency and temperature-based monitoring ensures reliable, conservative estimates of emission reductions.

- Use of eGRID EF for Project electricity emissions: The project uses U.S. EPA's eGRID emission factors (2022) for electricity emissions, offering more accurate, region-specific data compared to default factors. The methodology ensures compliance with Verra's Standard by updating emission factors with the latest eGRID datasets.

- Use of 2006 IPCC Guidelines defaults for CO₂ emissions from fossil fuels: The project uses fossil fuel emission factors from the 2006 IPCC Guidelines for National Greenhouse Gas Inventories instead of default coefficients. These factors are widely accepted as industry standards and enhance the accuracy of emission reduction calculations.

- The project uses a standard temperature of 68°F, instead of 32°F, to determine the mass flow of greenhouse gases in gaseous streams. This approach aligns with industry standards for U.S.-based landfill projects, ensuring consistency. The adoption of 68°F for mass flow calculations aligns with industry practices, enhancing consistency without affecting the conservativeness of emission reductions.

These methodology deviations have already been approved during the first crediting period.

- To quantify fuel consumption $FC_{i,j,y}$, instead of using a ruler or calibrated accessory as outlined in Tool 03, invoices from the fuel supplier will be used. These invoices, which detail the number and total volume of fuel tanks purchased, provide a reliable record of transactions with third-party vendors. By applying the total volume of fuel purchased in a year, fuel consumption is conservatively overestimated. VVB reviewed the analysis and crosschecked with the fuel purchase receipts /06/ to confirm that the approach being implemented is in fact conservative.

The methodology deviations described above did not impact the applicability of the methodology, additionality, or the appropriateness of the baseline scenario, and the Project remained in conformance with all other ACM0001 and VCS requirements.

3.2 Project Description Deviations

During this monitoring period, the following project description deviations were considered:

- Use of handheld methane sample readings for Flare 4: The VCS PD /B04/ specifies that methane concentrations at Flare 4 should be measured using a continuous gas analyzer. However, during the current monitoring period, methane concentrations were measured using a portable methane analyzer. To ensure conservativeness, an additional 10% discount was applied to all methane concentration readings, which were extended to cover the period until the next measurement for weeks with two or more samples.

This deviation does not affect the applicability conditions, or the baseline and additionality conditions outlined in the ACM0001 Large-scale Consolidated Methodology: Flaring or use of landfill gas, Version 19.0/B02/. Accordingly, the VVB approved this deviation, as the regular review of methane concentrations/09/ during the monitoring period, combined with the application of a discount factor, ensures that the deviation does not compromise the conservativeness of the emission reduction claims.

- Flare thermocouple readings: The VCS PD /B04/ identifies that the flare is considered operational when the thermocouple temperature reaches or exceeds 500°F. However, for Flare 4, the thermocouple is positioned slightly farther from the combustion area compared to previous flares. During the current monitoring period, a lower threshold of 212°F was used to determine operability, aligning with the manufacturer's specifications/16/, which indicate the flare is operational once the temperature exceeds the 200°F setpoint.

This deviation is related to the procedures for applying measurement and monitoring. It does not affect the applicability conditions, or the baseline and additionality conditions outlined in the methodology ACM0001, Version 19.0/B02/. Upon reviewing the flare temperature data /08/, VVB has approved the deviation and confirmed that this deviation does not negatively impact the conservativeness of the emission reduction assertion.

- Gas analyzer field calibrations: During the monitoring period, inconsistencies in documenting field calibration results before using handheld gas analyzers led to a deviation from the equipment calibration plan of the VCS PD/B04/. The VCS PD specifies that the field calibration documentation for portable gas analyzers will be provided for each methane concentration measurement. However, only a limited number of calibrations conducted before use were properly documented during this monitoring period.

This deviation does not affect the applicability conditions, or the baseline and additionality conditions outlined in the ACM0001 Large-scale Consolidated Methodology: Flaring or use of landfill gas, Version 19.0/B02/. However, it is related to the procedures for measurement and monitoring. The VVB has cross-checked the standard operating procedure /26/ provided by the PP, and the landfill manager has testified that field calibration of handheld gas analyzers before each use is a standard procedure at the facility. Additionally, a 10% discount was applied to all non-continuous methane readings. This deviation does not negatively impact the accuracy or conservativeness of GHG emission reductions. The same has been verified and approved by the VVB.

- Quantification of $F_{CH_4,m}$ on a dry basis: The project proposes a deviation from the Project Description Document/B04/ to use CDM Tool 08 Option A instead of Option C, as initially validated. The PP determined that Option A is more appropriate because the gaseous stream meets the dry basis criteria of Tool 08 Paragraph 23(b), which states that the temperature of the gaseous stream must be less than 60°C (140°F).

The VVB crosschecked the raw data containing continuous gas inlet temperature readings for both flare flow and engine flow/14/ throughout the monitoring period and confirm that the gaseous stream temperature remained below the threshold, considered it as dry in accordance with the requirements of CDM Tool 08. This change does not affect the calculations, as both options use the same equation format. Additionally, this deviation does not affect the applicability conditions, or the baseline and additionality conditions outlined in the CDM methodology ACM0001, Version 19.0/B02/. The verification team approved this deviation as it enhances the description in the validated VCS PD and improves calculation accuracy by better aligning with CDM Tool 08 requirements.

The project description deviations mentioned above were also applied during the previous monitoring period and approved by the previous verification. These deviations do not impact the appropriateness of the baseline scenario, additionality, or applicability of the methodology. The PP provided appropriate descriptions and justifications for the deviation and the project remained in compliance with all other ACM0001 and VCS requirements, and these project deviations were deemed valid. Hence the above project description deviations are valid.

3.3 New Project Activity Instances in Grouped Projects

Not applicable. The project activity is not a grouped project.

3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes ☒ No

4 VERIFICATION FINDINGS

4.1 Project Details

Item	Evidence gathering activities, evidence checked, and assessment conclusion:
Audit history	PP has provided the audit history in section 1.2 of MR/02/. The verra registry page has been reviewed to confirm that the information provided in MR/02/ is accurate. The number of years corresponding to each verification period has been accurately provided in the audit history table.
Double counting and participation under other GHG programs	The project is not involved in any other form of GHG emission program and VCUs generated from this verification will not be used for other trading programs to avoid any kind of double counting. The same is confirmed by the PP during the on-site audit. The issuance history of the project activity is provided in MR/02/. The declaration of no double counting and participation under other GHG programs provided by PP/17/ has been reviewed to confirm the same.
No double claiming with emissions trading programs or binding emission limits	PP, in MR/02/ has declared that the project activities does not include in any emission trading program or binding emission limit which has been confirmed on the basis of independent research and on-site interviews of the responsible parties.
No double claiming with other forms of environmental credit	PP, In MR/02/ has declared that the project activities do not claim any other form of environmental credit which has been confirmed on the basis of independent research and on-site interviews of the responsible parties. The declaration of no double claiming with other forms of environmental credits provided by PP/17/ has been reviewed to confirm the same.
Supply chain (scope 3) emissions double claiming	PP, in MR/02/ has declared that the PP is not a buyer or seller of a product that is in a supply chain and whose product emissions footprint is changed by the project activities. Thus, the scope 3 emissions are not applicable in this project activity.
Sustainable development contributions	Through the implementation of the project activity, the following SGDs have been achieved during the current monitoring period. SDG 13: Tonnes of greenhouse gas emissions avoided or removed.

	The current project contribution is 142,584 tCO₂e which is consistent with the emission reduction value reported in the MR/02/ and ER sheet/04/. The total project lifetime contribution value of 1,194,814 tCO₂e is the total emission reduction value achieved by the project in its lifetime. SDG 3.9: Reduction in household and ambient air pollution. The current project contribution is 1,156,934,105 SCF of landfill gas destroyed which is consistent with the value reported in the MR/02/ and ER sheet/04/. The total project lifetime contribution value of 9,854,313,228 SCF is the total volume of gas destroyed by the project in its lifetime. SDG 7.2: MWh renewable energy supplied to the grid (user-defined) The project contributed 22,893 MWh during this monitoring period, which is consistent with the value reported in the MR/02/ and ER sheet/04/. The total quantity of energy supplied to the grid in the project's lifetime is 261,496 MWh. The project contributions to the SGDs provided in the MR/02/ is found to be true based on the assessment of the calculation provided and previous monitoring reports. The SDG indicators defined in the registered PD have been consistently applied, monitored and reported in section 1.12 of MR/02/. VVB confirms that PP adheres to the requirement mentioned in para 3.17.1 of VCS standard version 4.5.
Additional information relevant to the project	No commercially sensitive information is included in the project documents.

4.2 Safeguards and Stakeholder Engagement

4.2.1 Stakeholder Identification

As per section 2.1.1 of the MR /02/ the stakeholder makeup has not changed since validation. The Project follows multiple permits to ensure environmental protection/18/. No concerns from local stakeholders have been reported during this period or since the project's validation. As per the registered VCS PD/B04/ the project activity takes place on privately owned land, therefore this section is not applicable.

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Stakeholder identification	Not applicable. The Project operates in accordance with several permits/18/ to ensure protection of the environment. No concerns from local stakeholder have been brought forth during this reporting period, or since the Project's validation.
Legal or customary tenure/access rights	Not applicable. VVB has reviewed registered VCS PD/B04/ and confirms that The Project activity takes place on privately owned land
Stakeholder diversity and changes over time	Not applicable. VVB has reviewed the registered VCS PDD /B04/ & MR /02/ and found that there were no changes in the stakeholder diversity.
Expected changes in well-being	Not applicable. There are not any significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity.
Location of stakeholders	Not applicable. The project activity does not require the relocation of any stakeholder, Indigenous people, or local communities and no negative impact was generated outside/inside of the project boundary.
Location of resources	Not applicable. In the project activity, neither any territories and resources are owned by the stakeholders, nor they have any customary access.

