



**Verified Carbon
Standard**

JOBURG LANDFILL GAS TO ENERGY PROJECT



Carbon
— C H E C K —

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Client	ENERGY Joburg RF (PTY) Limited
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Summary:

The client ENERGY Joburg RF (PTY) Limited has appointed the validation/verification body Carbon Check (India) Private Ltd. to perform a verification of VCS Project Activity “Joburg Landfill Gas to Energy Project” in South Africa (hereafter “project activity”) for the period from 01-December-2023 to 31-October-2024.

The project proponent applied the approved CDM Methodology: ACM0001: Large-scale Consolidated Methodology Flaring or use of landfill gas, Version 19. In addition, the applicable tools referenced in the methodology and the PD have been used.

The verification consisted of the following three phases: i) a desk review of the Monitoring Report ii) Onsite Visit; iii) the resolution of outstanding issues and internal technical review followed by the issuance of the final verification report and opinion. In the course of the verification process 09 CARs, 11 CLs and 00 FARs were raised, all the CARs and CLs are closed. No FARs were raised during the course of verification. The list of Clarification and Corrective Actions Requests (CL and CAR) is presented in this report.

CC IPL confirms that the project is implemented in accordance with the validated VCS-PD and the monitoring plan; and then, claimed emissions reductions are calculated without material misstatements. No uncertainties associated with the calculations of emission reductions have been observed by the validation team.

CC IPL has performed the verification of Joburg Landfill Gas to Energy Project on the basis of all issues and criteria of VCS Standard version 4.7/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 “Joburg Landfill Gas to Energy Project” project during the period from 01-December-2023 to 31-October-2024 amount to 206,392 tonnes of CO₂e. The year-wise break up of verified emission reduction is as below:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
01 December 2023 – 31 December 2023	16,108	24	0	16,084
01-January-2024 to 31-October-2024	190,532	224	0	190,308
Total	206,640	248	0	206,392

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1 INTRODUCTION

1.1 Objective

ENERGY Joburg RF (PTY) Limited (Project Proponent) has appointed CCIPL for verification service for the registered VCS project - “Joburg Landfill Gas to Energy Project” (VCS Project ID 1240) located in South Africa against the requirements of the VCS Program.

Verification is the periodic independent review and ex post determination of both quantitative and qualitative information by a Validation and Verification Body (VVB) of the monitored reductions in GHG emissions that have occurred as a result of the VCS project activity during a defined monitoring period. The purpose of verification is to review the monitoring results and verify that the monitoring methodology was implemented according to the monitoring plan and monitoring data and used to confirm the reductions in emissions is sufficient, definitive and presented in a concise and transparent manner. Carbon Check’s objective is to perform a thorough, independent assessment of the registered projects activities. In particular, the monitoring plan, monitoring report and the project’s compliance are verified against the relevant criteria and guidance documents provided by VCS. This allows for the confirmation that the project has been implemented in accordance with the registered VCS PD and conservative assumptions, as documented. And, also to confirm if the monitoring plan is in compliance with the VCS PD /03and approved monitoring methodology/B02/. The objective of this verification was to verify and certify emission reductions reported for the “Joburg Landfill Gas to Energy Project” for the period from 01-December-2023 to 31-October-2024.

1.2 Scope and Criteria

The verification of this project is based on the registered Project Description/03/, the Monitoring Report of this monitoring period /01/, emission reduction calculation spread sheet /02/, supporting documents made available to the verifier and information collected through performing interviews and during the onsite visit assessment. Furthermore, publicly available information was considered as far as available and required.

Carbon Check (India) Private Limited 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 the basis of the following requirements (latest available on VCS website at the time of verification), applicable for this project activity:

- VCS Standard version 4.7
- VCS Program Guide version 4.4
- VCS Validation and Verification Manual version 3.2

- Program Definitions (v4.4)
- Registration & Issuance Process (v4.4)
- Approved CDM methodology (ACM0001: Large-scale Consolidated Methodology Flaring or use of landfill gas, Version 19)
- 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 project description
- To assess the project's compliance with other relevant rules including the host country legislation.
- To assess the implementation of the monitoring plan content as mentioned in the registered VCS-PD
- To confirm that the monitoring system is implemented and fully functional to generate voluntary emission reductions (VERs/VCUs) without any double counting and
- 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 /01/, /02/.
- 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. Onsite Visit;
3. Resolution of outstanding issues and issuance of final verification report and applicable VCS Validation and Verification Deeds of Representation.

Carbon Check (India) Private Ltd. conducts all its work under strict rules to safeguard impartiality and ensure the independence of the verification team. The verification VVB 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

- ☒ Reasonable level of assurance
- ☐ Limited level of assurance

The level of assurance of the verification report falls under reasonable assurance engagements as selected by the Client. The verification team verified the complete monitoring data for all the parameters of the monitoring plan and confirms that the reported emission reductions are free from any type of material errors.

1.4 Summary Description of the Project

The project activity 'Joburg Landfill Gas to Energy Project' is a VCS project activity and involves collection and utilisation of the landfill gas at the Johannesburg landfill sites located in Johannesburg, South Africa. The objective of the project is to collect and destroy/utilise the LFG generated at five Johannesburg landfill sites. Prior to implementation of the project activity, the LFG was being freely emitted into the atmosphere resulting in GHG emissions. In the baseline scenario, the LFG would have been released into the atmosphere resulting in GHG (CH₄) emissions to the atmosphere. The electricity would have been produced in the fossil fuel based South African grid resulting in CO₂ emissions.

The project includes five sites. The Robinson Deep flare was commissioned on 27 May 2011 and electricity generation was commissioned on 26 November 2016. The Marie Louise landfill site flare was commissioned on 04 May 2012 and electricity generation was commissioned on 25 January 2018. The Goudkoppies flare and electricity generation components were commissioned on 25 April 2017. The last two sites, namely Linbro Park and Ennerdale sites, are currently not constructed and will remain within the basket of projects, subject to economic drivers required to commit to build these sites.

The reported monitoring period for the project activity is from 01-December-2023 to 31-October-2024. This is the third monitoring period under VCS.

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 validation report, monitoring plan, monitoring report, monitoring methodology, VCS PD, applicable tools in particular attention to the frequency of measurements, quality of metering equipment's including calibration requirements, QA/QC procedures, any changes to the project activity and new project activity instances and other relevant documents;

2. Onsite visit (including follow-up interviews with project stakeholders, when deemed necessary). The onsite visit assignment includes the following;
- An assignment of implementation and operation of project activity with respect to validated VCS PD;
 - Review of information flows for generating, aggregating and reporting the monitoring parameters;
 - Interview with relevant personals to determine whether the operational and data collection procedures are implemented and in accordance with monitoring plan of the validated VCS PD;
 - Cross check of information and data provided in the monitoring report with plant logbooks, inventories, purchase records or similar data sources;
 - Check of monitoring equipment's, calibration frequency and monitoring practice in-line with methodology and validated VCS PD;
 - Review of assumptions made in calculating the emission reduction;
 - Implementation of QA/QC procedure in-line with the validated VCS PD and methodology requirement.

2.2 Document Review

The registered VCS PD/03/, VCS MR /01/, emission reduction calculation spread sheet /02/ and supporting documents related to the project implementation, project design, monitoring and baseline were reviewed as per VCS standard version 4.7 requirements. The desk review included:

- A review of the data and information presented to verify completeness and consistency in accordance with VCS standard version 4.7 requirements/B01/;
- A review of the approved monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, quality of monitoring equipment (including calibration requirements) and the quality assurance and quality control (QA/QC) procedures;
- An evaluation of data management and the QA/QC system in the context of their influence on the generation and reporting of emission reductions.

Data input values were also checked from the records maintained by the project proponents. Results of calculations reported in the monitoring report were checked against data values as available from the project proponent in VER calculation sheet /02/.

These data values and other information related to project performance are available in the form of data records duly archived and maintained as per the quality assurance/quality control procedure specified as a part of monitoring plan in the registered VCS-PD.

Furthermore, the verification team used additional documentation by third parties like host-party legislation, technical reports referring to the project design or to the basic conditions and technical data.

2.3 Interviews

A physical onsite visit to the project activity was undertaken from 10/12/2024 to 11/12/2024 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 /01/.

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/	David Cornish (General manager of the group responsible for the overall operations for the group of companies)	Energy Joburg RF (Pty) Ltd	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	Campal Kadam and Pankaj Kumar
/ii/	Eric Ramalebane (Senior site technician responsible for routine and corrective maintenance, gas balancing, plant and instrument servicing and gas field expansion works)	Energy Joburg RF (Pty) Ltd	Project implementation and operation, monitoring procedure, Monitoring and measuring system	

/iii/	Bruno Matsila (Health Safety environment and socio-economic development officer Responsible for HSE and social projects)	Energy Joburg RF (Pty) Ltd	Project implementation and operation, monitoring procedure, Monitoring and measuring system	
/iv/	Xavier Pretorig (Maintenance engineer for ENERGY Construction Services responsible for routine and scheduled maintenance of the flares and electricity generation plant and ancillaries)	Energy Joburg RF (Pty) Ltd	Project implementation and operation, monitoring procedure, Monitoring and measuring system	

2.4 Site Visits

Carbon Check has conducted an onsite visit for the assessment of the project activity. A reasonable level of assurance has been maintained through the onsite 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 /03/
- 2) A review of information aggregating and reporting of the monitoring parameters
- 3) A cross-check between the emission reduction information provided in the MR /01/ and data from other sources (section 2.3 above).
- 4) A review of calculations and assumptions made in determining the GHG data and ERs /02/, and
- 5) An identification of QA/QC procedures in place to prevent, or identify and correct, any errors or omissions in the reported monitoring parameters.
- 6) The duly calibration/testing of all monitoring equipment was checked.

- 7) The monitoring processes, routines and documentations were audited to check their proper application.
- 8) The monitoring data were checked completely.

During the on-site interviews with representatives of PP, the VVB has confirmed that, two sites i.e Linbro park and Ennerdale sites out of the five sites are not commissioned and non-operational during the current monitoring period. PP has confirmed that there is no construction and operational activity at the sites till the end of current monitoring period.

2.5 Resolution of Findings

Material discrepancies identified in the course of the verification are addressed either as CARs, CLs or FARs. **Corrective action requests (CAR)** are issued, where:

- i. Mistakes have been made with a direct influence on project results requiring adjustments of the VERs/VCUs monitoring report;
- ii. Applicable methodological specific requirements have not been met.

A **Clarification request (CL)** may be used where additional information is needed to fully clarify an issue or where the information is not transparent enough to establish whether a requirement is met.

A **forward action request (FAR)** should be issued, where:

- i. The actual project monitoring and reporting practices requires attention and /or adjustment for the next consecutive verification period, or
- ii. An adjustment of the MP is recommended.

In the context of FARs, risks have been identified, which may endanger the delivery of high-quality emissions reductions in the future, i.e. by deviations from standard procedures as defined by the MP. Consequently, such aspects should receive a special focus during the next consecutive verification. A FAR may originate from lack of data sustaining claimed emission reductions.

A total of 13 CARs and 08 CLs had been raised for the verification of the project activity and all the findings have been closed.

2.5.1 Forward Action Requests

There are no forward action requests raised during the validation of the project activity.

2.6 Eligibility for Validation Activities

Validation/Verification body (VVB), Carbon Check (India) Private Ltd. holds accreditation for validation for the relevant sectoral scope 13 and is eligible for verification of the project activity for the monitoring period 01-December-2023 to 31- October-2024.

3 VALIDATION FINDINGS

3.1 Methodology Deviations

No methodology deviations have been applied to the project activity during the reported monitoring period.

3.2 Project Description Deviations

No project description deviations have been applied to the project activity during the reported monitoring period.

3.3 New Project Activity Instances in Grouped Projects

This is not a grouped project. The project activity contains multiple project activity instances which were validated, and no additional instances have been added.

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. The verra/CDM registry page has been reviewed to confirm that the information provided in the MR 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 activity is registered with UNFCCC with registration number 6797. The issuance history of the project activity is provided in MR. The declaration of no double counting and participation under other GHG programs provided by PP/26/ has been reviewed to confirm the same.
No double claiming with emissions trading programs or binding emission limits	PP, In MR has declared that the project activities does not included 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 has declared that the project activities does 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 has declared that the emission footprint of the electricity produced as part of the project activity are a part of supply chain (scope 2 emissions) and the project proponent is the buyer or seller of the product which is clearly defined in the “Implementation agreement relating to the utilization of landfill gas at the Linbro park, Marie Louise, Goundkoppies, Ennerdale and Robinson deep landfill sites”/18 stating that the carbon credit produced belong to the Energy Joburg RF (PTY) Limited.
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. 13.2.2: The current project contribution is 206,392 tCO₂e which is consistent with the emission reduction value reported in the MR/01/ and ER sheet/02/. The total project lifetime contribution value of 1,550,648 tCO₂e is the total emission reduction value achieved over the project lifetime. SDG 3: Total CH₄ (tonnes) destroyed.

