



**Verified Carbon
Standard**

**1.6 MW BUNDLED RICE HUSK BASED
COGENERATION PLANT BY M/S MILK
FOOD LIMITED (MFL) IN PATIALA
(PUNJAB) & MORADABAD (U.P)
DISTRICTS**



Certification Pvt. Ltd.

VKU Certification Pvt. Ltd.

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Summary:

VKU Certification Pvt. Ltd. (hereafter referred as VKU) was commissioned by Enen Green Services Private Limited (hereafter referred to as Enen Green Services) to verify the greenhouse gas emission reductions reported for the project activity “**1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts. (VCS ID: 784)**”, covering third monitoring period from **01-January-2022 to 30-June-2023 (Inclusive of both start and end dates)** under second crediting period from **06-May-2019 to 05-May-2029 (Inclusive of both start and end dates)**.

The purpose of the verification: The objective of the verification process is to obtain an impartial evaluation of the ex-post determination of the monitored reductions in greenhouse gas (GHG) emissions. This verification ensure that the monitoring methodology align with the plan outlined in the registered VCS PD/3/ and that the monitoring data, used to confirm reductions in anthropogenic emissions from sources is comprehensive, definitive and transparently presented.

The verification scope of the project is:

- To verify that the project is implemented as described in the registered VCS PD/3/.
- To evaluate the project’s adherence to relevant regulations, including the legislation of the host country (India).
- To verify the implementation and functionality of the monitoring system, ensuring the Verified carbon units without any instances of double counting.
- To verify the accuracy, completeness, consistency, transparency and absence of significant error or omission in the reported data by examining monitoring records and the emissions reduction calculation.
- To ensure that the actual monitoring systems and procedures align with those described in the monitoring plan;
- To assess the GHG emission reduction data and provide a conclusion with a reasonable level of assurance the absence of material misstatement;
- To verify that reported GHG emission data is sufficiently supported by evidence.

Verification was conducted using VKU’s procedures in line with the requirements specified in the VCS program guide version 4.4/8/, VCS standard Version 4.5/9/, VCS validation and verification manual version 3.2/10/, CDM M&P, and CDM Validation & Verification Standard version 3.0/11/, and relevant decisions of the COP/MOP and the CDM EB viz., the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country (India) legislation. Furthermore, standard auditing techniques were applied throughout the verification process.

The verification process included inter alia a desk review, onsite site visit, resolution of outstanding issues and the issuance of the final verification report and certification. This comprehensive

verification is aimed to ensure that the reported emission reductions are thorough and precise, aligning with the relevant VCS requirements, thus enabling the project to obtain certification.

VKU diligently followed the rule-based approach during the verification process, ensuring strict adherence to the applicable VCS requirements. The verification encompassed a comprehensive assessment of the project activity's operations, monitoring procedures, and GHG emission reduction calculations.

During this third verification, it is to note that as a result a total of **Six (06)** findings were identified, comprising **three (03) Corrective Action Request (CAR)**; **three (03) Clarification Request (CL)** and **zero (00) Forward Action Requests (FAR)**. All the findings were raised and successfully resolved by the PP. The same has been discussed in Appendix B of this verification report.

The verification team ensured that the reported emission reductions are complete and accurate by verifying 100% of the data with the supporting documents and evidences made available to the assessment team, This was performed during desk review and also during site visit by conducting personnel interviews and focussed group discussions along with verification of data present on-site in accordance with applicable VCS requirements in order to be certified therefore the verification team has detected no further uncertainties.

The GHG emission reductions were calculated based on the approved methodology AMS I.C, 'Thermal Energy production with or without electricity' Version 21/8/, AMS I.D- Grid connected renewable electricity generation Version 18 and Tool to calculate the emission factor for an electricity system; Version 07.0 /18/ "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion, and the monitoring plan included in the registered VCS project description, version 03 dated 28-August-2020/3/.