4.2.2 Stakeholder Consultation and Ongoing Communication

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Ongoing consultation	VVB has reviewed the Illinois Environmental Protection Agency meetings, reports, and permits /18/ and confirms that the ongoing

	communication are in place to ensure compliance with all permits and relevant laws.
Date(s) of stakeholder consultation	VVB has reviewed the Illinois Environmental Protection Agency meetings, reports, and permits /18/ and confirms that the site consults with the Illinois EPA regularly to ensure compliance with relevant regulations. The facility consulted the Illinois EPA on 09-November- 2022, by submitting a permit revision. The Illinois EPA issued the revised CAAPP permit to Clinton Landfill on 11/10/2022/18/.
Communication of monitored results	VVB has reviewed the Illinois EPA meetings, reports, and permits /18/ and confirms that the monitored results do not need to be communicated to the Illinois EPA.
Consultation records	VVB has reviewed the permits/18/ and confirms that the consultation with Illinois EPA is documented as permits.
Stakeholder input	VVB has reviewed the permits/18/ and confirms that in order to run the landfill and gas collection and destruction system, the necessary construction and environmental permissions were issued as a result of the permitting process that was carried out before verification.

4.2.3 Free, Prior, and Informed Consent

VVB has reviewed the Illinois EPA meetings, reports, and permits /18/ and confirms that the FPIC is not relevant to communications with the Illinois EPA because the permitting procedure is mandated by U.S. law. Therefore, this section is not applicable.

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Consent	Not applicable. Before the project commissioning PP had taken appropriate approvals from relevant authorities /18/.
Outcome of FPIC discussion	Not applicable. The project activity does not affect any type of property rights, and there are no ongoing or unresolved conflicts over property rights, usage, or resources. This project activity does not involve any encroachment on land, people's relocation, or forced physical or

economic displacement. The same has been confirmed by VVB during the on-site inspection /33/.

4.2.4 Grievance Redress Procedure

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Grievance received and steps taken to resolve the grievance including the outcomes of the resolution	VVB through site visit inspection and review of the grievance sheet and whistleblower policy/32/ which provides a mechanism for raising and resolving grievances, confirms that no grievance was raised during the current monitoring period.
Grievance redress procedure	GFL's whistleblower policy/32/ provides a mechanism for raising and resolving grievances. The VVB has confirmed the same during the onsite visit /33/.

4.2.5 Public Comments

VVB has cross-checked the verra registry (<https://registry.verra.org/app/projectDetail/VCS/318>) and confirms that no comments were received.

Comments received	Actions taken by the project proponent	Evidence gathering activities, evidence checked, and assessment conclusion
Not Applicable	Not Applicable	Not Applicable

4.2.6 Risks to Local Stakeholders and the Environment

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Risks to stakeholder participation	The project is located on private property and falls under the regulation of the Illinois EPA, so it does not involve stakeholder participation. The same has been confirmed by VVB during the on-site inspection /33/. Hence no risk identified.

Working conditions	PP has standard operating procedures /26/ in place to ensure safe working condition. During the onsite inspection and interview/33/, the same has been confirmed by VVB. Hence no risk identified.
Safety of women and girls	The VVB has confirmed that the project does not pose any risks to the safety of women and girls. It has verified that standard operating procedures /26/ are in place to ensure safe working conditions and that the project's human rights policy /32/ effectively safeguards against harassment, discrimination, and forced labor. Therefore, no risks have been identified.
Safety of minority and marginalized groups, including children	No risks have been identified, as the project does not impact the safety of minority and marginalized groups, including children. This assessment was confirmed by the VVB during the on-site inspection/33/ and through a review of the project's human rights policy /32/, which provides protections against harassment, discrimination, and forced labor. Hence, no risk identified.
Pollutants (air, noise, discharges to water, generation of waste, release of hazardous materials)	The project does not create any risks of pollution. The project activity reduces pollution in the locality compared to the baseline scenario and therefore leads to a net environmental benefit as per the IEPA permit/18/. The same has been confirmed by VVB during the on-site inspection /33/. Hence no risk identified.

4.2.7 Respect for Human Rights and Equity

4.2.7.1 Labor and Work

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Discrimination and sexual harassment	PP has submitted code of ethics /32/ in place to prevent discrimination and harassment against anyone. During the onsite inspection, VVB interviewed workers and have found there has been no instances of discrimination and sexual harassment.
Management experience	As per the statement provided in the section 2.3.1 by the PP, the project's current participating entities are all experienced in their respective industries, such as managing carbon projects and operating

	landfill gas collecting and destruction systems. No entity has been newly involved in project design or implementation during the current monitoring period. The same has been confirmed by VVB.
Gender equity in labor and work	The GFL's human rights policy /32/ ensures that equal opportunities have been provided in the context of gender equity and pay for labor and work.
Human trafficking, forced labor, and child labor	Clinton Landfill follows labor laws set by the United States, which is a member of ILO and has signed C105 – Abolition of Forced Labour Convention, 1957 (signed 1991). PP complies with United States child labor laws (C182 – Worst Forms of Child Labour Convention, 1999 - signed 1999). According to GFL's human rights policy /32/, GFL prohibits all forms of forced labor, child labor, human trafficking, and slavery. During the onsite inspection, VVB interviewed workers and have found there has been no instances of human trafficking, forced labor and child labor.

4.2.7.2 Human Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Human rights	VVB, through site visits and interviews confirms that the project activity complies with the United States constitution and the laws of the country /18/, permit compliance ensures that the facility does not cause unnecessary harm to local communities. There are no resettlement and rehabilitation, or involuntary resettlement issues related to the project; and no specific / vulnerable group of community is likely to be affected by the project, hence there are no risks to human rights violation identified.

4.2.7.3 Indigenous Peoples and Cultural Heritage

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Preservation and protection of cultural heritage	The project does not affect the indigenous people and their cultural heritage as Indigenous people are not present in the area. As identified in the on-site inspection /33/ as well, this land does not

	hold any cultural significance to any people group. VVB through interviews and site inspections observed that the project activity does not affect cultural heritage.
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4.2.7.4 Property Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Disputes over rights to territories and resources	The project is being carried out on private property. Hence, there is no need to implement any measures to protect and preserve the property rights of stakeholders, IPs, LCs, and customary rights holders. Hence, this project activity does not affect the property rights.
Respect for property rights	The project is being carried out on private property and it does not impact property rights.

4.2.7.5 Benefit Sharing

The project has no effect on property rights. Thus, this section is not applicable.

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Summary of the benefit sharing plan	Not Applicable
Benefit sharing during the monitoring period	Not Applicable

4.2.8 Ecosystem Health

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Impacts on biodiversity and ecosystems	This project activity does not involve any activity which may negatively impact biodiversity and ecosystem. The same has been identified and confirmed from the on-site inspection/33/.
Soil degradation and soil erosion	No risk identified as this project does not involve any activity which may result in soil degradation and soil erosion and the same has been identified and confirmed from the on-site inspection/33/.
Water consumption and stress	No risk identified as this project does not involve any activity which may consume water or result in any kind of water stress. The same has been identified and confirmed from the on-site inspection/33/.
Usage of fertilizers	No risk identified as this project does not involve fertilizer usage. The same has been identified and confirmed from the on-site inspection/33/.

4.2.8.1 Rare, Threatened, and Endangered species

Based on the U.S. Fish and Wildlife Service's Critical Habitat web map¹, and the review of the IEPA report /18/, the project is neither located within nor adjacent to habitats for rare, threatened, or endangered species. Thus, this section is not applicable.

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Species or habitat	Not Applicable

4.2.8.2 Introduction of Species

Species introduced	Evidence gathering activities, evidence checked, and assessment conclusion
N/A	The project activity does not include planting or introduction of species

¹ <http://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>

Existing invasive species	Evidence gathering activities, evidence checked, and assessment conclusion
N/A	Not applicable

4.2.8.3 Ecosystem conversion

Item	Evidence gathering activities and evidence checked
Ecosystem conversion	As the project activity is not ARR, ALM, WRC, pr ACoGS. It is not applicable.

4.3 Accuracy of Reduction and Removal Calculations

Baseline Emissions

The baseline emissions are determined according to the following equations that are based on version 19 of ACM0001/B02/.

$$BE_y = BE_{CH4,y} + BE_{EC,y} + BE_{HG,y} + BE_{NG,y} \quad (\text{Equation 1 of ACM0001, v19})$$

Where:

BE_y = Baseline emissions in year y (t CO₂e/yr)

$BE_{CH4,y}$ = Baseline emissions of methane from the SWDS in year y (t CO₂e/yr)

$BE_{EC,y}$ = Baseline emissions associated with electricity generation in year y (t CO₂/yr)

$BE_{HG,y}$ = Baseline emissions associated with heat generation in year y (t CO₂/yr)

$BE_{NG,y}$ = Baseline emissions associated with natural gas use in year y (t CO₂/yr)

Since this Project does not have baseline emissions from electricity, heat generation, and natural gas usage, the methodology equation reduces to:

$$BE_y = BE_{CH4,y}$$

Where $BE_{CH4,y}$ is given by:

$$BE_{CH4,y} = \left((1 - OX_{top_layer}) \times F_{CH4,PJ,y} - F_{CH4,BL,y} \right) \times GWP_{CH4} \quad (\text{Equation 2 of ACM0001, v19})$$

Where:

OX_{top_layer} = Fraction of methane in the LFG that would be oxidized in the top layer of the SWDS in the baseline (dimensionless), equal to 0.1

$F_{CH_4,PJ,y}$ = Amount of methane in the LFG which is flared and/or used in the Project activity in year y (t CO₂e/yr)

$F_{CH_4,BL,y}$ = Amount of methane in the LFG that would be flared in the baseline in year y (t CO₂e/yr)

GWP_{CH_4} = Global warming potential of CH₄ (t CO₂e/tCH₄), equal to 28

As required by the methodology, set OX_{top_layer} to 0.1 to account for the effect of oxidation. Similarly, set the GWP of methane to the default value of 28 from the IPCC Fifth Assessment Report. The value of $F_{CH_4,PJ,y}$ is quantified ex-post from data produced during this reporting period.