	3.9.1: The current project contribution is 7,268 tons CH₄. The total project lifetime contribution value of 61,577 tons CH₄ is the total emission reduction value achieved over the project lifetime. SDG 3: Total LFG (Nm³/h) destroyed and/or utilized. 3.9.1: The project has contributed to a reduction in greenhouse gas emissions contained in LFG by an average of approximately 2.427.57 Nm³/hr during the current monitoring period and of 1.896 Nm³/hr over the project lifetime. The project contributions to the SGDs provided in the MR 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/01/. VVB confirms that PP adheres to the requirement mentioned in para 3.17.1 of VCS standard version 4.7
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

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Stakeholder identification	VVB has reviewed the EIA/20/ and EMP report/12/ and confirms that the stakeholder identification has been done appropriately. There is no change in stakeholder makeup since validation.
Legal or customary tenure/access rights	The project site is under the ownership of City of Johannesburg/18/ and therefore no conflict in assess rights observed.
Stakeholder diversity and changes over time	As mentioned in the MR, the stakeholder diversity has been identified in the validation and there has been growing interest from academic institutions for the landfill gas project.

Expected changes in well-being	The project activity increased the air quality in the surrounding region compared to baseline scenario
Location of stakeholders	The location of stakeholders are within few kilometers of the landfill sites as evidenced by the EIA /20/, EMP report/12/ and stakeholder consultation reports/19/
Location of resources	Not applicable.

4.2.2 Stakeholder Consultation and Ongoing Communication

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Ongoing consultation	VVB has reviewed the environmental monitoring committee meetings/19/ reports and confirms that the ongoing communication are in place
Date(s) of stakeholder consultation	VVB has reviewed the environmental monitoring committee meetings/19/ reports and confirms that the ongoing communication meeting were conducted on 17-November-2023, 23-February-2024, 24-May-2024, 23-August-2024 respectively.
Communication of monitored results	VVB has reviewed the environmental monitoring committee meetings/19/ reports and confirms that the monitored results are communicated in every meeting.
Consultation records	VVB has reviewed the attendance registers and minutes of meetings/19/ and confirms that stakeholder consultation records are in place.
Stakeholder input	VVB has reviewed the stakeholder inputs/19/ and confirms that no major grievance has been received.

4.2.3 Free, Prior, and Informed Consent

Item	Evidence gathering activities, evidence checked, and assessment conclusion
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Consent	PP has undertaken the public participation process (PPP) as per NEMA EIA regulations and documented the outcomes in the EIA /20/ and EMP report/12/ which is reviewed by VVB to confirm that the project activity has met the FPIC method requirements.
Outcome of FPIC discussion	The outcome of the FPIC is documented in the EMP report which is reviewed by VVB/12/ to confirm the same.

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, inspection and review of the grievance register/17/ confirms that no grievance was raised during the monitoring period.
Grievance redress procedure	VVB through site visit inspection, inspection and review of the grievance register /17/ confirms that no grievance was raised during the monitoring period.

4.2.5 Public Comments

Comments received	Actions taken by the project proponent	Evidence gathering activities, evidence checked, and assessment conclusion
17-November-2023 <i>Sedibathuto Primary School Requests Sponsorship of erecting a shelter for the assembly area.</i>	ENERGY Joburg sponsored the school with an assembly area shelter	VVB has cross checked the public stakeholder comments /19/ received as well as the evidence of the school shelter built /19-5/. The verification team deems the action appropriate.

23-February-2024 No comments received during this meeting.	None.	VVB has cross-checked the public stakeholder comments /19/ received during the monitoring period and confirms that all the comments were addressed appropriately.
24 May 2024 No comments received during the meeting.	None	VVB has cross-checked the public stakeholder comments /19/ received during the monitoring period and confirms that no comments were received during this consultation event.
23-August-2024 Members of the committee requested a site visit to see the processes and plant.	The PP expects the committee to set a date and will facilitate the site visit.	A date is yet to be fixed for the visit. However, the verification team understands that the comment received is more of a request than a complaint which can affect the VCU's. Hence the PP is free to address whenever it deems safe and feasible.

4.2.6 Risks to Local Stakeholders and the Environment

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Risks to stakeholder participation	There is no risk to stakeholder participation identified by the project participant as the stakeholder consultation is conducted by independent government registered practitioner
Working conditions	The risk identified which is "health and safety" and "employment equity"/11/ is mitigated by proper implementation of Employment act and occupational health and safety act.
Safety of women and girls	No risk identified as the project is developed on existing landfill which was operation more than 40 years ago.
Safety of minority and marginalized groups, including children	No risk identified as the project is developed on existing landfill which was operation more than 40 years ago

Pollutants (air, noise, discharges to water, generation of waste, release of hazardous materials)	The identified risk which is Noise and air pollution is mitigated through proper plant design which reduce the noise level below the threshold limit of 64 db at 10 m distance from the plant/22/. The project activity reduces odor in the locality compared to the baseline scenario and therefore leads to a net environmental benefit as per the EIA report/20/.
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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	VVB during site visit and interviews confirms that the copies of employment equity policy/11/ has been posted at every site to reinforce the staff about their rights.
Management experience	The management of this project has been actively involved in landfill gas utilization projects for the past 16 years as the project start date is 27- May-2011 /13/.
Gender equity in labor and work	VVB during site visit and interviews confirms that the copies of employment equity policy/11/ has been posted at every site to reinforce the staff about their rights.
Human trafficking, forced labor, and child labor	VVB during site visit and interviews confirms that the copies of employment equity policy /11/ has been posted at every site to reinforce the staff about their rights.

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 South Africa constitution and the laws of the country such as Employment equity act and occupational health and safety act.

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 activity is located on an existing landfill site that has been active over 40 years which was established before the start date of the project activity. VVB through interviews and site inspections observed that the project activity does not affect cultural heritage.

4.2.7.4 Property Rights

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Disputes over rights to territories and resources	The ownership of the project activity belongs to the City of Johannesburg as per the Implementation agreement/18/. It has been observed that there is no dispute regarding property rights, usage or resources.
Respect for property rights	Not applicable

4.2.7.5 Benefit Sharing

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	The project activity is located on existing landfill site established before the project activity was implemented. The same has been confirmed by the verification team during onsite inspection and interviews with plant management. Therefore, the verification team concludes that the project causes no negative impact on the surrounding biodiversity and ecosystem, rather improve environmental condition through the reduction of CO ₂ emissions.
Soil degradation and soil erosion	The project activity is located on existing landfill site established before the project activity was implemented. The same has been confirmed by the verification team during onsite inspection and interviews with plant management. Therefore, the verification team concludes that the project causes no negative impact
Water consumption and stress	The project activity is located on existing landfill site that has been active over 40 years which was established before the start date of the project activity. Moreover, water is not used in the project process
Usage of fertilizers	The project activity is located on existing landfill site that has been active over 40 years which was established before the start date of the project activity. Moreover, fertilizers are not used in the project activity.

4.2.8.1 Rare, Threatened, and Endangered species

Item	Evidence gathering activities, evidence checked, and assessment conclusion
Species or habitat	The project activity is located on existing landfill site that has been active over 40 years which was established before the start date of the project activity. Based on the review of the EIA report /20/, it has been observed that there is no noticeable impact on rare, threatened, and endangered species.

4.2.8.2 Introduction of Species

N/A

4.2.8.3 Ecosystem conversion

N/A

4.3 Accuracy of Reduction and Removal Calculations

Baseline Emissions

The baseline emissions are determined according to equation (1) of the applied methodology:

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

Where

$BE_{CH,y}$ Baseline emissions of methane from the SWDS

$BE_{EC,y}$ baseline emissions associated with electricity generation

$BE_{HG,y}$ there was no use of methane for heating: Value is 0.

$BE_{NG,y}$ there was no upgrading and use of methane for natural gas: Value is 0.

$$BE_y = 206,640 \text{ tCO}_2\text{e}$$

Baseline emissions of methane from the SWDS ($BE_{CH,y}$)

Baseline emissions of methane from the SWDS are determined according to equation (2) of the applied methodology:

$$BE_{CH_4} = \left((1 - OX_{toplayer}) \times F_{CH_4,PJ,y} - F_{CH,BL,y} \right) \times GWP_{CH_4} \quad (\text{Equation 2 of ACM0001, v19})$$

Where:

$OX_{toplayer}$ Fraction of methane in the LFG that would be oxidized in the top layer of the SWDS in the baseline (dimensionless),

$F_{CH_4,PJ,y}$ Amount of methane in the LFG which is flared and/or used in the project activity in year y (t CH₄/yr).

$F_{CH,BL,y}$ Amount of methane in the LFG that would be flared in the baseline in year y (t CH₄/yr), the baseline value is 0.

GWP_{CH_4} Global warming potential of CH₄ (t CO₂e/t CH₄) value used 28 (as per ACM0001 which states that the "Default value of 28 from IPCC Fifth Assessment Report (AR5) shall be updated according to any future COP/MOP decisions").

$F_{CH_4,PJ,y}$ is determined as the sum of the quantities of methane flared and used in power plant(s), boiler(s), air heater(s), glass melting furnace(s), kiln(s) and natural gas distribution, as follows:

$$F_{CH_4,PJ,y} = F_{CH_4,flared,y} + F_{CH_4,EL,y} + F_{CH_4,HG,y} + F_{CH_4,NG,y}$$

(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 (t CH ₄ /yr)
$F_{CH_4,flared,y}$	Amount of methane in the LFG which is destroyed by flaring in year y (t CH ₄ /yr)
$F_{CH_4,EL,y}$	Amount of methane in the LFG which is used for electricity generation in year y (t CH ₄ /yr)
$F_{CH_4,HG,y}$	Amount of methane in the LFG which is used for heat generation in year y (t CH ₄ /yr) this value is 0 as no methane was used for heating.
$F_{CH_4,NG,y}$	Amount of methane in the LFG which is sent to the natural gas distribution network and/or dedicated pipeline and/or to the trucks in year y (t CH ₄ /yr) this value is 0 as no methane was upgraded and supplied as natural gas.

$F_{CH_4,flared,y}$ in the workbooks take the flow to the flare per minute and adjusts it for the methane concentration and then multiplies it by the density for methane. This is then adjusted for the actual mass for that time interval to provide an actual unit and not a flow rate.

$$F_{CH_4,flared,y} = F_{CH_4,sent_{flare},y} - \frac{PE_{flare,y}}{GWP_{CH_4}}$$

(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 (t CH ₄ /yr)
$F_{CH_4,sent_{flare},y}$	=	Amount of methane in the LFG which is sent to the flare in year y (t CH ₄ /yr)
$PE_{flare,y}$	=	Project emissions from flaring of the residual gas stream in year y (t CO ₂ e/yr)
GWP_{CH_4}	=	Global warming potential of CH ₄ (t CO ₂ e/t CH ₄)

$F_{CH4,EL,y}$ in the workbooks take the flow to the generators per minute and adjusts it for the methane concentration and then multiplies it by the density for methane. This is then adjusted for the actual mass for that time interval to provide an actual unit and not a flow rate.

$FCH4,EL,y$ is determined using the “Tool to determine the mass flow of a greenhouse gas in a gaseous stream” and monitoring the working hours of the power plant(s), so that no emission reduction is claimed for methane destruction during non-working hours. This is taken into account by monitoring the hours that the equipment utilizing the LFG is operating in year y (Opj,h,y) and is applied to determine the parameter of $FCH4,EL,y=Fi,t \times Opj,h,y$.