Verification Conclusion:

Based on VKU's thorough assessment, it is their professional judgment that the project activity "1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts" (VCS ID 784), fully complies with the applicable requirements of VCS standard version 4.5/9/ and associated guidelines. The project has successfully implemented the designated baseline and monitoring methodology outlined in AMS I.C- Thermal Energy production with or without electricity-Version 21 and AMS I.D- Grid connected renewable electricity generation-Version 18/13/. The monitoring system in place is effective and reliable, ensuring reasonable level of measurement and precision level allowed by the methodology and the VCS standards without any significant discrepancies. As a result, VKU is able to objectively state that the project has achieved an emission reduction of **96,510 tCO_{2e}** during the third monitoring period, which spans from **01-January-2022 to 30-June-2023 (Inclusive of both start and end dates)** under second crediting period i.e., from **06-May-2019 to 05-May-2029 (Inclusive of both start and end dates)**. This certification affirms the project's substantial contributions towards mitigating greenhouse gas emissions.

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1 INTRODUCTION

1.1 Objective

Enen Green Services Private Limited Commissioned VKU Certification Pvt. Ltd. (hereafter VKU) to carry out the third verification of second crediting period and overall, eighth verification of the project “1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts.” (VCS 784) in India. The monitoring period from 01-January-2022 to 30-June-2023 (Inclusive of both start and end dates) under second crediting period i.e., from (06-May-2019 to 05-May-2029; Inclusive of both start and end dates).

The agenda of the verification is to have an independent evaluation of project activity by an accredited validation and verification body against the requirements of the VCS Program Guide Version 4.4 /8/, VCS standard version 4.5/9/ and GHG program applied, on the basis of the registered VCS PD/3/ and applied methodology/13/.

This verification is the for the third monitoring period of 01 year, 06 months or 546 days i.e., from 01-January-2022 to 30-June-2023 (Inclusive of both start and end dates) under second crediting period i.e., from 06-May-2019 to 05-May-2029 (Inclusive of both start and end dates). The project activity adopts renewable crediting period¹ of 10 years period which can be renewed as mentioned in section 1.9 of VCS PD (Version 03) dated 28-August-2020/3/.

Table No 01: Number and time period of Verification under renewable crediting period:

Audit Type	Period (Inclusive of both start and end dates)	Program	VVB Name	Number of years
Validation	<u>06-May-2009 to 05-May-2019</u>	VCS	TUV NORD CERT GmbH	10 years (First crediting period)
Verification	<u>06-May-2009 to 31-May-2011</u>	VCS	TUV NORD CERT GmbH	02 years 00 month and 26 Days

¹ The project activity adopts renewable crediting period of 10 years period which can be renewed for maximum 2 times.

Verification	<u>01-June-2011 to 13-february-2012</u>	VCS	Perry Johnson Registrars Carbon Emissions Services, Inc	00 years 08 month and 13 Days
Verification	<u>14-February-2012 to 31-January-2014</u>	CDM	Perry Johnson Registrars Carbon Emissions Services, Inc	01 years 11 month and 18 Days
Verification	<u>01-February-2014 to 31-December-2017</u>	VCS	LGAi Technological Center, S.A. (Applus+ Certification)	03 years 11 month and 00 Days
Verification	<u>01-January-2018 to 05-May-2019</u>	VCS	Earthood Services Private Limited	01 years 04 month and 05 Days
Renewal of Crediting period	<u>06-May-2019 to 05-May-2029</u>	VCS	Earthood Services Private Limited	10 years (Second crediting period)
Verification	<u>06-May-2019 to 31-December-2020</u>	VCS	LGAi Technological Center, S.A. (Applus+ Certification)	01 years 07 month and 26 Days
Verification	<u>01-January-2021 to 31-Dec-2021</u>	VCS	LGAi Technological Center, S.A. (Applus+ Certification)	01 years 00 month and 00 Days