Substituting the appropriate values gives:

$$BE_{CH_4,2023} = ((1 - 0.1) \times 6,706 - 2,150) \times 28 = 108,795$$

$$BE_{CH_4,2024} = ((1 - 0.1) \times 2,092 - 671) \times 28 = 33,937$$

For the *ex-post* calculations,

$$F_{CH_4,PJ,y} = F_{CH_4,flared,y} + F_{CH_4,EL,y} \quad (\text{Equation 3 of ACM0001, v19})$$

Where:

$F_{CH_4,PJ,y}$ = Amount of methane in the LFG which is flared and/or used in the Project activity in year y (tCH₄/yr)

$F_{CH_4,flared,y}$ = Amount of methane in the LFG which is destroyed by flaring in year y (tCH₄/yr).

$F_{CH_4,EL,y}$ = Amount of methane in the LFG which is used for electricity generation in year y (tCH₄/yr)

The terms $F_{CH_4,flared,y}$ and $F_{CH_4,EL,y}$ both rely on the “Tool to determine the mass flow of a greenhouse gas in a gaseous stream” to determine the methane destroyed in the baseline.

The term $F_{CH_4,EL,y}$ is determined directly using the tool and monitoring the working hours of the power plant so that no emission reductions are claimed during non-working hours. This is taken into account by monitoring the kW production of the equipment utilizing the LFG to only claim engine destruction when an engine is operating in year y ($Op_{j,m,y}$). Substituting the appropriate values gives:

$$F_{CH_4,PJ,2023} = F_{CH_4,flared,2023} + F_{CH_4,EL,2023} = 3,792 + 2,914 = 6,706$$

$$F_{CH_4,PJ,2024} = F_{CH_4,flared,2024} + F_{CH_4,EL,2024} = 1,252 + 840 = 2,092$$

The term $F_{CH_4,flared,y}$ is determined using Equation 4 in the methodology, as below:

$$F_{CH_4,flared,y} = F_{CH_4,sent_flare} - \frac{PE_{flare,y}}{GWP_{CH_4}} \quad (\text{Equation 4 of ACM0001, v19})$$

Where:

$F_{CH_4,flared,y}$ = Amount of methane in the LFG which is destroyed by flaring in year y (tCH₄/yr)

$F_{CH_4,sent_flare}$ = Amount of methane in the LFG which is sent to the flare in year y (tCH₄/yr), determined using the “Tool to determine the mass flow of a greenhouse gas in a gaseous stream”

$PE_{flare,y}$ = Project emissions from flaring of the residual gas stream in year y (tCO_{2e}/yr), determined using the tool “Project emission from flaring”

To determine both $F_{CH_4,EL,y}$ (the mass flow of methane to the engines) and $F_{CH_4,sent_flare,y}$ (the mass flow of methane to the flare), PP measure the flow of the LFG on a volumetric dry basis using measurement Option A and the following equations from CDM Tool 08:

$$F_{CH_4,t} = F_{CH_4,EL,y} = F_{CH_4,sent_flare,y} = V_{t,db,n} \times v_{CH_4,t,db} \times \rho_{CH_4,n}$$

With the density of methane converted to the conditions of each flow meter’s internally corrected output per Equation 6 of Tool 08:

$$\rho_{CH_4,n} = \frac{P_n \times MM_{CH_4}}{R_u \times T_n}$$

Where:

$F_{CH_4,t}$ = Mass flow of methane in the LFG in time interval t (lb CH₄/h).

$V_{t,db,n}$ = Volumetric flow of the LFG in time interval t on a dry basis at normal conditions (ft³ dry gas/h)

$v_{CH_4,t,db}$ = Volumetric fraction of methane in the LFG in time interval t on a dry basis (ft³ CH₄/ft³ dry gas)

$\rho_{CH_4,n}$ = Density of methane in the landfill gas at normal conditions (lb CH₄/ft³ dry landfill gas)

P_n = Absolute pressure at normal conditions (1 atm or 14.70 psia)

T_n = Temperature at normal conditions (68°F, or 527.67°R)

MM_{CH_4} = Molecular mass of methane (lb/lbmol)

R_u = Universal ideal gas constant (psia • ft³/lbmol • R)

$PE_{flare,y}$ is determined using the tool “Project emissions from flaring” and the equation below:

$$PE_{flare,y} = GWP_{CH_4} \times \sum_{m=1}^{525600} F_{CH_4,RG,m} \times (1 - \eta_{flare,m}) \times 10^{-3}$$

Where:

$F_{CH4,RG}$ = Mass flow of methane in the flare gas in minute m (kg)

η_{flare} = The efficiency of the flare in minute m

Note that the flare operability is monitored via thermocouple readings.

Note that $F_{CH4,RG,m}$ is calculated as $F_{CH4,flared,y}$ due to Equation 4 in the methodology directing calculations to use CDM Tool 06 “Project emissions from flaring” for calculation of $PE_{flare,y}$. CDM Tool 06 points towards the use of CDM Tool 08 to determine $F_{CH4,m}$, defined as the mass flow of methane in the residual gas stream, which is thus equivalent to $F_{CH4,RG,m}$. CDM Tool 08 additionally refers to $F_{CH4,m}$ as $F_{i,t}$.

For the **ex-post** determination of the amount of methane that would have been captured and destroyed in the baseline term $F_{CH4,BL,y}$, PP use Case 4 as described in ACM0001 (a requirement to destroy methane exists and an LFG capture system exists).

For Case 4, ACM0001 states that $F_{CH4,BL,y}$ shall be determined based on information in contract or regulation requirements and data related to the existing LFG capture system, as follows:

$$F_{CH4,BL,y} = \max\{F_{CH4,BL,R,y}; F_{CH4,BL,sys,y}\}$$

Where:

$F_{CH4,BL,R,y}$ = Amount of methane in the LFG which is flared in the baseline due to a requirement in year y (t CH₄/yr) – as determined by the procedures outlined in Case 2

$F_{CH4,BL,sys,y}$ = Amount of methane in the LFG that would be flared in the baseline in year y for the case of an existing LFG capture system (t CH₄/yr) - as determined by the procedures outlined in Case 3

For the Clinton Landfill, the amount of methane destroyed in the baseline scenario is not numerically defined by a regulation or a contract, therefore PP follow the Case 3 steps to determine $F_{CH4,BL,y}$:

$$F_{CH4,BL,y} = F_{CH4,BL,sys,y} = F_{CH4,hist,y} = \frac{F_{CH4,BL,x-1}}{F_{CH4,x-1}} \times F_{CH4,PJ,y}$$

Where:

$F_{CH4,BL,x-1}$ = the amount of methane in the LFG which is captured and destroyed in the year prior to the Project implementation (tCH₄/yr)

$F_{CH4,x-1}$ = the amount of methane in the LFG generated in the SWDS in the year prior to the Project, and is calculated according to the methodological tool “Emissions from solid waste disposal sites” (tCH₄/yr)

$F_{CH4,PJ,y}$ is calculated as above.

$F_{CH_4,BL,x-1}$ is determined using the data from one historic year (2006) prior to the start date of the Project. This data and calculation are included as Attachments 14 and 16 and were developed as part of the Project's validation of the first crediting period. As the analysis shows, in the year prior to the Project the baseline flare destroyed 3,889 tCH₄.

$F_{CH_4,x-1}$ is calculated for the same time period, 2006, based on a first-order decay model described in the "Tool to determine methane emissions avoided from dumping waste at a solid waste disposal site." In the baseline year, 2006, the site generated 12,130 tCH₄.

Combining these terms, come to the following:

$$F_{CH_4,BL,y} = \frac{F_{CH_4,BL,x-1}}{F_{CH_4,x-1}} \times F_{CH_4,PJ,y} = \frac{3,889}{12,130} \times F_{CH_4,PJ,y} = 0.321 \times F_{CH_4,PJ,y}$$

Substituting the appropriate values gives:

$$F_{CH_4,BL,2023} = 0.321 \times 6,706 = 2,150$$

$$F_{CH_4,BL,2024} = 0.321 \times 2,092 = 671$$

Project Emissions

ACM0001 requires identification of changes in fossil fuel use and non-renewable electricity consumption that occur as a result of the Project implementation. Project emissions are quantified through Equation 22 of the methodology:

$$PE_y = PE_{EC,y} + PE_{FC,y} + PE_{DT,y} + PE_{SP,y}$$

Where:

PE_y = Project emissions in year y (t CO₂/yr)

$PE_{EC,y}$ = Emissions from consumption of electricity due to the Project activity in year y (t CO₂/yr)

$PE_{FC,y}$ = Emissions from consumption of fossil fuels due to the Project activity, for purposes other than electricity generation, in year y (t CO₂/yr)

$PE_{DT,y}$ = Emissions from the distribution of compressed/liquefied LFG using trucks, in year y (t CO₂/yr)

$PE_{SP,y}$ = Emissions from the supply of LFG to consumers through a dedicated pipeline, in year y (t CO₂/yr)

$PE_{DT,y}$ and $PE_{SP,y}$ are not applicable to this Project and are both zero.