Option F of the “Tool to determine the mass flow of a greenhouse gas in a gaseous stream” (Version 03.0.0)

The mass flow of greenhouse gas i (Fi,t) is determined using the equations below as stipulated in the “Tool to determine the mass flow of a greenhouse gas in a gaseous stream” (Version 03.0.0):

$$F_{i,t} = V_{t,wb,n} \times v_{i,t,wb} \times \rho_{i,n} \quad \text{Mass Flow Tool Equation (9)}$$

$$\rho_{i,n} = \frac{P_n \times MM_i}{R_u \times T_n} \quad \text{Mass Flow Tool Equation (10)}$$

$$V_{t,wb,n} = M_{t,wb} / \rho_{t,wb,n} \quad \text{Mass Flow Tool Equation (15)}$$

$$\rho_{t,wb,n} = \frac{P_n \times MM_{t,wb}}{R_u \times T_n} \quad \text{Mass Flow Tool Equation (16)}$$

Where:

Fi,t Mass flow of greenhouse gas i in the gaseous stream in time interval t (kg gas/h)

$V_{t,wb,n}$ Volumetric flow of the gaseous stream in the time interval t at normal conditions on a wet basis (m³ wet gas/h)

$v_{i,t,wb}$ Volumetric fraction of greenhouse gas i in the gaseous stream in a time interval t on a wet basis (m³ gas i/m³ wet gas)

$\rho_{i,n}$	Density of greenhouse gas i in the gaseous stream normal conditions (kg gas/m ³ wet gas i)
P_n	Absolute pressure of the gaseous stream in time interval t at normal conditions (Pa)
MM_i	Molecular mass of greenhouse gas i (kg/kmol)
R_u	Universal ideal gases constant (Pa.m ³ /kmol.K)
T_n	Temperature of the gaseous stream at normal conditions (K)
$M_{t,wb}$	Mass flow of the gaseous stream in time interval t on wet basis (kg/h)
$\rho_{t,wb,n}$	Density of greenhouse gas i in the gaseous stream in interval t on a wet basis at normal conditions (kg wet gas/m ³ wet gas)
$MM_{t,wb}$	Molecular mass of greenhouse gas i in time in time interval t on a wet basis (kg/kmol wet)

The molecular mass of the gaseous stream ($MM_{t,wb}$) is determined according to equation (17) below, as stipulated in the “Tool to determine the mass flow of a greenhouse gas in a gaseous stream” (Version 03.0.0):

$$MM_{t,wb} = \sum_k (V_{k,t,wb} \times MM_k) \quad \text{Mass Flow Tool Equation (17)}$$

Where:

$MM_{t,wb}$	Molecular mass of gaseous stream in time interval t on a wet basis (kg wet gas/kmol wet gas)
$V_{k,t,wb}$	Volumetric fraction of gas k in the gaseous stream in time interval t on a wet basis (m ³ gas k/ m ³ wet gas)
MM_k	Molecular mass of gas k (kg/kmol)
k	All gases contained in the gaseous stream (e.g. N ₂ , CO ₂ , O ₂ , CO, H ₂ , CH ₄ , N ₂ O, NO, NO ₂ , SO ₂ , SF ₆ and PFCs and H ₂ O in vapor phase).

The determination of the molecular mass of the gaseous stream ($MM_{t,wb}$) requires measuring the volumetric fraction of all gases (k) in the gaseous stream. However, as a simplification, the volumetric fraction of only the gases k that are greenhouse gases and are considered in the emission reduction calculation in the underlying methodology must be monitored and the difference to 100% may be considered as pure nitrogen. As per ACM0001 the only GHG to be considered is methane, therefore only the volumetric fraction of the methane will be monitored.

The above calculation is contained in the individual site monthly workbooks and then consolidated workbook titled “*Consolidated ER Sheet 1 December 2023 to 31-October-2024 V1*” under the Baseline Emissions sheet.

The baseline emissions associated with electricity generation in year y ($BE_{EC,y}$) are calculated using the “Tool to calculate baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, Version 3.0”.

$BE_{EC,y} = \sum_k EC_{BL,k,y} \times EF_{EF,k,y} \times (1 + TDL_{k,y})$ (Equation 2 of Electricity Consumption and Generation Tool, v3). This case we are doing the calculation for electricity generation:

Where:

$BE_{EC,y}$	Baseline emissions from electricity consumption in year y (t CO ₂ / yr)
$EC_{BL,k,y}$	Quantity of electricity that would be consumed by the baseline electricity consumer k in year y (MWh/yr). $EC_{BL,k,y}$ is equivalent to $EG_{PJ,y}$.
$EF_{EF,k,y}$	Emission factor for electricity generation for source k in year y (t CO ₂ /MWh) value 0.9647 t/MWh.
$TDL_{k,y}$	Average technical transmission and distribution losses for providing electricity to source j in year y is 11.76 in 2023 and 2024 (no value has been defined for 2024 hence 2023 value has been used).
k	Sources of electricity consumption in the baseline

Project Emissions

The project emissions are calculated in accordance with equation (22) of the applied methodology:

$$PE_y = PE_{EC,y} + PE_{FC,y} + PE_{DY,y} \quad \text{(Equation 22 of ACM0001, v19)}$$

Where:

PE_y = Project emissions in year y (tCO₂/y)

$PE_{EC,y}$ = Emissions from consumption of electricity due to the project activity in year y (tCO₂/y); value from below calculation 218 tCO₂

$PE_{FC,y}$ = Emissions from consumption of fossil fuels due to the project activity, for purpose other than electricity generation, year y (tCO₂/y); value from below calculation 2 is 30

$PE_{DY,y}$ = Emissions from distribution of compressed/liquefied LFG using trucks in year y (tCO₂/y); this is 0 as no distribution of the gas took place in this monitoring period.

$$PE_y = 248 \text{ tCO}_2\text{e}$$

Project emissions from electricity consumption:

$PE_{EC,y}$ is calculated according to the “Tool to calculate baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, Version 3.0” using the following equation:

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

(Equation 1 of Electricity Consumption Tool and Generation, v3.0)

Where:

$EF_{EF,j,y}$ = Emission Factor for electricity consumed value applied is 0.9647 tCO₂/MWh for all periods

$EC_{PJ,j,y}$ = Total electricity consumed 202 MWh consumed in 2023 and 2024.

$TDL_{j,y}$ = Transmission and Distribution losses; 11.76 in 2023 and 2024.

$$PE_{EC,y} = 218 \text{ tCO}_2\text{e}$$

All of the above calculations are contained in the consolidated workbook titled “*Consolidated ER Sheet 1 December 2023 to 30 October 2024 V2*” under the Project Emissions sheet.

Project emissions from fossil fuel consumption:

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

Where

$PE_{FC,j,y}$ CO₂ emissions from fossil fuel combustion in process j during year

$FC_{i,j,y}$ Quantity of fuel type i combusted in process j during year y [Mass or volume unit/yr] is 9.22t;

$COEF_{i,y}$ CO₂ emission coefficient of fuel type i in year y [tCO₂/mass or volume unit] is 3.24/t;

$$PE_{FC,j,y} = 30 \text{ tCO}_2\text{e}$$

$$COEF_{i,y} = NCV_{i,y} \times EF_{CO2,i,y}$$

Where

$COEF_{i,y}$ CO₂ emission coefficient of fuel type i in year y [tCO₂/mass or volume unit];

$NCV_{i,y}$ Weighted average net calorific value of the fuel type i year y [GJ/mass or volume unit] is 0.0433 TJ/t;

$EF_{i,y}$ Weighted average CO₂ emission factor of fuel type i in year y [tCO₂/TJ] 74.8tCO₂/TJ;

i Fuel types combusted in process j during year y is standard diesel.

The verification team has determined whether the registered monitoring plan in the VCS PD /03/ has been properly implemented and followed by the PP and whether all parameters fixed ex-ante

for emission reduction calculation are as per the registered PD /03/. The verification team's assessment of each data and parameter fixed ex-ante is provided below:

Parameter	Description	Value	Unit	Source	Assessment
GWP _{CH4}	Global Warming Potential of methane	28	tCO ₂ e/ tCH 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/B03/. The value is consistent with registered VCS PD/03/ and fixed ex-ante for the project activity.
EF _{EL} or EF _{grid, CM, y}	Combined margin emission factor for the grid in year y	0.9647	tCO ₂ e/ MWh	Calculated using TOOL07 "Tool to calculate the emission factor for an electricity system" version 07.0 Eskom report 2023	The parameter is used for the ex-ante calculation of the emission factor for the project activity. The emission factor is fixed ex-ante. The value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante 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 CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.
OX	Oxidation factor (reflecting the amount of methane from SWDS that is oxidized in the soil or other material	0.1	-	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 CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.

	covering the waste)																
F	Fraction of methane in the SWDS gas (volume fraction)	0.5	-	Methodological tool: Emissions from solid waste disposal sites, Version 08.0	The parameter is used as an input for calculation of the project emissions. The value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.												
DOC _r	Fraction of degradable organic carbon (DOC) that can decompose	0.5	-	IPCC 2006 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 CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.												
MCF _{default}	Methane Correction Factor	1.0	-	Methodological tool04: Emissions from solid waste disposal sites, Version 08.0	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.												
DOC _j	Fraction of degradable organic carbon (by weight) in the waste type j.	Table provided in the MR/01/ and PD/03/	-	Methodological tool04: Emissions from solid waste disposal sites, Version 08.0	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity. <table><tr><td>Wood and wood products</td><td>43</td></tr><tr><td>Pulp, paper and cardboard (other than sludge)</td><td>40</td></tr><tr><td>Food, food waste, beverages and tobacco (other than sludge)</td><td>15</td></tr><tr><td>Textiles</td><td>24</td></tr><tr><td>Garden, yard and park waste</td><td>20</td></tr><tr><td>Glass, plastic, metal, other inert waste</td><td>0</td></tr></table>	Wood and wood products	43	Pulp, paper and cardboard (other than sludge)	40	Food, food waste, beverages and tobacco (other than sludge)	15	Textiles	24	Garden, yard and park waste	20	Glass, plastic, metal, other inert waste	0
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Textiles	24																
Garden, yard and park waste	20																
Glass, plastic, metal, other inert waste	0																

k_j	Decay rate for the waste type j	Table provided in the MR/02/ and PD/03/	-	Methodological tool04: Emissions from solid waste disposal sites, Version 08.0	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity. <table><tr><th rowspan="2">Waste type j</th><th colspan="2">Boreal and Temperate (MAT≤20°C)</th><th colspan="2">Tropical (MAT>20°C)</th></tr><tr><th>Dry (MAP/ PET <1)</th><th>Wet (MAP/ ET >1)</th><th>Dry (MAP< 1000mm)</th><th>Wet (MAP > 1000 mm)</th></tr><tr><td rowspan="2">Slowly degradable Pulp, paper, cardboard (other than sludge), textiles</td><td>0.04</td><td>0.06</td><td>0.045</td><td>0.07</td></tr><tr><td>0.02</td><td>0.03</td><td>0.025</td><td>0.035</td></tr><tr><td>Moderately degradable Other (non-food) organic putrescible garden and park waste</td><td>0.05</td><td>0.10</td><td>0.065</td><td>0.17</td></tr><tr><td>Rapidly degradable Food, food waste, sewage sludge, beverages and tobacco</td><td>0.06</td><td>0.185</td><td>0.085</td><td>0.40</td></tr></table>	Waste type j	Boreal and Temperate (MAT≤20°C)		Tropical (MAT>20°C)		Dry (MAP/ PET <1)	Wet (MAP/ ET >1)	Dry (MAP< 1000mm)	Wet (MAP > 1000 mm)	Slowly degradable Pulp, paper, cardboard (other than sludge), textiles	0.04	0.06	0.045	0.07	0.02	0.03	0.025	0.035	Moderately degradable Other (non-food) organic putrescible garden and park waste	0.05	0.10	0.065	0.17	Rapidly degradable Food, food waste, sewage sludge, beverages and tobacco	0.06	0.185	0.085	0.40
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Rapidly degradable Food, food waste, sewage sludge, beverages and tobacco	0.06	0.185	0.085	0.40																													
f_y	Fraction of methane captured at the SWDS and flared, combusted or used in another manner	0	-	Methodological tool04: Emissions from solid waste disposal sites, Version 08.0	The parameter is used as an input for calculation of the baseline emissions. The value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.																												
W_x	Total amount of organic waste in year x (tons)	Please refer to calculation spreadsheet ¹	Tonne s	Landfill Operator	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 CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.																												
$NCV_{i,y}$	Weighted average net calorific value of fuel	0.0433	TJ/t	IPCC default values as provided in Table 1.2 of Chapter 1 of Vol. 2 (Energy)	The parameter is used as an input for calculation of the project emissions. The parameter is used in case of fossil fuel consumption (diesel in this case). The																												

¹ Ex-ante ER calculation spreadsheet.

	type i in the year y			of the 2006 IPCC Guidelines on National GHG Inventories.	value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.
$EFCO_{2,i,y}$	Weighted average CO ₂ emission factor of fuel type i in the year y	74.8 tCO ₂ /TJ	tCO ₂ /TJ	IPCC default values as provided in Table 1.2 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories.	The parameter is used as an input for calculation of the project emissions. The parameter is used in case of fossil fuel consumption (diesel). The value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.
η_{PJ}	Efficiency of the LFG capture system that will be installed in the project activity	0.5	-	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 CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.
$SPEC_{flare}$	Manufacturer's flare specifications for temperature, flow rate and maintenance schedule.	Temperature (°C) Min - 700 °C Max - 1,200 °C Flow rate or heat flux (kg/h or m ³ /h) Min - 400 m ³ /h	Temperature (°C) Flow rate or heat flux (kg/h or m ³ /h) Maintenance schedule (N° of days)	Manufacturer's flare specifications for temperature, flow rate and maintenance schedule.	The parameter is used as an input for calculation of the baseline emissions. The parameter is based on the manufacturer specifications on the flare. The value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity. Maintenance schedule is not required as Option A has been selected from the tool Project emissions from flaring, v4.