Verification	01-January-2022 to 30-June-2023	VCS	VKU Certification Pvt. Ltd.	01 years 06 month and 00 Days
Total	06-May-2009 to 30-June-2023	-----	N/A	14 years 01 month and 25 Days

The verification is performed by reviewing evidences & documents submitted to the VKU Assessment Team by PP, for the registered project activity to establish that:

- The project activity has been implemented and operated in strict adherence to the project description /3/ & MR/1/ and that all physical aspects (technology employed, technical specifications of the project equipment's (Boilers, Turbines etc.), metering and monitoring protocols of the project activity have been diligently implemented.
- Monitoring report/1/ and accompanying documentation have been meticulously compiled and are comprehensive in nature.
- The data has been methodically recorded and stored in accordance with the prescribed monitoring methodology outlined in "AMC I.C.: Thermal energy production with or without electricity Version 21 & AMS I.D- Grid connected renewable electricity generation Version 18/13/ and approved monitoring plan.

The verification process aimed to confirm the seamless implementation and full functionality of the monitoring system, ensuring the accurate generation of generation of Verified Carbon Units (VCUs) without any double counting/24/. Additionally, meticulous scrutiny of the monitoring records and emissions reduction calculations has been carried out to guarantee the completeness, consistency, transparency and absence of any material error or omission in the reported data. This aims to establish the reliability and integrity of the data.

This report summarizes the findings of the verification of the project, performed on the basis of VCS Requirements and UNFCCC criteria for CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. VKU adhered to its customary verification process, which is in accordance with VCS Standard version 4.5/9/ for verification. This approach guarantees the uniformity of project operations, monitoring, and reporting.

1.2 Scope and Criteria

The scope of this verification was the independent, objective review and ex-post determination of the monitored reductions in GHG emissions from the "1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts". The verification of this project was based on the validated & registered VCS PD Version 03 dated 28-August-2020/3/ & monitoring report/1/ along with supporting documents

submitted by the project proponent to the VKU verification team. The documents thus submitted to the VKU Assessment Team were reviewed against the following guidance & protocols:

- i) VCS Programme Guide (Version 4.4) /8/
- ii) VCS Standard (Version 4.5) /9/
- iii) VCS Program Definitions (Version 4.4) /6/
- iv) VCS Registration & Issuance Process (Version 4.4) /7/
- v) VCS validation and verification manual (Version 3.2)/10/
- vi) CDM Approved methodology AMS I.C- Version 21/13/
- vii) CDM Approved methodology AMS I.D- Version 18 /13/
- viii) Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion (Version 3)/20/
- ix) Tool to calculate the emission factor for an electricity system (Version 07.0)/18/
- x) Tool for the demonstration and assessment of additionality, (Version 07.0.0)/21/
- xi) CDM Validation and Verification Standard (Version 3.0)/12/

The steps involved are as follows:

- To assess the project's compliance with other relevant rules including the host country (India) legislation.
- To confirm that the monitoring system is implemented and fully functional to generate voluntary carbon units without any double counting.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.

- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement is sufficiently supported by evidence.
- The verification process ensure that the reported emission reductions are comprehensive and accurate in order to be certification.

The verification method and criteria consist of several phases, including:

- Desk review of registered VCS Project Description version 03 on 28-August-2020 /3/, Monitoring Report/1/, ER Sheet/02/ and other supporting documents listed in Table-04 of section 2.2 of this report.
- Onsite visit including interviews & Focussed Group Discussions with Stakeholders & PP representatives involved in project's implementation/37/.
- Resolution of outstanding issues
- VKU's Completeness/Quality check and
- The final Issuance of verification report and applicable VCS Verification Deed of Representation.
- It is important to note that during this verification process VKU is not involved in providing any consultancy to the project proponents. However, requests for clarifications and/or corrective actions may have contributed to improvements in the monitoring process.

1.3 Level of Assurance

All the revisions of the verification report before being submitted to the client were subjected to an independent internal technical review to confirm that all verification activities had been completed according to the pertinent VKU's procedure, with a **Reasonable level of assurance**, as per section 04 clause 4.1.2, 4.1.10 and serial no. 6 of clause 4.1.24 of the VCS Standard version 4.5/9/.