$PE_{EC,y}$ is determined according to the Methodological tool 05: *Baseline, Project, and/or leakage emissions from electricity consumption and monitoring of electricity generation* and applying the appropriate methodology deviation, as below:

$$PE_{EC,y} = \sum_j (EC_{PJ,j,y} \times EF_{EL,j,y} \times (1 + TDL_{j,y}))$$

Where:

$EC_{PJ,j,y}$ = quantity of electricity consumed by the Project in year y (MWh/yr)

$EF_{EL,j,y}$ = emission factor for electricity generation for source j in year y (tCO₂/MWh), from eGRID

$TDL_{j,y}$ = Average technical transmission and distribution losses for providing electricity to source j in year y (from most recent eGRID dataset)

Substituting the appropriate eGRID values into the equation gives the following:

$$PE_{EC,2023} = 162.8 \times 0.621 \times (1 + 0.0051) = 106.3 \text{ tCO}_2e$$

$$PE_{EC,2024} = 61.6 \times 0.621 \times (1 + 0.0051) = 40.2 \text{ tCO}_2e$$

$PE_{FC,y}$ is determined according to the *Tool to calculate Project or leakage CO₂ emissions from fossil fuel combustion* and the appropriate methodology deviation, as below:

$$PE_{FC,y} = \sum_i (FC_{i,j,y} \times COEF_{i,y})$$

Where:

$FC_{i,j,y}$ = Quantity of fuel type i combusted in process j during the year y (mass or volume unit/yr)

$COEF_{i,y}$ = The CO₂ emission coefficient of fuel type i in year y (tCO₂/mass or volume unit)

The project used 156 gallons of propane during this reporting period, thus:

$$PE_{FC,2023} = 75 \times 0.006 = 0.42$$

$$PE_{FC,2024} = 81 \times 0.006 = 0.45$$

Substituting the appropriate values into Equation 22 gives the total project emissions by year:

$$PE_{2023} = 106.3 + 0.42 = 106.7 \text{ tCO}_2e$$

$$PE_{2024} = 40.2 + 0.45 = 40.7 \text{ tCO}_2e$$

Emission reductions have been calculated in accordance with the applied methodology ACM0001 version 19 /B02/, and VCS PDD /B04/. The PP has used monitored data and ex-ante fixed data including default values as mandated/permitted by the applied methodology. The values used for calculation of GHG emission reductions have been thoroughly checked by the verification team and was found appropriate and correct.

The following parameters are determined ex-ante and mentioned in section 4.1 of the VCS MR/02/:

Parameter	Description	Value	Unit	Source	Assessment
Regulatory requirements relating to landfill gas Projects	Regulatory requirements relating to landfill gas Projects	-	-	Publicly available information of United States' and State of Illinois' regulatory requirements relating to landfill gas. In particular, the landfill is regulated under Title 35 Illinois Administrative Code (35 IAC), Subtitle G: Land Pollution (Regulations) and under the Title V Clean Air Act Permit Program. The WVPA energy plant is also regulated under Title 40 Code of Federal Regulations.	VVB has crosschecked the Publicly available information of United States' and State of Illinois' regulatory requirements relating to landfill gas and necessary permits/18/ and confirms that This parameter is consistent with registered VCS PD/B04/ and fixed ex-ante for the project activity.
OX _{top_layer}	Fraction of methane that would be oxidized in the top layer of the SWDS in the baseline	0.1	Dimensionless	Consistent with how oxidation is accounted for in the methodological tool "Emissions from solid waste disposal sites"	The parameter is used for calculation of the baseline emissions. The value is consistent with registered VCS PD/ B04/ and fixed ex-ante for the project activity.

GWP_{CH_4}	Global Warming Potential of methane	28	tCO ₂ e/t CH ₄	IPCC Fifth Assessment Report	The parameter is used for the global warming potential of methane and used for calculation of emission reductions. The parameter value is based on the GWP available in the IPCC fifth Assessment report/B05/. The value is consistent with registered VCS PD/ B04/ and fixed ex-ante for the project activity.
$F_{CH_4,PJ,y}$ (ex-ante)	Amount of methane in the LFG which is flared and/or used in the Project activity in year y	Attachment 17 of PDD	tCH ₄ /yr	$F_{CH_4,PJ,y} = \eta_{PJ} \times BE_{CH_4,SWDS,y} / GWP_{CH_4}$	The parameter is used for Calculation of Project Emissions (ex-ante). The value is consistent with registered VCS PD/ B04/ and fixed ex-ante for the project activity.
η_{PJ}	Efficiency of the LFG capture system installed in the project activity	50%	Percent	ACM0001 version 19	The parameter is used as an input for calculation of the baseline emissions. Since the technical specifications are not available for the LFG capture system, a default value of 50% is applied for the purposes of ex-ante emissions estimation. The value is consistent with registered VCS PD/B04/ and fixed ex-ante for the project activity.
η_{flare}	Efficiency of the flare installed in the Project activity	96%	Percent	Climate Action Reserve's U.S. Landfill Protocol (v5).	The parameter is used for calculation of the project emissions. The value is consistent with registered VCS PD/B04/ and fixed ex-ante for the project activity.
$F_{CH_4,BL,x-1}$	Historical amount of methane in the LFG which is captured	3,899	tCH ₄ /yr	Value taken from initial validation	The parameter is used for Calculation of baseline methane destruction and this value was determined at the initial validation. The value is consistent with

	and destroyed in the year prior to implementation of the Project activity				registered VCS PD/B04/ and fixed ex-ante for the project activity.
$F_{CH_4,x-1}$	Amount of methane which is generated in the SWDS in the year prior to the Project activity	12,130	tCH ₄ /yr	Calculated in original PDD (This value is a result of the decay model that predicts the annual methane production of the landfill).	The parameter is used for Calculation of baseline methane destruction. The value is consistent with registered VCS PD/B04/ and fixed ex-ante for the project activity.
$BE_{CH_4,SWDS,y}$	Amount of methane generated in calendar year y by the landfill in absence of any collection system	Attachment 17 of PDD	tCO ₂ e/y	Calculated per the tool "Emissions from solid waste disposal sites" at the time of the initial validation and recalculated at the time of the second crediting period validation.	The parameter is used for the calculation of Modelled value of the methane produced by the SWDS in a given year. The value is consistent with registered VCS PD/B04/ and fixed ex-ante for the project activity.
$F_{CH_4,BL,y} \text{ (ex-ante)} = F_{CH_4,hist,y}$	Amount of methane in the LFG that would be flared in the baseline in year y for the case of an existing LFG capture system	Calculated Value ($0.321 \times F_{CH_4,PJ,y} \text{ (ex-ante)}$)	tCH ₄ /yr	$0.321 \times F_{CH_4,PJ,y} \text{ (ex-ante)}$	The parameter is used for calculation of the baseline emissions. The value is consistent with registered VCS PD/B04/ and fixed ex-ante for the project activity.

$EF_{EL,j,y}$	Emission factor for electricity consumption from source j	0.621	tCO ₂ e/MWh	eGRID 2022 data (released 1/30/2024)	The parameter is used for the Calculating Project emissions from electricity use. The value is consistent with registered VCS PD/B04/.
$TDL_{j,y}$	Transmission and distribution losses of providing electricity to source j in year y	5.1%	Percent	eGRID 2022 data (released 1/30/2024)	The parameter is used for the Calculating Project emissions from electricity use. The value is consistent with registered VCS PD/B04/.
$COEF_{i,y}$	Emission factor for fossil fuel type i	Propane - 0.006	tCO ₂ /gal lon	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories	The parameter is used for Calculating project emissions from fossil fuel use. The value is consistent with registered VCS PD/B04/ and fixed ex-ante and 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
ρ_{CH_4}	Methane density	0.04162	lbs. CH ₄ /ft ³ dry landfill gas	US EPA conversion factor, "Basic Concepts in Environmental Science" http://www.epa.gov/apti/bces/reference.htm	The parameter is used for calculation of the baseline and project emissions. The value is consistent with registered CDM PDD and VCS PD/B04/ and fixed ex-ante for the project activity.
P_n	Total pressure at normal conditions	14.70	psia	Tool to determine the mass flow of a greenhouse gas in a gaseous stream, Version 03.0	The parameter is used to determine methane density for calculation of the baseline emissions. The value is consistent with registered VCS PD/B04/ and fixed ex-ante and Tool 08 for the project activity.

T_n	Temperature at normal conditions	527.67	°R	Tool to determine the mass flow of a greenhouse gas in a gaseous stream, Version 03.0	The parameter is used to determine methane density for calculation of the baseline emissions. The value is consistent with registered VCS PD/B04/ and fixed ex-ante and Tool 08 for the project activity.
MM_{CH_4}	Molecular mass of methane	16.043	lb/lbmol	Tool to determine the mass flow of a greenhouse gas in a gaseous stream, Version 03.0	The parameter is used to determine methane density. The value is consistent with registered VCS PD/B04/ and fixed ex-ante and Tool 08 for the project activity.
R_u	Universal ideal gases constant	10.73	lb.ft ³ /lb mol.°R	“Tool to determine the mass flow of a greenhouse gas in a gaseous stream”, Version 03.0	The parameter is used to determine methane density for the calculation of baseline emissions. The parameter is based on the default provided in the tool. The value is consistent with VCS PD/B04/ and fixed ex-ante and Tool 08 for the project activity.
Φ_{default}	Default value for the model correction factor to account for model	0.75	-	Methodological tool: Emissions from solid waste disposal sites, Version 08.0	The parameter is used for calculation of the baseline emissions. The value is consistent with registered VCS PD/B04/ and fixed ex-ante and Tool 04 for the project activity.
f_y	Fraction of methane captured at the SWDS and flared, combusted or used in another manner that prevents the	0	-	Historic Project records and ongoing Project monitoring.	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered VCS PD/B04/ and fixed ex-ante for the project activity.

	emissions of methane to the atmosphere in year y				
OX	Oxidation factor (reflecting the amount of methane from SWDS that is oxidized in the soil or other material covering the waste)	0.1	-	Based on an extensive review of published literature on this subject, including the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories	The parameter is used for calculation of the baseline emissions. The value is consistent with registered VCS PD/B04/ and fixed ex-ante for the project activity.
F	Fraction of methane in the SWDS gas (volume fraction)	0.5	-	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories	The parameter is used as an input for calculation of the project emissions. The value is consistent with registered VCS PD/B04/ and fixed ex-ante for the project activity.
DOC _{f,y}	Default value for the fraction of degradable organic carbon (DOC) in MSW that decomposes in the SWDS	0.5	-	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered VCS PD/B04/ and fixed ex-ante and 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories for the project activity.
MCF _y	Methane Correction Factor	1	-	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered VCS PD/B04/ and fixed ex-ante and 2019 Refinement to the 2006

				Gas Inventories	IPCC Guidelines for National Greenhouse Gas Inventories for the project activity.
DOC _j	Fraction of degradable organic carbon in the waste type j (weight fraction)	Table provided in the MR/02/ and PDD/B04/	-	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Tables 2.4 and 2.5)	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered VCS PD/B04/ and fixed ex-ante and 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Tables 2.4 and 2.5) for the project activity.
W _x	Total amount of waste disposed in a SWDS in year x	Attachment 13 and Attachment 17 of PDD.	Tonnes	Measurement by third-party reporting	The parameter is used as an input for calculation of the baseline emissions. The parameter is used to estimate ex-ante emission reductions based on the waste profile. The value is consistent with registered VCS PD/B04/ and fixed ex-ante for the project activity.
k _j	Decay rate for the waste type j	Table provided in the MR/02/ and PDD/B04/	-	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Table 3.3)	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered VCS PD/B04/ and fixed ex-ante and 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (adapted from Volume 5, Table 3.3).