		Max – 2,000 m³/h Maintenance schedule (N° of days) The maintenance schedule is not required if Option A (default flare efficiency option specified in the tool titled 'Project emissions from flaring, v4') is selected to determine flare efficiency of an enclosed flare			
R _u	Universal ideal gases constant	8.314	Pa.m ³ /kmol.k	"Tool to determine the mass flow of a greenhouse gas in a gaseous stream", Version 03.0	The parameter is used as an input for calculation of the baseline emissions. The parameter is based on the default provided in the tool. The value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.
MM _i	Molecular mass of	Methane: 16.04	Kg/kmol	"Tool to determine the mass flow of a	The parameter is used as an input for calculation of the baseline emissions.

	greenhouse gas i	Nitrogen : 28.01		greenhouse gas in a gaseous stream", Version 03.0	The parameter is based on the default provided in the tool. The value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.
P_n	Total pressure at normal conditions	101,325 Pa	Pa	"Tool to determine the mass flow of a greenhouse gas in a gaseous stream", Version 03.0	The parameter is used as an input for calculation of the baseline emissions. The parameter is based on the default provided in the tool. The value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.
T_n	Temperature at normal conditions	273.15 K	K	"Tool to determine the mass flow of a greenhouse gas in a gaseous stream", Version 03.0	The parameter is used as an input for calculation of the baseline emissions. The parameter is based on the default provided in the tool. The value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.
$\eta_{\text{flare},m}$	Flare efficiency for the minute m	0.8	-	Methodological Tool "Project emissions from flaring" Version 04.0	The parameter is used as an input for calculation of the baseline emissions. The parameter is based on the default provided in the tool. The value is consistent with registered CDM PDD and VCS PD/03/ and fixed ex-ante for the project activity.

The values are consistent with the registered VCS PD/03/ and defined fixed ex-ante during crediting period of the project activity. The fixed ex-ante data and parameter have been listed in the monitoring report/01/ and confirmed by the verification team as correct and consistent with that stated in the registered VCS PD/03/. The verification team confirms that the MR/01/ and the ER calculation spreadsheet/02/ have considered the parameters fixed ex-ante correctly.

4.4 Quality of Evidence to Determine Reductions and Removals

CCIPL was able to confirm that the calculations are based on authentic data. The spreadsheets/02/ used to calculate the VCUs calculations and all figures were tracked, cross checked with actual reported data from the CEB invoices and found to be consistent.

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 remote 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.

CCIPL 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	Annual
Measuring frequency/Time Interval:	Annual
Reporting frequency:	Annual
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes

Details of monitoring equipment:	The waste management license is granted by a governmental department (3rd party). The waste management licenses are valid for the sites in operation/23/.
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 waste management licenses/23/ for the landfill sites.
How were the values in the monitoring report verified?	Verification team has verified the waste management licenses/23/ for the landfill sites. The waste management licenses are found to be valid for the sites in operation during the monitoring period and have been delivered by a credible source (Governmental department) Further, information in the monitoring report was found to be consistent with supporting documentation /23/.
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 /01/.
In case only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered	Full set of data has been provided for the monitoring period.

monitoring plan, has the most conservative assumption theoretically possible been applied or has a request for deviation been approved?	
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Monitoring Parameter Requirement	Assessment/ Observation by the VVB
Data / Parameter: (as in monitoring plan of PDD):	Operation of the equipment that consumes the LFG (Op _{J,h})
Data Unit	-
Reported Values	N/A
Measuring frequency/Time Interval:	Hourly
Reporting frequency:	Hourly
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Flare program logic controller
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	Manufacturer specification of Thermocouple (As per validity of calibration)
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):	Thermocouple Validity30/05/2023 to 30/05/2025 By Pjb Metrology laboratory
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes

Is (are) calibration(s) valid for the whole reporting period?	Yes
If applicable, has the reported data been cross-checked with other available data?	Verification team has checked the values provided in the monthly raw data as provided in the workbooks for each month/06/. The validity of the is verified by reviewing the calibration certificate of thermocouple/05/ and maintenance records of UV sensors/06/ provided.
How were the values in the monitoring report verified?	Verification team has checked the values provided in the monthly raw data as provided in the workbooks for each month/06/. The validity of the thermocouple and UV sensors is verified by reviewing the calibration certificate of thermocouple/05/ and maintenance records of UV sensors/06/ provided.
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 /01/.
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 electricity generated using LFG by the project activity in year y (EG _{PJ,y})
Data Unit	MWh
Measuring frequency/Time Interval:	Continuously
Reporting frequency:	Aggregated monthly and yearly
Values:	Robinson Deep 14,300.8 MWh Marie Louise 3,111.8 MWh Goudkoppies 4,357 MWh Total 21,769.8 MWh
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/03/ and the monitoring methodology, ACM0001, version 19/B02/
Details of monitoring equipment:	Elster A1700 Electricity meter/25/

		Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)
	Serial Number	351421105891	351421100020	351441128474
	Accuracy	0.20	0.50	0.50
	Calibration Frequency	10 years in accordance with manufacturer specifications and communication /25/	10 years in accordance with manufacturer specifications and communication /25/	10 years in accordance with manufacturer specifications and communication /25/
	Last calibration	01/03/2016 From previous MP	25/01/2016 From previous MP	12/06/2018 (original) 11/06/2028/ Revised on 18/08/2022
	Calibration	28/02/2026	24/01/2026	17/08/2032
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?		The registered PD provides an accuracy class of 0.5 and the installed meters are of accuracy class 0.5 (for Marie Louise and Goudkoppies) and 0.2 (for Robinson Deep).		
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification		10 years. Calibration frequency is not provided in the registered PD/03/, the calibration frequency is in accordance with the OEM specification, which guarantees the units for a period of 10 years which is in line with SANAS guidelines /B04-4/.		
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 calibration interval is not provided in the PD/03/, however the frequency provided is in accordance with the SANAS guidelines/B04-4/.		
Company performing the calibration (internal or external calibration):		External Calibration by Honeywell/05/		
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):		Yes, the calibration confirmed the proper functioning of the monitoring equipment/05/.		
Is (are) calibration(s) valid for the whole reporting period?		Yes, the calibration is valid for the whole reporting period/05/.		

If applicable, has the reported data been cross-checked with other available data?	The reported data in the ER sheet/02/ has been cross-checked with generation data/meter readings/10/.
How were the values in the monitoring report verified?	The values were verified with the ER sheet/02/ and cross-checked with generation data/meter readings /10/.
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 /01/.
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):	Average technical transmission and distribution losses for providing electricity (TDL _y)
Data Unit	%
Measuring frequency/Time Interval:	Annual
Reporting frequency:	Annual
Values:	2023 - 11.76% 2024 - 11.76%
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/03/ and the monitoring methodology, ACM0001, version 19/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 in the ER sheet/02/ has been cross-checked with Eskom Annual Reports/24/.
How were the values in the monitoring report verified?	The reported data in the ER sheet/02/ has been cross-checked with Eskom Annual Reports/24/.
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 /01/. As per data/ parameter table 3 of CDM Tool 05 version 03.0, PP can choose one among the 3 options provided. PP has chosen option 1 "Use annual average value based on the most recent data available within the host country;" and monitoring frequency for the parameter is given as "Annually. In the absence of data from the relevant year, most recent figures should be used, but not older than 5 years." Also, In the registered PD, the source of data for the parameter TDL_y is provided as Eskom annual report and as measurement method, it is also mentioned that the parameter is "monitored annually. In the absence of data from the relevant year, most recent figures should be used, not older than 5 years." Since the default values are not used, use of same TDL_y value for baseline and project emissions is applicable. Therefore, the provided source and the year of data selection is deemed to be acceptable to VVB.
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
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Data / Parameter: (as in monitoring plan of PD):	Temperature in the exhaust gas of the enclosed flare in minute m (TEG _m)																				
Data Unit	°C																				
Reported Values	Average for Robinson Deep T _{flare} = 976.23 °C Average for Goudkoppies T _{flare} = 751.17 °C Average for Marie Louise T _{flare} = 917.48 °C																				
Measuring frequency/Time Interval:	Continuously																				
Reporting frequency:	Continuously																				
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes																				
Details of monitoring equipment:	Make-WIKA N-Type Thermocouple/08-4/ <table border="1"> <tr> <td></td><td>Site 1 (Robinson Deep)</td><td>Site 2 (Marie Louise)</td><td>Site 3 (Goudkoppies)</td></tr> <tr> <td>Serial Number</td><td>NA</td><td>NA</td><td>NA</td></tr> <tr> <td>Equipment Tag NO/ Part Number.</td><td>T1TECNSX60</td><td>T1TECNSX60</td><td>T1TECNSX60</td></tr> <tr> <td>Accuracy</td><td>+0.75% (333 °C-1200 °C)</td><td>+0.75% (333 °C-1200 °C)</td><td>+0.75% (333 °C-1200 °C)</td></tr> <tr> <td>Temperature Range</td><td>-200°C to +1300°C</td><td>-200°C to +1300°C</td><td>-200°C to +1300°C</td></tr> </table> It was confirmed through onsite visit that it is used to determine operational checks and determine the values for the Flare temperature parameter. A second thermocouple (Top thermocouple) higher up in the flare exhaust stack is used as a check on the combustion temperature.		Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)	Serial Number	NA	NA	NA	Equipment Tag NO/ Part Number.	T1TECNSX60	T1TECNSX60	T1TECNSX60	Accuracy	+0.75% (333 °C-1200 °C)	+0.75% (333 °C-1200 °C)	+0.75% (333 °C-1200 °C)	Temperature Range	-200°C to +1300°C	-200°C to +1300°C	-200°C to +1300°C
	Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)																		
Serial Number	NA	NA	NA																		
Equipment Tag NO/ Part Number.	T1TECNSX60	T1TECNSX60	T1TECNSX60																		
Accuracy	+0.75% (333 °C-1200 °C)	+0.75% (333 °C-1200 °C)	+0.75% (333 °C-1200 °C)																		
Temperature Range	-200°C to +1300°C	-200°C to +1300°C	-200°C to +1300°C																		
Is accuracy of the monitoring equipment as stated in the PD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	The accuracy of the monitoring equipment is +-0.75% for the 3 sites and the full scale as per manufacturer specifications/25/. This represents a good monitoring practise.																				
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	Calibration frequency (Functionality checks) is on an annual basis. Calibration frequency meets the requirements of manufacturer specifications/25/ and the registered PD/03/.																				
Is the calibration interval in line with the monitoring plan of the PDD? If the	Yes, the calibration interval is in line with the monitoring plan of the PD/03/.																				

PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	
Company performing the calibration (internal or external calibration):	Internal functionality checks are done using a portable temperature probe and monitor.
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. The dates of functionality checks are provided below: Marie Louise 28-September-2023 10-January-2024 23-April-2024 04-July-2024 29-October-2024 Goudkoppies 30-August-2023 30-November-2023 01-March-2024 24-May-2024 30-August-2024 Robinson Deep 30-August-2023 30-November-2023 08-March-2024 03-July-2024 14-October-2024
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 compared with functionality check sheets /06/ and confirmed during the on-site visit
How were the values in the monitoring report verified?	The values in the monitoring report/01/ were verified and compared with the continuous and monthly data provided in the ER sheet /02/.