The verification report is based on the Monitoring report /1/, registered VCS PD /3/, supporting documents that were made available to the VKU's assessment team references provided in table-04 and information collected through performing interviews with PP Representatives /Local Stakeholders during onsite visit.

The technical review was performed by technical reviewer(s) team qualified in accordance with VKU's qualification procedure. The assessment team and the technical reviewers consist of the following personnel.

Table 2: The assessment team consist of the following personnel:

Role/Qualification	Gender	Last Name	Middle Name	First Name
Team Leader	Female	Sharma	NA	Deepali
Technical Expert TA 1.1	Male	Kathuria	NA	Sunil
Validator/ Verifier-Trainee	Male	Dhankar	NA	Anil
Project-Trainee	Female	Bhana	NA	Sanjana
Local Expert (India)	Female	Sharma	NA	Deepali

Table 3: The technical reviewer team consists of the following personnel:

Role/Qualification	Gender	Last Name	Middle Name	First Name
Technical Reviewer	Male	K	Kumar	Sanjay
Technical Expert TA 1.1	Male	Ahirwar	Kumar	Vivek

1.4 Summary Description of the Project

Project Overview:

The project activity is utilizing only biomass (rice husk) available in the region as fuel for steam and power (Electricity) generation. The generated steam and power (Electricity) from the project is used for captive consumption in industrial process of MFL (Milk Food Limited). Biomass i.e., Rice Husk here is a carbon neutral fuel and as it does not lead to the emissions of any GHG in the atmosphere. In the absence of the project activity, the steam and electricity would have been supplied to the processing plant by the coal-based boilers and grid respectively.

The project undertaken is a bundle of two cogeneration plants (**Project I & Project II**) implemented in two different states of country India.

	Project I	Project II
Commissioning:	06-May-2009	04-June-2009
Electricity Capacity	1.0 MW	0.6 MW
Thermal capacity	14 TPH	12 TPH
Geo-Coordinates	Latitude 30°22'20.5" N Longitude 76°28'28.0" E	Latitude 28°54'50.10" N Longitude 78°43'23.80" E
Location	Bahadurgarh, Distt. Patiala, State – Punjab, Country – India	Mugalpur urf Agwanpur Mustakam, District: Moradabad, State: Uttar Pradesh, Country: India

Pre – Project Scenario:

Project I (Patiala Plant): The electricity demand of Milk food Limited was met by the grid supply and the steam demand was met by low pressure coal fired boiler of 8 TPH capacity. Coal was consumed in the pre project scenario for thermal energy generation and electric energy is taken from grid for other operations of the plant. As due to additional demand of steam in new casein unit, PP has to increase in-house steam (thermal energy) production. Moreover, being an old and low-pressure boiler, it was inefficient and thus PP thought of a new high-pressure boiler (45 kg/cm²) with co-generation system (to meet electricity demand as well) with enhanced capacity i.e. 14 TPH in-order to replace the old coal-based boiler

Project II (Moradabad Plant): The Project II is a new installation. There was no steam and power demand prior to the proposed project activity as it is a new installation.

Project Scenario:

Project I (Patiala Plant): In the current project scenario, the electric power (from grid) supply has partially been displaced from electric energy generated through steam-based turbine generator and the steam generated from coal fired boiler is completely displaced by the new rice husk-based boiler of the project. Boiler of this cogeneration plant generates 14 TPH of steam with the outlet parameters i.e., pressure 45 kg/cm² (g), and temperature as 420 °C. The part of the steam generated in the boiler i.e. 1.2 TPH at 17kg/cm², 275 °C is fed directly to the process and the rest 12.8 TPH is fed to a back pressure turbine-generator. The bleed steam flow from the turbine is at 17 kg/cm², 3.1 TPH, 240 °C and the exhaust steam flow from the turbine is at 4 kg/cm², 9.7 TPH, 170 °C. This steam is further sent for process requirement. The electricity generating capacity is 1 MW.