4.4 Quality of Evidence to Determine Reductions and Removals

The quality of supporting evidence submitted to the VVB for verification is adequate and found to be verifiable. The transfer of carbon rights and other supporting documents related to quality

and maintenance were checked by the verification team during the audit to confirm the authenticity of the documents and to check the correctness of the calculation.

When verifying the reported emission reductions, CCIPL ensured that there was a clear audit trail that contained the evidence and records that validate the stated figures. All source documents that form the basis for assumptions and other information underlying the GHG data were checked by the verification team.

When assessing the audit trails, CCIPL also examined:

1. Whether sufficient evidence was available, both in terms of frequency and in covering the full monitoring period
2. The source and nature of the evidence
3. If comparable information was available from sources other than that used in the monitoring report, CCIPL cross-checked the monitoring report against the other sources to confirm that the stated figures were correct. The sources and the data referenced are shown in Appendix 1 below.

CC IPL also assessed that the data collection system met the requirements of the monitoring plan as per the applied methodology.

Proper data management inclusive of data acquisition and aggregation, data management system is being followed for the project activity.

The monitoring personnel at site are well trained and follow reproducible routines. Thus, they are competent to carry out the relevant tasks with sufficient accuracy.

Monitored Parameters

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Management of SWDS (Management of SWDS)
Data Unit	-
Reported Values	-
Measuring frequency/Time Interval:	Annually
Reporting frequency:	Annually
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	NA
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	NA

Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been cross-checked with other available data?	Verification team has compared and checked the IEPA permits/18/ for the landfill site.
How were the values in the monitoring report verified?	Verification team has verified the IEPA permit /18/ for the landfill site. The waste management licenses are valid for the site in operation/18/ during the monitoring period.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Baseline emissions from the SWDS in year y (BE _{CH4,y})
Data Unit	tCO _{2e}
Reported Values	2023 (12 months): 108,795

	2024 (3 months): 33,937
Measuring frequency/Time Interval:	Calculated value based on other parameters $BE_{CH4,y} = ((1 - OX_{top_layer}) * F_{CH4,PJ} - F_{CH4,BL}) * GWP_{CH4}$
Reporting frequency:	NA
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	NA
Details of monitoring equipment:	NA
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	NA
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been cross-checked with other available data?	The values have been crosschecked with ER/04/ sheet and Methane data/09/ provided by PP.
How were the values in the monitoring report verified?	The values have been crosschecked with ER/04/ sheet and Methane destroyed data/09/ provided by PP.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.

In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	Full set of data has been provided for the monitoring period.
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Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Amount of methane in the LFG which is flared and/or used in the Project activity in year y ($F_{CH_4,PJ,y}$)
Data Unit	tCH ₄ /yr
Reported Values	2023 (12 months): 6,706 2024 (3 months): 2,092
Measuring frequency/Time Interval:	Calculated value $F_{CH_4,PJ,y} = F_{CH_4,EL,y} + F_{CH_4,flare,y}$
Reporting frequency:	NA
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	NA
Details of monitoring equipment:	NA
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	NA
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA

Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been cross-checked with other available data?	Verification team has compared and checked the values provided in ER sheet /04/ with the monthly methane raw data/09/.
How were the values in the monitoring report verified?	Verification team has compared and checked the values provided in ER sheet /04/ with the monthly methane raw data/09/.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Amount of methane in the LFG which is used for electricity generation in year y ($F_{CH_4,EL,y}$)
Data Unit	tCH ₄ /yr
Reported Values	2023 (12 months): 2,914 2024 (3 months): 840
Measuring frequency/Time Interval:	Calculated value using 'Tool to determine the mass flow of a greenhouse gas in a gaseous stream'
Reporting frequency:	NA
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	NA
Details of monitoring equipment:	NA
Is accuracy of the monitoring equipment as stated in the PDD? If the	NA

PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been cross-checked with other available data?	The values have been crosschecked with ER/04/ sheet and Methane data/09/ provided by PP.
How were the values in the monitoring report verified?	The values have been crosschecked with ER/04/ sheet and Methane destroyed data/09/ provided by PP.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Amount of methane in the LFG which is flared in year y ($F_{CH_4, flare, y}$)
Data Unit	tCH ₄ /yr

Reported Values	2023 (12 months): 3,792 2024 (3 months): 1,252
Measuring frequency/Time Interval:	Calculated value using equation 4 of the applied methodology ACM0001, V.19 /B02/
Reporting frequency:	NA
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	NA
Details of monitoring equipment:	NA
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	NA
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross checked with the methane concentration raw data /09/ at the site during OSV.
How were the values in the monitoring report verified?	The reported data has been cross checked with the methane concentration raw data /09/ at the site during OSV.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.

reductions and are necessary QA/QC processes in place?	
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Amount of methane in the LFG which is sent to the flares in year y ($F_{CH_4, \text{sent flare}, y}$)
Data Unit	tCH ₄ /yr
Reported Values	2023 (12 months): 3,950.5 2024 (3 months): 1,303.8
Measuring frequency/Time Interval:	Calculated value using 'Tool to determine the mass flow of a greenhouse gas in a gaseous stream' /B03/
Reporting frequency:	NA
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	NA
Details of monitoring equipment:	NA
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	NA
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA

Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross checked with the methane concentration raw data /09/ at the site during OSV.
How were the values in the monitoring report verified?	The reported data has been cross checked with the methane concentration raw data /09/ at the site during OSV.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Project emissions from flaring in year y ($PE_{flare,y}$)
Data Unit	tCH ₄ /yr
Reported Values	2023 (12 months): 158.0 2024 (3 months): 52.2
Measuring frequency/Time Interval:	Calculated value based on other parameters using 'Project emissions from flaring'/B03/
Reporting frequency:	NA
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	NA
Details of monitoring equipment:	NA
Is accuracy of the monitoring equipment as stated in the PDD? If the	NA

PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross checked with the methane raw data files /09/ at the site during OSV.
How were the values in the monitoring report verified?	The reported data has been cross checked with the methane raw data files /09/ at the site during OSV.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Amount of methane attributable to baseline destruction equipment ($F_{CH_4,BL,y}$)
Data Unit	tCH ₄ /yr

Reported Values	2023 (12 months): 2,150 2024 (3 months): 671
Measuring frequency/Time Interval:	Calculated value based on other parameters
Reporting frequency:	NA
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	NA
Details of monitoring equipment:	NA
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	NA
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been cross-checked with other available data?	Verification team has checked the values provided in the ER sheet /04/ with the Methane data provided by PP/09/.
How were the values in the monitoring report verified?	Verification team has checked the values provided in the ER sheet /04/ with the Methane data provided by PP/09/.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.

In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.
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Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Operating hours of the energy plant LFG (Op _{i,h})
Data Unit	Hours
Reported Values	Monthly operating hours (monthly breakdown provided in project data files): 2023 (12 months): Engine 1: 7,860 hours Engine 2: 8,159 hours 2024 (3 months): Engine 1: 1,495 hours Engine 2: 1,566 hours
Measuring frequency/Time Interval:	Daily
Reporting frequency:	Daily
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Records of engine uptime
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	NA
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA

Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been cross-checked with other available data?	VVB team has crosschecked the reported values with the monthly operating hours data/08/ provided by PP.
How were the values in the monitoring report verified?	The values were verified with the ER sheet/04/ and crosschecked with monthly operating hours data /08/. During the on-site visit, the VVB verified that the gensets are equipped with shutoff valves that prevent gas release when gensets are non-operational. The project also demonstrated that remaining destruction devices had sufficient capacity to handle gas flows during such periods. The site operates a redundant blower control system, where a variable frequency drive automatically redirects gas to the flare when gensets are shut down, ensuring continuous gas destruction. The same has been confirmed during onsite visit and interviews and which is in line with the requirements of paragraph 33 of the applied methodology ACM0001, v19 /B02/ and paragraphs 5(a) and (b) of the Appendix of Tool 08 /B03/.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Operation of the flares (Op _{flare,h})
Data Unit	Hours
Reported Values	0 operating hours (monthly breakdown provided in project data files) at Flare 4: 2023 (12 months): 8,613 2024 (3 months): 1,823
Measuring frequency/Time Interval:	Continuously
Reporting frequency:	NA
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Thermocouple
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	NA
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been cross-checked with other available data?	Verification team has checked the values provided with the Engine operation data/08/.