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 PD /03/.
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 PD):	Quantity of electricity consumed by the project electricity consumption source in year y ($EC_{PJ,i,y}$)			
Data Unit	MWh/y			
Measuring frequency/Time Interval:	Continuous			
Reporting frequency	Annually			
reported Values	Robinson Deep = 211.151 MWh Goudkoppies = 0 MWh Marie Louise = -9.625 MWh Total = 201.526 MWh (Rounded up)			
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Electricity meter			
Details of monitoring equipment:		Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)
	Serial Number/ Part No	CBI- EC330CM	DEM024SJ	351441128474
	Accuracy	class 1	class B	0.50
	Calibration Frequency	NA	NA	10 years
	Calibration valid from	NA	NA	18-August-2022 to 17-August-2032

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?	The accuracies of the electricity meters are class 1, class B and 0.50 for the sites/01//02/. This represents a good monitoring practise.
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	10 years
Is the calibration interval in line with the monitoring plan of the PD? If the PDD does not specify the frequency of calibration, Does the selected frequency represent good monitoring practise?	Yes The meter installed at Goudkoppies
Company performing the calibration (internal or external calibration):	Honeywell
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes
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 /08/.
How were the values in the monitoring report verified?	The reported data has been cross checked with the electricity invoices /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 the registered PD /03/.
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:	Quantity of fuel type i combusted in process j during the year y ($FC_{i,j,y}$)

(as in monitoring plan of PD):	
Data Unit	Mass or volume unit per year (e.g. ton/yr or m3/yr)
Measuring frequency/Time Interval:	Continuously
Reporting frequency	Continuously
reported Values	Robinson Deep 3,617.87 Lt Marie Louise 420.00 Lt Goudkoppies 6,938.27 Lt Total 10,976.14 Lt Density used 0.84 kg/lit/B04-3/
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/03/ and monitoring methodology/B02/.
Details of monitoring equipment:	The monitoring is being done by ruler gauges in the Volvo 105I (Diesel Tank level indicator)/07/ at Robinson Deep and Goudkoppies site and using Cummins 175I (Diesel Tank level indicator) at Marie Louise site. Robinson Deep: Type: Volvo 105I (Diesel Tank level indicator) Sl. No.: FE3095S Validity: 23/05/2023 to 23/05/2024 14/05/2024 to 14/05/2025 Marie Louise: Type: Volvo 105I (Diesel Tank level indicator) Sl. No.: FE0686S Validity: 23/05/2023 to 23/05/2024 14/05/2024 to 14/05/2025 Goudkoppies: Type: Cummins 175I (Diesel Tank level indicator) Sl. No.: AK16080689-A Validity: 23/05/2023 to 23/05/2024 14/05/2024 to 14/05/2025

Is accuracy of the monitoring equipment as stated in the PD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	The accuracy for the ruler gauge is +-3.0 litre /25.The accuracy of the instruments is in accordance with the registered PD/03/.
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	Annual. Goukoppies: Marie Louise:
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/03/. The calibration interval is determined in accordance with the manufacturer specifications/25/.
Company performing the calibration (internal or external calibration):	Calibrate@pjb (External)
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes.
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 fuel purchase receipts/07/.
How were the values in the monitoring report verified?	The values in the monitoring report were verified through the review of the volume records for the fuel consumption/07/.
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
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Data / Parameter: (as in monitoring plan of PD):	Volumetric fraction of greenhouse gas i in a time interval t on a wet basis ($V_{i,t,wb}$)
Data Unit	m^3 gas i / m^3 wet gas
Measuring frequency/Time Interval:	Measurements are logged once every minute
Reporting frequency:/	Measurements are logged once every minute
Values for CH ₄	Average for Robinson Deep 54.6% Average for Marie Louise 52.3% Average for Goudkoppies 56.1% Average 54.34 %
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes
Details of monitoring equipment:	Edinburgh Instruments-Guardian NG Infrared Gas Monitor and Siemens Ultramat 23/25/
Is accuracy of the monitoring equipment as stated in the PD? If the PDD does not specify the accuracy of the monitoring equipment, Does the monitoring equipment represent good monitoring practise?	The accuracy of the gas analyser has been provided for each site and each analyser/25/. This represents a good monitoring practise.
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	Yearly. Calibration frequency is 12 months as per manufacturer specifications for Edinburgh Instruments-Guardian NG Infrared Gas Monitor/25/.
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):	Calibration Gases and Equipment South Africa The Span gas used for these calibrations has been calibrated according to ISO/IEC 17025:2005 standards. <u>For Robison Deep site:</u> Span Gas Traceability Cert/Can.54489 Valid from 01/04/2023 to 30/04/2024 Span gas Traceability Cert/Can. 541911 Valid from 01/04/2024 to 30/04/2025

	<u>For Marie Louise site:</u> Span Gas Traceability Cert.54447 Valid from 01/04/2023 to 30/04/2024 Span Gas traceability Cert. 541824 Valid from 01/04/2024 to 30/04/2025 <u>For Goudkoppies site:</u> Span Gas Traceability Cert.54513 Valid from 01/04/2023 to 30/04/2024 Span gas traceability Cert.541918 Valid from 01/04/2024 to 30/04/2025
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. Calibration report for working Gas Analyser is available /06/.
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 raw data /06/ at the site during OSV.
How were the values in the monitoring report verified?	The reported data has been cross checked with the raw data /06/ 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 /01/ .
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):	Mass flow of the gaseous stream in time interval t on a wet basis ($M_{t,wb}$)
Data Unit	Kg/h

Reported Values	Robinson Deep Average 1267.3 Kg/h Marie Louise Average 373.9 Kg/h Goudkoppies Average 557.4 Kg/h																										
Measuring frequency/Time Interval:	Continuously																										
Reporting frequency:	Recorded every minute																										
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes																										
Details of monitoring equipment:	Make-Thermal mass flow meter (Endress+ Hauser/Proline t-mass 65I) /08/ Total Flow meter <table border="1"> <thead> <tr> <th></th><th>Site 1 (Robinson Deep)</th><th>Site 2 (Marie Louise)</th><th>Site 3 (Goudkoppies)</th></tr> </thead> <tbody> <tr> <td>Serial Number</td><td>A309FB02000 (10/12/2020 to 09/12/2023)</td><td>L5003702000 (05/02/2021 to 04/02/2024)</td><td>99047602000 (Valid from 06/10/2022 to 05/10/2025)</td></tr> <tr> <td>Accuracy</td><td><3%</td><td><3%</td><td><3%</td></tr> <tr> <td>Calibration Frequency</td><td>3 years</td><td>3 years</td><td>3 years</td></tr> <tr> <td>Calibration date²</td><td>20/08/2020</td><td>19/08/2020</td><td>29/07/2022</td></tr> <tr> <td>Serial Number</td><td>99047502000 (Valid from 05/12/2023 to 04/12/2026)</td><td>A309FA02000 (06/02/2024 to 05/02/2027)</td><td>--</td></tr> </tbody> </table>				Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)	Serial Number	A309FB02000 (10/12/2020 to 09/12/2023)	L5003702000 (05/02/2021 to 04/02/2024)	99047602000 (Valid from 06/10/2022 to 05/10/2025)	Accuracy	<3%	<3%	<3%	Calibration Frequency	3 years	3 years	3 years	Calibration date ²	20/08/2020	19/08/2020	29/07/2022	Serial Number	99047502000 (Valid from 05/12/2023 to 04/12/2026)	A309FA02000 (06/02/2024 to 05/02/2027)	--
	Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)																								
Serial Number	A309FB02000 (10/12/2020 to 09/12/2023)	L5003702000 (05/02/2021 to 04/02/2024)	99047602000 (Valid from 06/10/2022 to 05/10/2025)																								
Accuracy	<3%	<3%	<3%																								
Calibration Frequency	3 years	3 years	3 years																								
Calibration date ²	20/08/2020	19/08/2020	29/07/2022																								
Serial Number	99047502000 (Valid from 05/12/2023 to 04/12/2026)	A309FA02000 (06/02/2024 to 05/02/2027)	--																								

² The calibration of the flow meters is valid from the date of installation in accordance with the specifications from the manufacturer/25/.

	Accur acy	<3%	<3%	--
	Calibr ation Frequ ency	3 years	3 years	--
	Calibr ation date	18/08/2022	02/01/2024	--
	Flare flow meter			
		Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppi es)
	Serial Number	A309F9020 00 (Valid from 09/10/202 3 to 08/10/202 6)	N81037020 00 (Valid from 27/01/202 3 to 26/01/202 6)	E704AF020 00 (Valid from 12/04/202 1 to 11/04/202 4) Replaced (08/05/20 24) L5003702 000 (valid from 08/05/303 4 to 07/05/202 7)
	Accuracy	<3%	<3%	<3%
	Calibration Frequency	3 years	3 years	3 years
	Calibration date	03/03/202 3	05/12/202 2	E704AF020 00: 17/06/202 0 L5003702 000: 15/04/202 4
	Electricity Flow meter			

		Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)
	Serial Number	N8103802000 (Valid from 09/10/2023 to 08/10/2026)	99047702000 (Valid from 30/06/2022 to 29/06/2025)	C6031202000 (Valid from 12/04/2021 to 11/04/2024) Replaced: (02/05/2024) E2110D02000 (valid from 02/05/2024 to 01/05/2027)
	Accuracy	<3%	<3%	<3%
	Calibration Frequency	3 years	3 years	3 years
	Calibration date	15/12/2022	08/06/2022	C6031202000: 30/10/2020 E2110D02000: 02/01/2024
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 accuracy of the monitoring equipment is as stated in the PD/03/.			
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	3 years. Calibration frequency meets the requirements of manufacturer specifications /25/.			
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	Yes.			

frequency represent good monitoring practise?	
Company performing the calibration (internal or external calibration):	Endress + Hauser (External) Endress + Hauser is the manufacturer, and the laboratory is accredited to undertake calibration.
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	Yes. Calibration reports for the flow meters are available /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?	Verification team has compared and checked the values provided in ER sheet /02/ with the monthly raw data as provided in the workbooks for each month provided in the ER sheet/02/.
How were the values in the monitoring report verified?	The values for the parameter are monitored continuously and then through the telemetry every 30 minutes data is sent to network server central database.
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 /01/.
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):	Flame detection of flare in the minute m (Flame _m)
Data Unit	Flame on or Flame off
Measuring frequency/Time Interval:	Continuous
Reporting frequency:/	recorded once every minute
Values	Detection of flame recorded as a minute that the flame was on, otherwise recorded as a minute that the flame was off
Is measuring and reporting frequency in accordance with the monitoring	Yes, the measuring and recording frequency is in accordance with the registered PD/03/

plan and monitoring methodology? (Yes / No)	
Details of monitoring equipment:	Krom Schroder UV Sensor/25/ Robinson Deep Replacement dates 25/05/2023 08/03/2024 Marie Louise Replacement dates 07/06/2023 23/04/2024 Goudkoppies Replacement dates 08/05/2023 01/03/2024
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 sensors were tested in accordance with the manufacturer's specifications.
Calibration frequency /interval: Is it monitoring methodology /CDM EB guidance / local or national standards / manufacturers specification	The sensors are replaced and tested along with the thermocouples.
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?	N/A
Company performing the calibration (internal or external calibration):	N/A
Did calibration confirm proper functioning of monitoring equipment? (Yes / No):	N/A
Is (are) calibration(s) valid for the whole reporting period?	N/A
If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross checked with the raw data /06/ at the site during OSV.

How were the values in the monitoring report verified?	The reported data has been cross checked with the raw data /06/ 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 /01/.
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?	N/A. 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, the same is verifiable and that the data collection system meets the requirements of the monitoring plan and the applied methodology according to the assessment carried out during the on-site audit and in the document review.

Verification team confirms that the quality of evidence to determine the GHG reductions 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/01/.

4.5 Non-Permanence Risk Analysis

Not applicable.

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5 VERIFICATION OPINION

5.1 Verification Summary

Carbon Check (India) Private Limited has performed the verification of the project activity “Joburg Landfill Gas to Energy Project” in South Africa, 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/03/ 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/03/.
- 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 4.7/B01-1/. The project has been implemented in accordance with the project description. In the course of the verification process 09 CARs, 11 CLs and 00 FARs were raised, all the CARs and CLs are closed. No FARs were raised during the course of verification.