Project II (Moradabad Plant): The Project II (Moradabad Plant) is a new installation. The electric power demand has partially been fulfilled from electric energy generated through steam-based turbine generator and the steam demand has completely fulfilled by the rice husk-based boiler. Boiler involved in this cogeneration plant generates 12 TPH of steam with the outlet parameters i.e., pressure 32 kg/cm², and temperature as 400°C. Out of 12 TPH steam generated in the boiler 2.3 TPH is fed to a Dryer at 17 Kg/ cm², 360 °C and another 9.7 TPH of steam is fed to a Back Pressure TG set at 30 Kg/cm², 360 °C, the exhaust steam is at 3 kg/cm², 240 °C. The electricity generating capacity is 0.6 MW.

Biomass Collection, Transportation, Processing and Handling:

For both Project I & Project II

A survey was conducted at the project activity and report has been submitted for availability of Biomass. It is confirmed that there is adequate availability of rice husk within 75 km radius around the sites. During the current monitoring period the maximum distance from where the rice husk is procured is 40 km. The biomass residue used as fuel for the project activity is collected from the local dealers and then transported to the project site through trucks and trolleys. The Biomass laden trucks are weighed on Weigh Bridge (electronic) installed at the entrance gate of the project sites. The biomass is stored in the open area at the project sites. The biomass does not require any processing as it is ready to be fired as received.

Project Outcomes:

The project activity is utilizing only biomass (rice husk) as fuel for steam and power(electricity) generation. Biomass (Rice Husk) is a carbon neutral fuel and as it does not lead to the emissions of any GHG in the atmosphere. The project displaces the steam and electricity generation from coal consumption leading to an emission reduction of 70,113 tCO₂ on annually basis. In the absence of the project activity, the steam and electricity would have been supplied to the processing plant by the coal-based boilers and grid respectively.

VVB's Assessment

The entire project is in continuous operation since its date of commissioning (06-May-2009 is the date of commissioning of the 14 TPH boiler at Project I (Patiala Plant)), as witnessed by the assessment team during onsite visit/38/. Commissioning date was also cross verified against the registered VCS PD/03/ previous Verification report /05/ and commissioning certificates/22/ which were submitted by the PP to the assessment team. Supporting documents was provided by PP as a response to the feedback raised by the assessment team during verification assessment as per section 3.26 and clause 3.26.3 of the VCS Standard version 4.5/09/. As per standard version 4.5, it is an obligation for the project proponent to make available to the validation/verification body the required supporting documents.

By implementing the project activity, the following GHG sources of emissions are reduced/avoided:

Baseline/Source	Generation of electricity by fossil fuel- dominated grid connected power plants	Generation of steam by coal fired boiler
Project Equipment/Sink	The avoidance of GHG emission into the atmosphere is due to generation of electricity by renewable means i.e., Steam Turbine of this project and which is in line with 3.1.1 of ISO:14064 part -2 & 3/71/.	The avoidance of GHG emission into the atmosphere is due to generation of steam by carbon neutral fuel (Biomass) i.e., rice husk fired boiler of this project and which is in line with 3.1.1 of ISO:14064 part -2 & 3/41/.
Baseline GHG emission source reduced/avoided	CO ₂ emissions from fossil fuels and other fuel fired grid connected plants/projects.	CO ₂ emissions from coal fired Boiler.

Hence VKU in adherence to the section 3.1, clause 3.1.8 of the VCS Standard version 4.5/9/ conforms that the capacity of the project was verified from the commissioning certificates/22/ and later verified during site visit while interviewing the site personnels and hence declare that the project capacity is in line with the defined methodology.