	Measurement method: Temperature is monitored to ensure operation of the flares. The periods with temperatures below 212 °F are defined as non-operating hours. Any flow measured during periods when the flares' operating temperatures are less than 212°F is considered un-combusted and excluded from the calculation of emissions reductions, which is in line with the measurement procedures in Data / Parameter table 19 of CDM Tool 08: Tool to determine the mass flow of a greenhouse gas in a gaseous stream /B03/. During the on-site visit, the VVB verified that the gensets are equipped with shutoff valves that prevent gas release when gensets are non-operational, which is inline with paragraph 5 (a) of the appendix of CDM Tool 08 /B03/. The project also demonstrated that remaining destruction devices had sufficient capacity to handle gas flows during such periods. The site operates a redundant blower control system, where a variable frequency drive automatically redirects gas to the flare when gensets are shut down, ensuring continuous gas destruction. The same has been confirmed during onsite visit and interviews and which is in line with the requirements of paragraph 33 of the applied methodology ACM0001, v19.0 /B02/ and paragraphs 5 of the Appendix of CDM Tool 08 /B03/. Through onsite visit and interviews, VVB confirms that appropriate measures are in place to manage landfill gas during downtime of any destruction device, as described in Section 3.1 of the MR /02/. During downtime of one engine, the other engine is capable of destroying the gas flow recorded for that period, in accordance with paragraph 5(b) of the appendix of CDM Tool 08 /B03/. Based on the review of the correlation curve graph (Power Generation / LFG flow comparison) in the Engine Operating Hours data /04/, the verification team further confirms that all landfill gas routed to the gensets was effectively destroyed and converted to electricity and therefore, no gas was vented to the atmosphere during the periods when the flare was experiencing downtime. As per section 3.1 of the MR /02/, PP has explained an exigency plan for managing landfill gas during Flare 4 downtime as 52.6 hours of non-operational time /12/ is reported in the current monitoring period. VVB confirms that the provided exigency plan complies with
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	the requirements of the CAAPP permit /18/.
How were the values in the monitoring report verified?	Verification team has checked the values provided with the Engine operation data/08/.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Quantity of electricity consumed by the project source j in year y ($EC_{PJ,i,y}$)
Data Unit	kWh
Measuring frequency/Time Interval:	Monitored continuously
Reporting frequency	Bills provided monthly
reported Values	2023 (12 months): 162.8 MWh 2024 (3 months): 61.6 MWh
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Revenue meter owned by utility
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	Yes, the measuring and reporting frequency is in accordance with the monitoring plan and monitoring methodology/B02/.
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA

Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	Yes
Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	Yes
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross checked with the electricity invoices /13/.
How were the values in the monitoring report verified?	The reported data has been cross checked with the Electricity invoices /13/.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in the registered PD /B04/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Fossil fuel of type i consumed in process j consumed by the Project Activity in year y ($FC_{i,j,y}$).
Data Unit	Gallons
Measuring frequency/Time Interval:	Data is recorded in the form of receipts for purchases.
Reporting frequency	NA
reported Values	2023 (12 months): 75 2024 (3 months): 81

Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the measuring and reporting frequency is in accordance with the monitoring plan and monitoring methodology/B02/.
Details of monitoring equipment:	NA
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	NA
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	NA
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	NA
Company performing the calibration (internal or external calibration):	NA
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	NA
Is (are) calibration(s) valid for the whole reporting period?	NA
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross-checked with the Propane fuel purchase receipts/06/.
How were the values in the monitoring report verified?	The values in the monitoring report were verified through the review of the Propane fuel purchase receipts /06/.
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data management ensures correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Volumetric flow of the LFG in flare or engine ($V_{t,db}$)
Data Unit	ft ³ dry gas/m
Measuring frequency/Time Interval:	Continuously monitored, recorded on 1-minute basis
Reporting frequency:/	Continuously monitored, recorded on 1-minute basis
Values	Engines (SCF): 2023 (12 months): 373,680,423 2024 (3 months): 86,347,825 Flare 4 (SCF): 2023 (12 months): 534,350,179 2024 (3 months): 162,555,678
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Engines: ABB XMV Flow Transmitter s/n T223276318, Rosemount 3051 Pressure Transmitter s/n 514151 Flare 4: Sage Mass Flow Meter s/n 139064 and s/n 104765 (Spare) Data is captured by the datalogger. The Rosemount Pressure Transmitters and the ABB XMV Flow Transmitter, , measure differential pressure, static pressure, and process temperature continuously and converts these parameters into a compensated mass flow value at the following reference conditions: Engine 3051 s/n 514151: 60°F and 14.73 psia. Engine ABB XMV: 68°F and 14.73 psia. Sage Paramount: 60°F and 14.73 psia. The ABB meter installed on 13-October-2023, although the Rosemount meter logged flow data through the end of 31- October 2023. The ABB meter formally replaced the Rosemount meter on 01-November-2023, when it began logging data.
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	Yes, the measuring and reporting frequency is in accordance with the monitoring plan and monitoring methodology/B02/.

Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	The flow meters are maintained and calibrated according to manufacturer specification/16/ & /34/. VVB has crosschecked the calibration reports of flowmeters and confirm the same/05/.		
	Meter	Last Calibration Date	Validity of calibration
	Engine: Rosemount 3051 Pressure Transmitter s/n 514151	23- February- 2021	5 years
	Engine: ABB XMV Flow Transmitter s/n T223276318	11-October- 2023	29/11/2024
	Flare 4: Sage Flow Meter s/n 139064	12- July-2022 24-January- 2024	17 Months
	Flare 4: Sage Flow Meter s/n 104765	25- August- 2022	17 Months
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	The PD/B04/ prescribes that the site adheres to manufacturer's recommendation for calibration frequency. For the sage flow meter, VVB has crosschecked the manufactures recommendations and communications /34/, which specifies the acceptable calibration frequency of 17 months.		
Company performing the calibration (internal or external calibration):	Factory calibration, as recommended by manufacturer/16/ &/34/.		
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. Calibration report for flowmeter /05/.		
Is (are) calibration(s) valid for the whole reporting period?	Yes		
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross checked with the flow meter data /14/ at the site during OSV.		
How were the values in the monitoring report verified?	The reported data has been cross checked with the flow meter data /14/ at the site during OSV.		
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.		

data and reporting of emission reductions and are necessary QA/QC processes in place?	
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Volumetric fraction of methane in a time interval t on a dry basis ($v_{CH_4,t,db}$)
Data Unit	ft ³ CH ₄ /ft ³ dry gas
Measuring frequency/Time Interval:	Methane fraction is monitored non-continuously at the engines and the flare via handheld readings. The frequency of measurements ranged from less than weekly to twice weekly.
Reporting frequency:/	Methane fraction is monitored non-continuously at the engines and the flare via handheld readings. The frequency of measurements ranged from less than weekly to twice weekly.
Values	Averages at engines: 2023 (12 months): 44% 2024 (3 months): 51% Averages at Flare 4: 2023 (12 months): 43% 2024 (3 months): 51%
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Elkins Envision handheld analyzers (S/N 1905215B, 2202205B, 2007201B, 1403200B, 1003016, 2204204B, 2106201B, 1003017, 2010230B) at the engine skid and Flare 4.
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	Yes, the measuring and reporting frequency is in accordance with the monitoring plan and monitoring methodology/B02/.
Calibration frequency /interval:	Annually

Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	The handheld analyzers are calibrated to reference gases before use, as documented in the LFG Monitoring Field Reports /09/. These meters are factory calibrated annually.		
	Handheld Methane Analyzers	Last Calibration Date	Validity of Calibration
	Elkins Envision s/n 1003017	16-August-2023	1 Year
	Elkins Envision s/n 1003016	18-January-2023 04-August-2023	1 Year
	Elkins Envision s/n 2010230B	24-July-2023	1 Year
	Elkins Envision s/n 1905215B	04-August-2023	1 Year
	Elkins Envision s/n 2106201B	03-February-2023 (used until 12-December-2023)	1 Year
	Elkins Envision s/n 2204204B	16-May-2023	1 Year
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	Calibration interval is annual as per the PD/B04/. The calibration interval is determined in accordance with the manufacturer specifications/16/.		
Company performing the calibration (internal or external calibration):	Annual factory calibration, as recommended by manufacturer and daily calibration prior to use by GFL personnel operations technician.		
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. Calibration report of handheld methane analyzers /15/		
Is (are) calibration(s) valid for the whole reporting period?	Yes		

If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross checked with the Handheld Methane Summary /09/
How were the values in the monitoring report verified?	The reported data has been cross checked with the Handheld Methane Summary /09/
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB		
Data / Parameter: (as in monitoring plan of PDD):	Temperature of the gaseous stream to the power plant or flare in time interval t (T_t)		
Data Unit	°F (or °R)		
Measuring frequency/Time Interval:	Continuously		
Reporting frequency:/	Continuously		
Values	Maximum Temperature per Month (°Fahrenheit)		
	Month	Engines	Flare 4
	January-2023	107	81
	February-2023	109	81
	March-2023	118	86
	April-2023	118	97
	May-2023	119	112
	June-2023	122	114
	July-2023	126	119
	August-2023	127	119
	September-2023	136	113

	October-2023	135	113	
	November-2023	119	96	
	December-2023	130	83	
	-January-2024	95	84	
	February-2024	95	87	
	March-2024	95	89	
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes			
Details of monitoring equipment:	Flow meters			
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	Yes, the measuring and reporting frequency is in accordance with the monitoring plan and monitoring methodology/B02/.			
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	every 5 years. The flow meters are maintained and calibrated according to manufacturer specification.			
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	Calibration interval is annual as per the PD/B04/. The calibration interval is determined in accordance with the manufacturer specifications/16/.			
Company performing the calibration (internal or external calibration):	Factory calibration, as recommended by manufacturer			
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. Calibration report of flow meter /15/.			
Is (are) calibration(s) valid for the whole reporting period?	Yes			
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross checked with the Flow meter data/14/			
How were the values in the monitoring report verified?	The reported data has been cross checked with the Flow meter data /14/			
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/ /B04/.			

data and reporting of emission reductions and are necessary QA/QC processes in place?	
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Pressure of the gaseous stream to the power plant or flare in time interval t (P_t)
Data Unit	Atmospheres (or psia)
Measuring frequency/Time Interval:	Continuously
Reporting frequency:/	Continuously
Values	NA
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Flow meters
Is accuracy of the monitoring equipment as stated in the PDD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	Yes, the measuring and reporting frequency is in accordance with the monitoring plan/B04/ and monitoring methodology/B02/.
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	every 5 years. The flow meters are maintained and calibrated according to manufacturer specification.
Is the calibration interval in line with the monitoring plan of the PDD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	Calibration interval is annual as per the PD/B04/. The calibration interval is determined in accordance with the manufacturer specifications/16/.
Company performing the calibration (internal or external calibration):	Factory calibration, as recommended by manufacturer

Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. Calibration report of the flow meter/05/.
Is (are) calibration(s) valid for the whole reporting period?	Yes
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross checked with the Flow meter data/14/
How were the values in the monitoring report verified?	The reported data has been cross checked with the Flow meter data /14/
Does the data management (from data generation to emission reduction calculation) ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	The necessary QA/QC procedures for this parameter are in place as provided in monitoring report /02/ /B04/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	NA. Full set of data has been provided for the monitoring period.