5.2 Verification Conclusion

The level of assurance of the verification report falls under reasonable assurance engagements as selected by the Client. 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: From 01-December-2023 to 31-October-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-December-2023 to 31-December-2023	16,108	24	0	16,084	0	16,084
01-Januray-2024 to 31-October-2024	190,532	224	0	190,308	0	190,308
Total	206,640	248	0	206,392	0	206,392

5.3 Ex-ante vs Ex-post ERR Comparison

Vintage period	Ex-ante estimated reductions/removals (tCO ₂ e)	Achieved reductions/removals (tCO ₂ e)	Percent difference	Explanation for the difference
01-December-2023 to 31-December-2023	51,155	16,084	31,44%	There exist challenges in waste handling which are reflected by limited operating period as well as inefficiencies in waste collection. This is largely because landfill tipping practices hinder performances. Additionally, access to all waste sites is restricted and not all sites are operational contributing to discrepancies between estimated and actual emission reductions. However, the values are not higher than the ex-ante estimates.
01-Januray-2024 to 31-October-2024	513,083	190,308	37,09%	
Total	564,238	206,392	36.58%	

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

.

Not applicable

APPENDIX 2: REFERENCES

S. No.	Document										
/01/	Monitoring report v1 dated 02-December-2024 v2 dated 08-January-2025 v3 dated 31-January-2025 v4 dated 13-February-2025 v5 dated 14-April-2025										
/02/	Ex-post Emission reduction Calculation sheet v1 dated 02-December-2024 v2 dated 08-January-2025 “Consolidated ER Sheet 1 December 2023 to 31 October 2024 V2”										
/03/	Project design with version applicable for the current crediting period “2023-03-03 Jhb LFG VCS PD v9 clean”										
/04/	Ex-ante Emission reduction spreadsheet « 2020-06-08 Joburg Landfills Ex Ante Calcs v2 »										
/05/	Calibration records of flow meters, electricity meters, diesel tank, thermocouple, and other calibrated instruments. Thermocouple 30/05/2023 to 30/05/2025 By Pjb Metrology laboratory Diesel tank <table><tr><td>Robinson Deep</td><td>Volvo 105I</td><td>Sl. No.: FE3095S</td><td rowspan="3">23/05/2023 to 23/05/2024 14/05/2024 to 14/05/2025</td></tr><tr><td>Marie Louise</td><td>Volvo 105I</td><td>Sl. No.: FE0686S</td></tr><tr><td>Goudkoppies</td><td>Cummins 175I</td><td>Sl. No.: AK16080689-A</td></tr></table> Flow meters Total flow meters : E&H Proline T mass 65I	Robinson Deep	Volvo 105I	Sl. No.: FE3095S	23/05/2023 to 23/05/2024 14/05/2024 to 14/05/2025	Marie Louise	Volvo 105I	Sl. No.: FE0686S	Goudkoppies	Cummins 175I	Sl. No.: AK16080689-A
Robinson Deep	Volvo 105I	Sl. No.: FE3095S	23/05/2023 to 23/05/2024 14/05/2024 to 14/05/2025								
Marie Louise	Volvo 105I	Sl. No.: FE0686S									
Goudkoppies	Cummins 175I	Sl. No.: AK16080689-A									

		Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)
Serial Number	A309FB02000 (10/12/2020 to 09/12/2023)	L5003702000 (05/02/2021 to 04/02/2024)	99047602000 (Valid from 06/10/2022 to 05/10/2025)	
Accuracy	<3%	<3%	<3%	
Calibration Frequency	3 years	3 years	3 years	
Calibration date ³	20/08/2020	19/08/2020	29/07/2022	
Serial Number	99047502000 (Valid from 05/12/2023 to 04/12/2026)	A309FA02000 (06/02/2024 to 05/02/2027)	--	
Accuracy	<3%	<3%	--	
Calibration Frequency	3 years	3 years	--	
Calibration date	18/08/2022	02/01/2024	--	
Flare flow meter: E&H Flowtec AG				
	Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)	
Serial Number	A309F902000 (Valid from 09/10/2023	N8103702000 (Valid from 27/01/2023	E704AF02000 (Valid from 12/04/2021	

³ The calibration of the flow meters is valid from the date of installation in accordance with the specifications from the manufacturer/25/.

		to 08/10/2026)	to 26/01/2026)	to 11/04/2024) Replaced (08/05/2024) L5003702000 (valid from 08/05/2024 to 07/05/2027)
Accuracy	<3%	<3%	<3%	
Calibration Frequency	3 years	3 years	3 years	
Calibration date	03/03/2023	05/12/2022	E704AF02000: 17/06/2020 L5003702000: 15/04/2024	
Electricity flow meter: E&H Flowtec AG				
	Site 1 (Robinson Deep)	Site 2 (Marie Louise)	Site 3 (Goudkoppies)	
Serial Number	N8103802000 (Valid from 09/10/2023 to 08/10/2026)	99047702000 (Valid from 30/06/2022 to 29/06/2025)	C6031202000 (Valid from 12/04/2021 to 11/04/2024) Replaced: (02/05/2024) E2110D02000 (valid from 02/05/2024 to 01/05/2027)	
Accuracy	<3%	<3%	<3%	
Calibration Frequency	3 years	3 years	3 years	
Calibration date	15/12/2022	08/06/2022	C6031202000: 30/10/2020 E2110D02000: 02/01/2024	
Elster Meters device type A1700				
Marie Louise		3514 21100020	SANAS calibration laboratory	

		25/01/2016 to 24/01/2026		
	Goudkoppies	3514 41128474 18/08/2022 to 17/08/2032	Honey well	
	Robinson Deep	3514 21105891 01/03/2016 to 28/02/2026	SANAS calibration laboratory	
/06/	Flare Operation Data for the period 01/12/2023 to 31/10/2024			
/07/	Diesel volume records and Fuel (Diesel) Purchase Receipts for the period 01/12/2023 to 31/10/2024			
/08/	Sample invoices delivered by Energy Joburg for electricity consumption at the project electricity consumption source			
/09/	Certification with specifications of the Span gas used to calibrate the infrared gas monitor Marie Louise: Span Gas Traceability Cert.54447 Valid from 01/04/2023 to 30/04/2024 Span Gas Traceability Cert.541824 Valid from 01/04/2024 to 30/04/2025 Robinson Deep: Span Gas Traceability Cert/Can.54489 Valid from 01/04/2023 to 30/04/2024 Span Gas Traceability Cert/Can.541911 Valid from 01/04/2024 to 30/04/2025 Goudkoppies: Span Gas Traceability Cert.54513 Valid from 01/04/2023 to 30/04/2024 Span Gas Traceability Cert.541918 Valid from 01/04/2024 to 30/04/2025			
/10/	Meter Readings as evidence for (EC _{BL,k,y} = EG _{PJ,y})			
/11/	Employment equity policy adopted by PP			

/12/	Environmental Management Plan (EMP) developed by PP dated September 2009
/13/	Evidence for project start date
/14/	Training records and certificates of staff during the period 01/12/2023 to 31/10/2024.
/15/	Equipment Installation and Replacement Records
/16/	Power Purchase Agreement between the electricity buyer and Energy Joburgh in the course of the project. 25/01/2018 for Marie Louise <u>26/11/2016 for Robinson Deep</u> <u>25/04/2017 for Goudkoppies</u>
/17/	Grievance Register
/18/	Implementation agreement dated 14/11/2013
/19/	Stakeholder ongoing communication 1. Attendance Sheet 2. Minutes of meeting 3. Agenda for Minutes of Meeting 4. Stakeholder comments 5. Evidence of school shelter built
/20/	EIA reports prepared by the agency WSP Environment and Energy in September 2009 Marie Louise :12/12/20/1473 Robinson Deep :12/12/20/1474 Goudkoppies :12/12/20/1476
/21/	Implementation Agreement
/22/	Noise Emission test result performed by Energy systems S.A
/23/	Waste Management License Signed by the Acting Manager of Water use from the Department of water affairs and Forestry Marie Louise Landfill: Number; 16/2/7/C221/D11/Z3/P65 Valid from 12/11/2003 Robinson Deep Landfill: Number; 16/2/7/C221/D11/22/P22 Valid from 16/01/2004

	Goudkoppies Landfill: Number; 16/2/7/C211/D11/Z1/P15 Valid from 16/01/2004
/24/	Eskom Annual Reports
/25/	Manufacturer specifications of monitoring instruments: Electricity meters, Gas analyzer, thermocouple, Flare, UV sensor, Flow meter.
/26/	Declaration of no double counting and participation under other GHG programs provided by PP
B01	1. VCS Standard, version 4.7 2. VCS Program Guide version 4.4 3. VCS Validation and Verification Manual, version 3.2 4. Registration and Issuance Process version 4.4 5. VCS Program Definitions version 4.4
B02	Large Scale CDM Methodology ACM0001: Large-scale Consolidated Methodology Flaring or use of landfill gas Version 19.0
B03	VCS MR Template version 4.4
B04	Website and links: 1. https://verra.org 2. https://cdm.unfccc.int 3. www.ipcc.ch 4. https://www.sanas.co.za

APPENDIX 3: ABBREVIATIONS

BAU	Business As Usual
CA	Corrective Action / Clarification Action
CER	Certified Emission Reduction
CAR	Corrective Action Request
CC IPL	Carbon Check (India) Private Ltd.
CDM	Clean Development Mechanism
CEB	Central Electricity Board
CER	Certified Emission Reduction
CL	Clarification Request
CO₂	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
EB	CDM Executive Board
EF	Emission Factor
FA	Final Approval
FAR	Forward Action Request
FVR	Final validation Report
GHG	Greenhouse gas(es)
GK	Goudkoppies Landfill Site
IPCC	Intergovernmental Panel on Climate Change
LFG	Landfill Gas
ML	Marie Louise Landfill site
MW	Megawatts
MWh	Mega Watt Hour
OSV	On Site Visit
PD	Project Design
PP	Project Participant
QC/QA	Quality control/ Quality assurance
RD	Robinson Deep Landfill site
SDG	Sustainable Development Goals
TA	Technical Area
TR	Technical Review
UNFCCC	United Nations Framework Convention on Climate Change

UNPA	United Nations Framework Convention on Climate Change CDM Project Activity
VER	Verified Emission Reduction
VCS	Verified Carbon Standard
VCU	Verified Carbon Units
VVB	Validation / Verification Body

APPENDIX 4: COMPETENCY CERTIFICATE



Carbon Check (India) Private Limited

Certificate of Competency

Mr. Campal Deepak Kadam

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		☒ 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

Ms. Tekapso Leslie

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 Cameroon, Madagascar, Cote d' Ivoire, Burkino Faso and all french 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		

Issue Date

06th February 2025

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Mr. Vikash Kumar Singh
Director - Compliance

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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. Pankaj Kumar

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 | | ☒ 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

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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. S Ranganathan

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		☐ 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
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APPENDIX 5: LIST OF FINDINGS

Table 1. CLs from this verification

CL ID	01	Section no.	1.2	Date: 23/12/2024
Description of CL				
In the referred section of the monitoring report version 1, - In the last column of the table, the PP has mentioned the number of ERs achieved rather than the required information which is the Number of years (duration of the period covered). - PP has mentioned the monitoring period covered by this Monitoring report as "01-December-2023 to 30-October-2024". The end date is found to be inconsistent with the key project information. Further, PP is required to clarify whether the MP covers the Month of November 2024. PP is required to revise the section providing accurate information and ensuring consistency across sections and all documents.				
PP response				Date: 07/01/2025
We have amended the table in the MR and confirm that the MR period does not include November. We have corrected this throughout the documentation.				
Documentation provided by PP				
<i>Updated MR provided in tracked changes the clean version 2.</i>				
VVB assessment				Date: 08/01/2025
It has been noticed by the verification team that the PP has revised the referred section of the Monitoring report to include the required information which has been made consistent throughout the MR. The revised information is acceptable to the verification team. The finding is therefore closed.				

CL ID	02	Section no.	2.2	Date: 23/12/2024
Description of CL				
PP is required to clarify the exclusion of the parameters « the likely natural and human-induced risks to stakeholders» and «the expertise of the management teams involved in the project site» with respect to paras 3.19.4 and 3.19.6 of the VCS Standard v4.5 which ensure compliance to the template requirement.				
PP response				Date: 07/01/2025
The MR has been updated to V4.4 of the MR template an the missing section completed.				
Documentation provided by PP				
<i>Updated MR provided in tracked changes the clean version 2.</i>				
VVB assessment				Date: 08/01/2025
The verification team notices that the PP has revised the referred section of the MR, providing parameters « the likely natural and human-induced risks to stakeholders» and «the expertise of the management teams involved in the project site» as required by the template. The information elaborated is acceptable to the verification team. Hence, the finding is closed.				

CL ID	03	Section no.	1.12	Date: 23/12/2024
Description of CL				
in the referred section of the MR, clarify whether SDG 7 is being targeted in the course of the project as it has not been identified in SD contributions described in Table 1 of the referred section. In the same section of the MR v1, PP has mentioned “<i>The emission reductions are monitored and reported to UNFCCC or VCS</i>”. PP should clarify whether the project is still registered under UNFCCC or has completely shifted to VCS. Evidence to substantiate the same is required.				
PP response				Date: 07/01/2025
The mention of SDG 7 is just for information purposes as the PD only makes mention of SDG 13 and 3. We have amended the wording to make sure there is no confusion as this SDG 7 is not reported in the MR. The project has shifted to VCS as the UNFCCC while implementing Article 6 of the Paris agreement requires projects to apply to be transferred to this new mechanism.				
Documentation provided by PP				
Updated MR provided in tracked changes the clean version 2.				
VVB assessment				Date: 08/01/2025
In regard to SDG 7, the PP has aligned the language in the Monitoring Report accordingly to avoid confusion clarifying that it was mentioned only for informational purposes and that the project officially targets SDG 13 and SDG 3. Regarding the registration status, the PP confirmed that the project has shifted from UNFCCC registration to VCS. The PP provided the necessary explanation, clarifying that this transition is due to the implementation of the new mechanism. The Project Participant (PP) has made the necessary clarifications and corrections in response to the findings. The finding is closed.				

CL ID	04	Section no.	4.2	Date: 23/12/2024
Description of CL				
With respect to the parameter TEG_m, Clarification is required as to why the date 29/10/2024 is not mentioned in the document «<i>Marie Louise Flare Maintenance Roster - 2022 - PRESENT DATE</i>» in the flare maintenance file of Marie Louise Landfill. As the same is considered as a reflection of all Thermocouple Test dates.				
PP response				Date: 07/01/2025
The updated roster has been provided which correlates to the actual service dates.				
Documentation provided by PP				
Updated MR provided in tracked changes the clean version 2.				
VVB assessment				Date: 08/01/2025

PP has addressed the finding by providing an updated roster that accurately reflects the actual service dates, including the previously missing date of 29/10/2024. This update ensures that the flare maintenance file for the Marie Louise Landfill is now consistent with the Thermocouple Test dates across documents. This is acceptable to the verification team. The findings is closed.

CL ID	05	Section no.	4.3	Date: 23/12/2024
Description of CL				
PP is required to provide the Competency records of the staff. Further, sample training certificates provided by PP are all dated between 2013 and 2018. The PP is required to provide certificates and training materials applicable for the current monitoring period, as evidence to the continuous site based training and on the job training mentioned in the referred section of the MR V1.				
PP response				Date: 07/01/2025
In the supporting documents there are two training certificates for November 2023 and we have included additional on the job training records for the three gas field technicians dated within this monitoring period.				
Documentation provided by PP				
<i>Additional training records for Elleck, Eric and Kamuhelo.</i>				
VVB assessment				Date: 08/01/2025
The PP has provided the required documentation to demonstrate continuous training for the current monitoring period. Specifically, the PP has submitted two training certificates dated November 2023, along with additional on-the-job training records for the three gas field technicians, all dated within the monitoring period. This provides sufficient evidence of ongoing staff competency development and addresses the concern regarding outdated training certificates. The documentation is now in compliance with the monitoring criteria. Hence, the finding is closed.				

CL ID	06	Section no.	2.1.5	Date: 23/12/2024
Description of CL				
As per the evidence provided, Meetings were equally held on the 24/02, 19/05, and the 18/08 2024. However, PP has not transparently disclosed the same in the referred section of the MR. PP should clarify the exclusion of such information. Further, in the same section of the MR, PP has mentioned that a shelter has been built at the assembly area of the Sedibathuto primary school. Evidence for the same is required.				
PP response				Date: 07/01/2025
The MR has been updated to include these meetings. There were no action items for the landfill gas project for the February and 24th May 2024 meetings and one action item for the August meeting. Please note the 19 May meeting was in 2023 and the 24 th May 2024 is used as this is in the monitoring period.				
Documentation provided by PP				
<i>Updated MR provided in tracked changes the clean version 2.</i>				
VVB assessment				Date: 08/01/2025
PP has satisfactorily addressed the finding by updating the Monitoring Report to include the meetings held during the current MP. Further, the PP has provided the required evidence regarding the construction of a shelter at the assembly area of Sedibathuto Primary School, confirming its completion. The finding therefore is closed.				

CL ID	07	Section no.	4.2	Date: 23/12/2024
Description of CL				
According to the supporting documents provided, the Diesel Tank stand by generator with serial number <i>FE0686S</i> is found in the Marie-Louise landfill site and not to the Goudkoppies site as reflected by the PP in the MR. Further, it is observed by the verification team that, the Tank for the Marie-Louise Land fill site mentioned in MR with serial number <i>AK16080689-A</i> had the calibration validity of <i>27/05/2022 to 27/05/2023 (as per the supporting documents)</i> which is not valid for the current Monitoring period. In addition, the PP has mentioned in the monitoring report that the Tank with serial number <i>AK16080689-A</i> is in Marie-Louise Landfill site while, on the calibration certificates provided it is mentioned that the tank is found in the Goudkoppies Landfill site: - PP should clarify why on the previous calibration certificate (2022/2023), the tank is in the Marie Louise Landfill site and during the current calibration, the tank is located in the Goudkoppies Landfill site. - PP should ensure consistence between the supporting documents and the MR.				
PP response				Date: 07/01/2024
The generator at Marie Louise was swapped during the period with the one at Goudkoppies. The reason for the swop was that the generation unit at Goudkoppies was smaller that the one at Marie Louise and we installed an additional compressor at Goudkoppies and this resulted in an increase load. As such we swapped the generators around to align the larger generator with the increased load at Goudkoppies. We have amended the MR to reflect this change. Please note that the calibration certificates for all three sites are included in the supporting documents for the period from the 23-05-2023 to 23-05-2024 and for 14-05-2024 to 14-05-2025.				
Documentation provided by PP				
<i>Updated MR provided in tracked changes the clean version 2.</i> <i>Calibration certificates for 2023 and 2024.</i>				
VVB assessment				Date: 08/01/2025
PP provides a clear, logical explanation for the discrepancies, offers the necessary corrective actions (updating the MR and providing valid calibration certificates), and ensures consistency in the documentation. The corrections are deemed satisfactory to the verification team. The finding is closed.				

CL ID	08	Section no.	4.2	Date: 23/12/2024
Description of CL				

Total Flow meter

PP has mentioned in the referred section of the MR that, “calibration remains valid for the first three years of operation from the date of use and not the date of calibration”.

Hence, PP is required to clarify why for the Total flow meter of serial N° 99047502000 at Robinson Deep landfill site, it is mentioned in the MR that the date of replacement of the previous meter was: 05/12/2024 but validity of calibration begins on the 05/12/2023.

Also, PP should clarify whether the meter used during the period from 09/12/2023 to 05/12/2024 was calibrated and provide evidence for the same as the validity of the previous meter (Serial N°: A309FB02000) extended from 10/12/2020 to 09/12/2023 only.

Further, it is required from PP to clarify why the transmitter (*t-mass 651*) with the same serial number (99047502000), is connected to flares in different landfill sites 10931 (Robinson Deep) and 11104 (Marie-Louise).

Flare Flow meter

For Goudkoppies: Between 11/04/2024 and 08/05/2024, PP should clarify whether the flare flow meter, which was in use, was calibrated. Provide evidence for the same.

Electricity flow meter

For Goudkoppies, clarification is required as to whether the electricity meter in use during the period 11/04/2024 and 02/05/2024 was calibrated. Provide evidence for the same.

PP response

Date: 07/01/2025

Total flow meter

For the Total flow meter SN 99047502000 the replacement date was incorrect as it was replaced on the 05/12/2023 and not 05/12/2024.

The meter used for the period 10/12/2020 to 09/12/2023 was calibrated and audited in the previous monitoring period. The certificate for this instrument is in the Robinson Deep folder under calibration Data but has been provided as evidence with this response also.

The t-mas 651 used at Robinson Deep is SN 99047502000 and the one used at Marie Louise is SN 99047702000. They are not the same instrument. Please also refer to the calibration certificates for these instruments.

Flare Flow meter

For Goudkoppies the flare flow meter was changed out on the 08/05/2024 when the replacement unit came back from calibration. The unit with serial number: E704AF02000 continued to be used for the period from the 11/04/2024 to 08/05/2024. The instrument was calibrated and certificate is attached with this response. A delayed calibration has been applied to the data for April and May workbooks for Goudkoppies for the period from 11/04/2024 to 08/05/2024 for the flare flow meter. This has not resulted in any change in the value of ERs as the site was not flaring between the 11/04/2024 the morning of the 08/05/2024. There was some flaring in the morning of 8th when the instrument was replaced but the flaring did not meet the operation check limits for flaring and as such no ER were claimed in any event.

Electricity flow meter

For Goudkoppies the electricity flow meter was changed out on the 02/05/2024 when the replacement unit came back from calibration. Between the 11/04/2024 and 02/05/2024 we need to apply a delayed calibration for this period. The instrument was sent for routing calibration and servicing and was returned from the factory without servicing. The instrument was checked the drift was out of spec at 6% and the limit was 3% and as the model Tmass-65 flow meter has been discontinued, they recommended that we purchase the newer model T mass- i 300. Please refer to the email provided in the supporting documents as reference. As a result this unit was not re calibrated but rather a newer unit was purchased. The workbooks for Goudkoppies for the period 11/05/2024 and 02/5/2024 has been corrected to reduce the Electricity flow readings by 9% (representing 150% of the actual error) to take into account delayed calibration and factor in the error. This is viewed as a conservative approach to correct for the above delayed calibration. The MR was updated and the ER calculation sheets adjusted for the reduction in flow values and impact on the ERs claimed.

Documentation provided by PP

Updated MR provided in tracked changes the clean version 2.
 Calibration certificate for previous meter Serial N°: A309FB02000.
 Calibration certificate for flow meter Serial No; E704AF02000
 Email from Endress and Hauser stating the drift of 6%.
 04 Goudkoppies WB April 2024 V2
 05 Goudkoppies WB May 2024 V2
 Consolidated ER Sheet 01-December-2023 to 31-October-2024 V21

VVB assessment

Date: 08/01/2025

Total Flow meter

The verification team understands the PP had committed a typo error, further, calibration certificates have been provided to substantiate the correctness of the information in the revised MR. Further, the verification team notices the difference in serial numbers between both instruments.

Flare flow meter

The PP confirms that the meter was replaced on 08/05/2024 after returning from calibration, and that the previous unit with serial number E704AF02000 was in use during the specified period. Importantly, the PP clarifies that no flaring occurred during this time, which ensures that there was no impact on the measured emission reductions (ERs). This explanation confirms that the calibration status did not affect the accuracy of the data. The same has been verified through the Flara data of the Goudkoppies landfill site during the period.

Electricity flow meter

It clarifies that the meter was not recalibrated but was instead replaced with a newer model after the original unit was found to be out of specification. A conservative approach was taken by adjusting the electricity flow readings by 9% to account for the delayed calibration for the period 11/05/2024 and 02/05/2024, and the monitoring report and emission reduction calculations were updated accordingly. Supporting documents, including an email and corrected workbooks, have been provided as evidence. This transparent approach ensures that the impact of the calibration delay on ERs has been appropriately mitigated and corrected.

This is acceptable to the verification team. Hence, the finding is closed.