The verification team can confirm that sufficient evidence is available for the whole monitoring period and the quality of evidence to determine the GHG reductions and removals produced was found satisfactory. The detailed information flow with the roles and responsibilities of the individuals and the monitoring system have been provided in the VCS-MR/02/.

4.5 Non-Permanence Risk Analysis

Not applicable.

5 VERIFICATION OPINION

5.1 Verification Summary

Carbon Check (India) Private Limited has performed the verification of the project activity “Clinton Landfill Gas Collection and Combustion Project” in United States, with regards to the relevant requirements for VCS project activities.

The conclusions can be summarised as follows:

- The project is implemented and installed as planned and described in the registered VCS PD/B04/ and the project activity confirms with the verification criteria for project and their GHG emission reductions or removals set out in the VCS rules.
- The monitoring plan is in accordance with the applied approved methodology, i.e. ACM0001, version 19/B02/ and monitoring plan as sought out in the registered VCS-PD/B04/.
- The monitoring system is in place and functional. The project has generated verifiable GHG emission reductions.

As the result of the verification of project activities, the verifier confirms that the GHG emission reductions are calculated without material misstatements in a conservative and appropriate manner. Carbon Check (India) Private Ltd. herewith confirms that the project has achieved emission reductions in the below mentioned reporting period as follows. The project complies with the verification criteria for projects and their GHG emissions reductions or removals set out in VCS rules. The GHG statement provided herein is the responsibility of the project proponent and project conforms with the verification criteria for projects and their GHG emission reductions or removals set out in VCS Standard Version 4.5/B01-1/. In the course of the verification process 03 CARs, 05 CLs and 00 FARs were raised, all the CARs and CLs are closed. No FARs were raised during the course of verification.

For the project description deviation included in the project activity, the project conforms with the validation criteria for projects set out in VCS Version 4.5/B01-1/.

5.2 Verification Conclusion

The verification team verified the monitoring data for all the parameters of the monitoring plan based on the sampling measures used by the project proponent and confirms that the reported emission reductions are free from any type of material errors.

Verification period: 01-January-2023 to 31-March-2024

Verified GHG emission reductions and carbon dioxide removals in the above verification period:

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCU (tCO ₂ e)	Removal VCU (tCO ₂ e)	Total VCUs (tCO ₂ e)
01-Jan-2023 to 31-Dec-2023	108,795	107	0	108,688	-	108,688
01-Jan-2024 to 31-Mar-2024	33,937	41	0	33,896	-	33,896
Total	142,732	148	0	142,584	-	142,584

5.3 Ex-ante vs Ex-post ERR Comparison

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
01-Jan-2023 to 31-Dec-2023	103,069	108,795	5.56%	Increase in achieved emission reductions is due to the installation of Flare 4 in April 2021. Flare 4 has a significantly more powerful 75-horsepower blower than Flares 1 and 2, thereby collecting gas more efficiently and destroying more gas altogether. In addition, more gas was sent to the gas skid than in past RPs, increasing the total volume of gas destroyed. Hence it is acceptable. CL 04 has been raised regarding this. Please refer Appendix 4.
01-Jan-2024 to 31-Mar-2024	26,561	33,896	27.62%	
Total	129,630	142,584	10.0%	

The verification team is of the opinion that the project has been implemented in accordance with the registered project description and the Monitoring plan which complies with the approved monitoring methodology /B02/, the monitoring complies with the Monitoring plan and the monitored data and calculation of ERs are assessed and confirmed as correct.

Therefore, CCIPL certifies, and requests the issuance of, the reported ERs during the monitoring period of 01-January-2023 to 31-March-2024 amounting to 142,584 tCO₂e to the VCS Registry.

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

Not applicable

<i>Section</i>	<i>Information</i>	<i>Justification</i>	<i>Assessment method and conclusion</i>
<u>NA</u>	NA	NA	NA

APPENDIX 2: REFERENCES

S. No.	Document
/01/	Monitoring report version 1, dated 26/06/2024
/02/	Monitoring Report version 10, dated 24/07/2025
/03/	ER spread sheet v1 corresponding to /01/
/04/	ER spread sheet v5 corresponding to /02/
/05/	Flow meter Calibration data
/06/	Propane receipts
/07/	Project Start date
/08/	Engine Operations data 1. Power generation data 2. Runlog 2023 3. Runlog 2024
/09/	Methane Concentration data 1. GFL data files 2. Handheld methane summary 2023-2024 3. Methane Landmarc data 4. Raw methane files
/10/	Flow variability Analysis
/11/	Gas Skid 2023-2024 data
/12/	Flare4 2023-2024 data
/13/	Electricity data 1. Electricity usage 2023-2024 2. Ameren Invoices 3. Constellation Invoices
/14/	Flow meter Data
/15/	Meter Calibration and Maintenance Records
/16/	Manufacturer Recommendations and Guidance
/17/	Evidence for Double Counting
/18/	Permits
/19/	GCCS Design Plan w. WIP #s_Jan 2021
/20/	Detailed Facility Report _ ECHO _ US EPA 5-21-2024
/21/	Figure 1 Landfill Gas Collection & Control System
/22/	514813 - C3D - PDC 3 Clinton LFG Connector Header -
/23/	514813 - C3D - PDC 3 Clinton LFG Plan View
/24/	Clinton Landfill Settlement

/25/	IEPA landfill capacity reports 2011 region-4
/26/	SOP 1. LFG Wellfield Monitoring SOP – 2023 2. 15 - PDC LFG SOP 2005
/27/	WVPA 2018 ERPA_redacted
/28/	3Degrees-WVPA_Second_Amendment_28392_Executed
/29/	Certificate of Merger 3Degrees-Origin Climate - redacted
/30/	Annex3.landfill.facts
/31/	Contract
/32/	GFL Employee policies
/33/	OSV
/34/	Manufactures recommendations and communications – Flow meters
/B01/	1. VCS Standard, version 04.5 2. VCS Program Guide version 04.4 3. VCS Validation and Verification Manual, version 03.2 4. Registration and Issuance Process v4.4 5. VCS Program Definitions version 04.5 6. VCS MR Template version 4.3
/B02/	Large Scale CDM Methodology ACM0001: Large-scale Consolidated Methodology Flaring or use of landfill gas Version 19.0
/B03/	TOOL08- Tool to determine the mass flow of a greenhouse gas in a gaseous stream TOOL04- Emissions from solid waste disposal sites TOOL06- Project emissions from flaring TOOL05- Baseline, Project, and/or leakage emissions from electricity consumption and monitoring of electricity generation TOOL03- Tool to calculate Project or leakage CO ₂ emissions from fossil fuel combustion TOOL11- Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period Standard for Sampling and Surveys for CDM Project Activities and PoAs
/B04/	1. VCS PD (version 5.1 dated 18/01/2022) and the corresponding Validation Report 2. Previous MR: Version 14 dated 12/03/2024 3. Previous Verification report: Version 3 dated 12/03/2024
/B05/	Websites: 1. http://cdm.unfccc.int/

2.	www.ipcc.ch
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APPENDIX 3: ABBREVIATIONS

CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd
CDM	Clean Development Mechanism.
CER	Certified Emission Reduction
CL	Clarification Request
CO₂	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
DVR	Draft Validation Report
EF	Emission Factor
EPA	Environmental Protection Agency
ER	Emission Reductions
FAR	Forward Action Request
FVR	Final validation Report
GHG	Greenhouse gas(es)
GWP	Global Warming Potential
IEPA	Illinois Environmental Protection Agency
IPCC	Intergovernmental Panel on Climate Change
LFG	Landfill Gas
MR	Monitoring Report
MW	Megawatts
MWh	Mega Watt Hour
OSV	On Site Visit
PDD	Project Description Document
PP	Project Proponent
QC/QA	Quality control/ Quality assurance
SDG	Sustainable Development Goals
SWDS	Solid Waste Disposal Site
UNFCCC	United Nations Framework Convention on Climate Change
VER	Verified Emission Reduction
VCS	Verified Carbon Standard
VCU	Verified Carbon Units
VVB	Validation/ Varification Body

APPENDIX 4: LIST OF FINDINGS

CORRECTIVE ACTION REQUESTS (CARs) AND CLARIFICATION REQUESTS (CLs)