CL ID	09	Section no.	4.2	Date: 23/12/2024
Description of CL				
For monitored parameter 'Vi,t,wb', VVB has noted that the serial number specified in MR for monitoring equipment at Robinson Deep site and Goudkoppies site did not match the serial number on site. Further, it was noted that the device was recently replaced. PP to transparently disclose the following for both sites: 1. Serial number of the device operational during the current MP. 2. Valid calibration status of device operational during the current MP. 3. Date the device was replaced with new device along with evidence. 4. Serial number of new device that was operational at the time of VVBs on site visit.				
PP response				Date: 07/01/2025
The instruments were replaced either due to communications faults and or inaccuracies in the measured values. Please find attached the instrument replacement forms and the calibration certificates for the instruments installed. The Instrument replacement forms note the old instrument serial number which is in the MR and the also denotes the new instrument serial number which will correspond to the pictures taken on site. For Goudkoppies the MR omitted the instrument changed on the 08/05/2024 and has been updated.				
Documentation provided by PP				
Updated MR provided in tracked changes the clean version 2. GK instrument replacement form dates the 04/12/2024 Calibration certificate for CH4 analyser0 Serial No; 27927 RD instrument replacement form dated the 04/12/2024 Calibration certificate for CH4 analyser Serial No: 27926				
VVB assessment				Date: 10/01/2025
The verification team notices that, the provided forms clearly match the serial numbers with the site photos, ensuring transparency and accuracy. Additionally, the Monitoring Report (MR) has been updated to reflect the Goudkoppies replacement on 08/05/2024, ensuring alignment with the actual equipment installed. The finding is closed.				

CL ID	10	Section no.	MR	Date: 23/12/2024
Description of CL				
PP to clarify how the electricity is exported to the main grid as during interviews with project management, VVB has noted that PP has contractual arrangements with Johannesburg municipality and ESKOM.				
PP response				Date: 07/01/2025
We have a contract with the Johannesburg Municipality for the rights to use the gas and sell the resultant electricity to a buyer. This contract covers the rights to use the gas for electricity and included the generation of carbon emission reductions and manages the relationship between us, the City and Pickup who own and run the landfill sites. Pickup is a section 21 company owned by the municipality. The buyer of the electricity is Eskom and this contract is a Power Purchase Agreement and this agreement covers the sale of electricity at the site to Eskom. The power is sold to Eskom at the project facility substation which is connected to the distribution networks in the area.				
Documentation provided by PP				
None.				
VVB assessment				Date: 10/01/2025
The response provided by the PP addresses the audit finding by detailing the contractual framework governing the electricity export process. The agreement with Johannesburg Municipality grants rights to utilize gas for electricity generation, while the Power Purchase Agreement with Eskom governs the sale of electricity to the national grid. The electricity is transmitted from the project facility substation, which is connected to the local distribution network, ensuring compliance with regulatory requirements. This comprehensive approach clarifies the operational and contractual structure, ensuring that all necessary stakeholders are involved and that the process is effectively managed. This is acceptable to the Verification team. The finding is closed.				

CL ID	11	Section no.	3.1	Date: 23/12/2024
Description of CL				
In the referenced section of MR, PP has not clearly specified the operational capacity of the project in addition to other technical details (For example Number of gas engines, capacity...)				
PP response				Date: 07/01/2025
In section 3.1 we have included details of the flare capacities and generation unit capacities and number of generation units for each of the sites.				
Documentation provided by PP				
Updated MR provided in tracked changes the clean version 2.				
VVB assessment				Date: 08/01/2025
The information provided by the PP in the revised section 3.1 of the Monitoring report v2 adequately clarifies the operational capacities of the project at the developed landfill sites. The response is detailed, listing both flare capacities and the number of electricity generation units, along with the commissioning dates, which addresses the initial concern. The report now provides the necessary technical information for the operational aspects of the completed sites, and the status of the remaining sites is appropriately noted. This is acceptable to the verification team hence, the finding is closed.				

Table 2. CARs from this Verification

CAR ID	01	Section no.	2.1.2	Date: 23/12/2024
Description of CAR				
PP shall comply to the monitoring report template guideline v1.1 requirement by “<i>describing the process for, and the outcomes from, ongoing communication with stakeholders conducted prior to verification</i>” in the referred section of the MR V1. Further, PP is required to provide the attendance registers as well as the minutes of meetings recorded during the meetings as evidence of the ongoing communications.				
PP response				Date: 07/01/2025
We have elaborated on the process for the stakeholders communications and note that in the public engagement folder there are attendance registers on the front page of the minutes of these meetings. A blank template was included by mistake.				
Documentation provided by PP				
<i>Updated MR provided in tracked changes the clean version 2.</i>				
VVB assessment				Date: 08/01/2025
In the referred section of the revised MR v2, PP has elaborated on how it has engaged with stakeholders prior to the verification process. Further, PP has submitted documents which reflect the actual meetings held, demonstrating the process and outcomes of communication with stakeholders. This is acceptable to the verification team. The finding is therefore closed.				

CAR ID	02	Section no.	1.10.2	Date: 23/12/2024
Description of CAR				
In the referred section of the monitoring report version 1, the PP should provide the registration number and all relevant details including the date of project inactivity in the other GHG program. Equally, the PP should provide details related to the crediting period to ensure paras 3.9.7 and 3.23.3 of the VCS standard v4.5 are covered. Further PP should elaborate on details related to the date of total transition to VCS. (PP is requested to provide evidence for the same).				
PP response				Date: 07/01/2025
The project registration number on the UNFCCC is included under the tick boxes and we have elaborated on the when the project was registered and the crediting period it was registered for. The project was never in-active but was not able to obtain any issuance from the UNFCCC after 11 November 2019.				
Documentation provided by PP				
<i>Updated MR provided in tracked changes the clean version 2.</i>				
VVB assessment				Date: 08/01/2025
In the referred section of the revised MR, the PP has effectively addressed the finding by providing the required details. The project's registration number with the UNFCCC (6797) has been included, and the PP clarified that after the signing of Article 6 of the Paris Agreement, the UNFCCC was unable to issue further ERs until the new Supervisory Body and rules were established. Consequently, the project was transferred to VERRA, with a gap validation completed in August 2021 for the crediting period from 27-May-2021 to 26-May-2031. This response provides the necessary clarity and aligns with the VCS standard requirements, ensuring full compliance. The finding is closed.				

CAR ID	03	Section no.	2.3.2 and 2.3.3	Date: 23/12/2024
Description of CAR				

As per template guideline, in the referred section of the MR v1, PP shall <i>Use the table below to identify and summarize any risks related to recognizing, respecting, and promoting the protection of the rights of IPs, LCs, and customary rights holders. Where no risk is identified, write "No risk identified" in the first column, and provide justification in the second column.</i> Compliance with the template guideline is required.	
PP response	Date: 07/01/2025
We have included the tables in section 2.3.2 and 2.3.3 and completed the information required.	
Documentation provided by PP	
Updated MR provided in tracked changes the clean version 2.	
VVB assessment	Date: DD/MM/YYYY
The verification team has noticed that the PP has addressed the finding appropriately across the referred sections of the MR, by ensuring compliance with the template guideline and elaborating the required level of information. This is deemed acceptable to the verification team. Hence, the finding is closed.	

CAR ID	04	Section no.	2.2.1 and 2.3.1	Date: 23/12/2024
Description of CAR				
PP is required to comply to the template form by including the Section 2.2.1 and elaborating appropriate information. Further, PP has not respected the template structure in section 2.3.1. The columns and information must be mentioned separately and not merged for example "Discrimination and sexual harassment should be separated. Compliance to the template is required.				
PP response				Date: 07/01/2025
We have amended the tables to include 2.2.1 and 2.3.1.				
Documentation provided by PP				
Updated MR provided in tracked changes the clean version 2				
VVB assessment				Date: DD/MM/YYYY
PP has revised the MR to include sections 2.2.1 as well as 2.3.1 elaborating appropriate information in both sections. The template structure has equally been respected in both sections. This is acceptable to the verification team. Hence, the finding is closed.				

CAR ID	05	Section no.	ER sheet	Date: 23/12/2024
Description of CAR				
The reported values of Average LFG Flare for the month of July 2024 between the documents «Robinson CER's 2024 (1336.4) and «Consolidated ER Sheet 1 December 2023 to 30 November 2024 V1 (43.1) » have been inconsistently reported. PP is required to revise the same ensuring accurate reporting from database.				
PP response				Date: 07/01/2025
We have checked the ER sheet and it is correct with the LFG Flare value in the ER sheet is in cell B59 and the value of LFG Electricity in cell E59. The value is (1337.4) and not 1336.4.				
Documentation provided by PP				
None				
VVB assessment				Date: 08/01/2025

VVB has cross-checked the ER and notices that the value is correct. The finding is therefore closed.

CAR ID	06	Section no.	Editorial Findings and pending supporting documents	Date: 23/12/2024
Description of CAR				
PP shall ensure - All dates are mentioned in the format <i>DD-Month-YYYY</i>. PP is requested to provide the following documents - /04/ Ex-ante Emission reduction spreadsheet - /08/ CSV (comma separated Values) format - /10/ Photographs of the book of control for recording the measurements of the ruler gauge - /12/ Environmental Management Plan (EMP) developed by PP - /14/ Training records and certificates of staff - /18/ The implementation agreement.				
PP response				Date: 07/01/2025
We have amended all the dates to the format DD-Month-YYYY Ex-ante Emission reductions spreadsheet was provided with the validation and copy included with this response. Please advise what is required in CSV format? The diesel level is recorded in the generator check sheets contained in the Diesel check sheets file which has the slips for diesel purchases and records of the diesel level in the Generator check sheets for each site. The company policy is to always keep the backup diesel generator full. So the check sheets have a tick box next to the section for diesel tank level. If the level is low the technicians will immediately fill the diesel tank and not the volume of fuel filled into the generator. This way we can check diesel used with the slips. The environmental management plan for each site is the annexures in the EIA file. We have extracted them and submitted with this response for ease of reference.				
Documentation provided by PP				
Ex-ante Emission reductions spreadsheet The environmental management plan for each site Training records of the staff who do the calibrations and operations of the flare generators. The Implementation agreement is provided and refer to clause 7 which deal with carbon credits. The wording acknowledges that the project developer owns the carbon credits.				
VVB assessment				Date: 08/01/2025
It has been observed throughout the revised MR (v2) that the PP has complied to template requirement by mentioning all dates in the format DD-MM-YYYY. Further, all the documents have been provided and data found to be appropriate and consistent with MR v2. Hence, the finding is closed.				

CAR ID	07	Section no.	4.2	Date: 23/12/2024
Description of CAR				
PP should mention the latest replacement dates of the Flare UV detector sensors installed at the land fill sites as the validities of the sensors mentioned in the referred section of the MR, for the parameter ($V_{i,t,wb}$) are outdated. Further, in the supporting documents provided, the sensors have more recent replacement dates. PP to ensure consistency between documents.				
PP response				Date: 07/01/2024

The dates in section of the MR have been updated to include the replacement done in 2024 and we removed the date for 2022 as this is out side of the MR period.	
Documentation provided by PP	
<i>Updated MR provided in tracked changes the clean version 2</i>	
VVB assessment	Date: 08/01/2025
The PP has addressed the finding by updating the Monitoring Report to reflect the most recent replacement dates of the Flare UV detector sensors, including the 2024 replacement, and removing the outdated 2022 date. This ensures consistency between the MR and the supporting documents, aligning the sensor replacement information with the current monitoring period. This is acceptable to the verification team. Hence, the finding is closed.	

CAR ID	08	Section no.	4.2	Date: 23/12/2024
Description of CAR				
PP shall ensure consistency between the calibration certificates and the MR. For Total flow meter of Robinson Deep: Serial No (99047502000) and Marie-Louise: Serial No (A309FA02000).				
PP response				Date: 07/01/2025
The date for Robinson Deep was corrected from 2024 to 2023 for Serial No (99047502000). The date for Marie Louise was corrected from 2021 to 2024 for Serial No (A309FA02000).				
Documentation provided by PP				
<i>Updated MR provided in tracked changes the clean version 2</i>				
VVB assessment				Date: 08/01/2025
It has been noticed by the verification team that the PP has revised the MR by revising information to ensure consistency with those in the calibration certificates. The finding is therefore closed.				

CAR ID	09	Section no.	4.2	Date: 23/12/2024
Description of CAR				
In the MR, the PP has provided incorrect references to documents used for the determination of parameters/ calculations in the MR: For example, <i>Consolidated ER Sheet 01-December-2023 to 31-October-2024 V1</i>				
PP response				Date: 07/01/2025
The references in the MR have been checked and updated as the Consolidated ER Sheet V2 has been issued.				
Documentation provided by PP				
<i>Updated MR provided in tracked changes the clean version 2</i>				
VVB assessment				Date: 08/01/2025
PP has updated references across the MR. They now align and this is acceptable to the verification team. The finding is closed.				

Table 3. No FARs from this verification

FAR ID	00	Section no.		Date: DD/MM/YYYY
Description of FAR				
PP response				Date: DD/MM/YYYY

Documentation provided by PP	
VVB assessment	Date: DD/MM/YYYY