Finding	CAR 01
Classification	☒ CAR ☐ CL ☐ FAR
Description of finding (VVB)	In the section 2.3.2 of the MR, PP shall demonstrate how the project continues to recognize, respect, and promote the protection of the rights of IPs, LCs, and customary rights holders in line with applicable international human rights law, and the United Nations Declaration on the Rights of Indigenous Peoples and ILO Convention 169 on Indigenous and Tribal Peoples as per the template of MR available in the VERRA website.
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	Section 2.3.2 has been revised to include justification of the project's recognition, respect, and promotion of the rights of IPs, LCs, and customary rights holders.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has revised the MR to the latest available version which is version 4.2. PP has included justification of the project's recognition, respect, and promotion of the rights of IPs, LCs, and customary rights holders in section 2.3.2 of the revised MR
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CAR 02
Classification	☒ CAR ☐ CL ☐ FAR
Description of finding (VVB)	In the section 5.1 of the MR, for the calculation of BE_y, The equation $F_{CH4,t} = F_{CH4,El,y} = F_{CH4,sent\ flare,y} = V_{t,db,n} \times v_{CH4,t,db} \times \rho_{CH4,n}$ is used. However in ER Sheet, the value of the parameters $V_{t,db,n}$, $v_{CH4,t,db}$ and $\rho_{CH4,n}$ is not mentioned. PP is requested to clarify how the calculation has been done in ER sheet or is requested to provide linkage for the mentioned parameters in the ER sheet.
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or	The values of parameters $V_{t,db,n}$, $v_{CH4,t,db}$ and $\rho_{CH4,n}$ is now specified in the Comments box of the Methane

further information for clarification as per finding)	Destroyed tab in the ER sheet. The value of $\rho_{CH4,n}$ is provided in the Constants tab as well. $V_{t,db,n}$ is listed as daily flow values under the columns $V_{electricity,y,wb}$ for the engines and $V_{flare4,y,wb}$ for Flare 4 in the Methane Destroyed tab of the ER sheet. $v_{CH4,t,db}$ is listed as daily methane values under the columns, $V_{CH4,generator,y}$ for the engines and $V_{CH4,flare4,y}$ for Flare 4 in the Methane Destroyed tab of the ER sheet.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	ER sheet has been updated with the requisite changes and the same was found to be appropriate
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CAR 03		
Classification	☒ CAR	☐ CL	☐ FAR
Description of finding (VVB)	For the calculation of PE_y , the parameters $PE_{FC,y}$ and $PE_{EC,y}$ has been summed up as per the information in ER sheet. However, in section 5.2 of MR, PP has mentioned PE_{2023} as 0.42 and PE_{2024} as 0.45 which includes only the emissions w.r.t electricity generation. Since, it is not clear how the calculation has been done, PP shall demonstrate project emission calculations more clearly.		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	We have included details of how $PE_{EC,y}$ was calculated in Section 5.2 of the MR. We have also revised the details regarding the calculation of PE_y in the same section. $v_{CH4,t,db}$ is listed as daily methane values under the columns, $V_{CH4,generator,y}$ for the engines and $V_{CH4,flare4,y}$ for Flare 4 in the Methane Destroyed tab of the ER sheet.		
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has submitted the revised monitoring report and ER sheet The details of $PE_{EC,y}$ calculation has been provided in section 5.2 of the MR which is found to be consistent with ER sheet.		

Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed
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Finding	CL 01
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding (VVB)	In the section 2.1.2 of the MR, PP has to clarify why no dates of formal consultations with the Illinois EPA is not mentioned in the section.
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	No dates of formal consultation with the Illinois EPA during project validation are available because the dates were not documented in our records. Previous versions of the VCS templates and the Standard did not request this information; thus we did not collect records of consultation dates. The site consults with the Illinois EPA regularly to ensure compliance with relevant regulations, so there is no one date of consultation. This has been clarified in Section 2.1.2 of the MR as well. The facility consulted the Illinois EPA on November 9, 2022, by submitting a permit revision. The Illinois EPA issued the revised CAAPP permit to Clinton Landfill on 11/10/2022. These dates have been added to Section 2.1.2 as a recent date of stakeholder consultation. The permit revision has been provided to the verifier via email.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has been added the dates of facility consultation in section 2.1.2 of MR and provided the revised CAAPP permit and the same has been accepted by the VVB.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 02
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding (VVB)	According to the section 5.1 of the PDD with respect to the renewal crediting period, emission factor ($EF_{EL,j,y}$) has been sourced from eGRID 2019 data which is mentioned as a deviation in the registered

	PDD. In the MR for the current monitoring period, the value for $EF_{EL,j,y}$ has been taken from eGRID 2024 data and the same has not been mentioned as a deviation. PP shall provide clarification for the same.
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	The updated MR includes this as methodology deviation #3 and includes a sentence clarifying that the most recent version of the eGRID dataset shall be applied to the calculations, in accordance with the Verra Standard's requirements to use the most up-to-date versions of data available.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has provided the clarification as Methodological deviation#3 in the revised MR which is deemed to be acceptable.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 03		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding (VVB)	VVB has crosschecked the calibration reports of the monitoring equipment. The calibration of the Gas analyzer with s/n: 1403200B was conducted in 05-January-2022 as per the information in Section 4.2 of MR, which was also verified from the previous Verification report. However, the annual calibration that was supposed to be conducted has not been done. The calibration for the current monitoring period has only been conducted on 17-January-2023, which is after one year, thus not meeting the annual calibration frequency. Further, For the Gas analyzer with s/n: 2007201B, calibration was done on 14-March-2022 and for this monitoring period it is calibrated on 15-March-2023 which is after one year which shows a delay of calibration by one day. For the above-mentioned calibration delays, PP is requested to provide justification or to adjust the emission reductions accordingly.		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or	The gas analyzer calibration table was reformatted to include a column listing whether each analyzer was in use during the RP. The two analyzers s/n 2007201B and 1403200B were not used to take any		

further information for clarification as per finding)	handheld methane readings during the RP, therefore the calibration delay does not impact the calculations, or the data used. A raw data file and processed summary file listing each analyzer used to take each handheld reading has been provided separately as supporting evidence of the lack of use of these two analyzers. Delays in these calibrations were caused by changes in staffing onsite at the time.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has updated the MR and as per the information, VVB crosschecked the raw data file and processed summary file and found that the mentioned equipments that are delayed in calibration has not been used and does not impact the calculations
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 04		
Classification	☐ CAR	☒ CL	☐ FAR
Description of finding (VVB)	In section 5.4 of the MR, the justification for the difference in the monitored value to ex-ante value indicates changes into the flare in 2021. However, the values in the previous MP decreased even though the Flare 4 was installed in the previous MP, PP has to provide justification for the same.		
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	The values in the previous MP decreased for reasons entirely separate from Flare 4. During the prior reporting period, the site relied entirely on handheld methane readings which were only credited when 2 or more readings were collected in a week span. The project also took conservative deductions to all handheld methane readings as well as a conservative discount to handheld methane values collected from certain methane analyzers. These appropriately conservative measures led to a reduction in credit volume during the prior MP. The final credit volume in the previous MP was low despite the new installation of Flare 4, not because of it. In the current reporting period, the installation of Flare 4 has increased the volume of gas destroyed and is accompanied by improvements in monitored methane concentration on-site.		

VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	The justification provided by PP is found to be appropriate.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

Finding	CL 05
Classification	☐ CAR ☒ CL ☐ FAR
Description of finding (VVB)	PP is requested to submit the following documents: - Evidence for ownership - Evidence for Start date - Contractual agreement between parties involved - Grievance redressal policy and mechanism - Anti-discrimination policy - Employment records - Evidence for property right - Business License of PP and other involved parties - Declaration of no double counting - Meter installation details - List of equipment's used in the project activity - Calibration records of flowmeters - QA/QC procedures (if any) - Training Records - Evidence related to the baseline scenario - Supportive document for SDGs - Purchase invoices of propane - Flare thermocouple readings - Installation recordsFor the above-mentioned
Corrective Action or clarification #1 (PP shall write a detailed and clear corrective action or further information for clarification as per finding)	Supporting documents for SDGs have been referenced in the MR and are included in the verification package. The flow meter calibrations, evidence for the start date and baseline scenario, propane purchase receipts for 2023 and 2024, and the no double counting attestation have been provided to the verifier.

	GFL's Standard Operating Procedures document is in the attachments folder and details relevant QA/QC procedures used onsite. Flare thermocouple readings are logged in the raw flow files, found in the Flow Meter Data folder of the verification pack. GFL's human rights policy, code of ethics, and whistleblower policy have been provided to the verifier. The whistleblower policy provides a mechanism for raising and resolving grievances.
VVB Assessment #1 The assessment shall encompass all open issues in the finding. In case of non-closure, additional corrective action and VVB assessments (#2, #3, etc.) shall be added.	PP has submitted all the requested documents to VVB and the same has been verified.
Conclusion Tick the appropriate checkbox	☐ To be checked during the next periodic verification ☐ Outstanding finding (not closed) ☒ The finding is closed

APPENDIX 5: COMPETENCE CERTIFICATE



Carbon Check (India) Private Limited

Certificate of Competency

Mr. Vijay Mathew

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS, A 6.4 AS/ ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Validator/Verifier (Trainee)	☐ Gender Expert	☐ Plastic Waste Expert
☐ CCB Expert	☐ Legal Expert	☒ Financial Expert	☐ Environmental, Health and Safety financial matters
☒ SDG Expert	☒ Expert Social aspect	☒ Expert Environmental Aspect	☐ Health Expert
☒ Regional Expert for India		☒ FOEN Approved Technical Expert	☐ FOEN Approved Quality officer

in the following Technical Areas:

☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☒ TA 13.1	☒ TA 13.2
☐ TA 14.1	☐ TA 15.1	☐ TA 16.1		

Issue Date

06th February 2025

Expiry Date

31st December 2025



Mr. Vikash Kumar Singh
Director - Compliance

Revision History of the document:

Revision Date	Summary of changes
Jan 2025 ¹	Revised as per latest organogram
Feb 2025	Revised to include FOEN requirements

CCIPL_FM 7.9 Certificate of Competency_V8.0_05022025
¹ Please refer to previous version of FM 7.9 for the revision history



Carbon Check (India) Private Limited

Certificate of Competency

Mr. Anubhav Dimri

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS, A 6.4 AS/ ISO/IEC 14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Validator/Verifier (Trainee)	☐ Gender Expert	☒ Plastic Waste Expert
☒ CCB Expert	☐ Legal Expert	☒ Financial Expert	☒ Environmental, Health and Safety financial matters
☒ SDG Expert	☒ Expert Social aspect	☒ Expert Environmental Aspect	☐ Health Expert
☒ Regional Expert for India, RSA and Spanish Speaking countries		☒ FOEN Approved Technical Expert	☐ FOEN Approved Quality officer

in the following Technical Areas:

☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☒ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☒ TA 13.1	☒ TA 13.2
☒ TA 14.1	☒ TA 15.1	☒ TA 16.1		

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