As per MR/1/, the electricity generated from the project is used for captive consumption and rice husk (biomass) is used for steam generation with the help of rice husk fired boilers which is confirmed from registered VCS Project Description dated 28-August-2020/3/, Validation report/4/ and last verification report/5/ and interview with PP/37/and onsite inspection/38/.

This information was verified during on site assessment /38/and found to be in line with the details provided in the registered VCS Project Description/3/. The total emission reductions achieved in this monitoring period i.e., from of 01-January-2022 to 30-June-2023 (first and last days included) is **96,510 tCO₂e**.

2 VERIFICATION PROCESS

The registered VCS project “**1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts**” (VCS ID 784) is undergoing third periodic verification of second crediting period and overall eighth verification under VCS with VKU Certification Pvt Ltd. Monitoring period is from 01-January-2022 to 30-June-2023, both dates included and the second crediting period is from 06-May-2019 to 05-May-2029 (both dates included).

The approach adopted to ensure the quality of emission reductions is described in the following sections

2.1 Method and Criteria

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Requirements, i.e., VCS Program Guide Version 4.4/8/, VCS standard document version 4.5/9/. The project activity does not fall under category “grouped projects”, hence no sampling methods was employed by the assessment team and during onsite visit /38/ verification team reviewed 100% data for the Boilers, Turbines, DG Sets involved in this project at sites for the verification of GHG emission reductions generated by the project.

- The GHG emission reductions are based on the approved Baseline and monitoring methodology “AMS I.C.: Thermal energy production with or without electricity” Version 21 & AMS I.D- Grid connected renewable electricity generation Version 18/13/.
- Scope : 01 – Energy Industries (renewable /non-renewable sources)
- Project type: Type I – Renewable energy projects
- This is a bundled project activity.
- This is not a grouped and also a non-AFOLU project.

Tools used for GHG Calculations are as follows as per registered VCS PD version 02 dated 28-August-2020/3/:

- Tool to calculate the emission factor for an electricity system, Version 07.0.0 /18/
- Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion (Version 3)/20/
- Tool for the demonstration and assessment of additionality – Version 07.0.0 (EB 70, Annex 08)/21/

Keeping in line with ISO (14064-3; 2019, clause 06 & 14065-2020, clause 09) Standard guidelines assessment team has framed down the process for completing the verification and has followed the same throughout the execution of audit of the said project VCS 784

The verification consisted of the following phases:

1. **Planning and Intimation to VERRA about site visit:** The assessment team plans the GHG-programme site visit and starts with a desk review. Assessment team also shared a NOVS [Notice of Validation/Verification Services \(NOVS\)](#) Form and submit it to auditing@verra.org, 15 business days before the initial meeting with the project proponent.
2. **Strategic Analysis:** Assessment team performed strategic analysis to understand the activities and complexity of the project and to determine the nature and extent of the verification activities. The results of the strategic analysis shall be used in the risk assessment.
3. **Risk Assessment:** Assessment team performed risk assessment of the GHG statement to identify the risk of a material misstatement or nonconformity with the criteria.
4. **Evidence Gathering Activities:** Using a risk-based approach assessment team prepared evidence gathering activities, to collect sufficient and appropriate evidence upon which the conclusion shall be based. It will also determine whether the GHG statement conforms to the criteria, taking into account the principles of the standards or GHG programme that apply to the GHG statement.
5. **Audit and Sampling Plan:** An audit plan is prepared, including all sub-elements required for an integrated verification process aligned with the contract, scope, objectives, level of assurance, and materiality. the same was documented in VKU.F24W. Audit and Sampling Plan_VKU.VER.139.23_VCS_784.
6. **Evidence Gathering Plan:** The evidence-gathering plan is based on the result of VKU's assessment team risk assessment, it was designed to lower the verification risk. The evidence-gathering plan thus specify the type and extent of evidence-gathering activities.
7. **Client Confirmation and Approval:** The site visit audit plan is sent to the client for review and confirmation/approval via email. Decision to take site visit was based on independent risk assessment, as defined in section 4.1.13 of VCS standard version 4.5/9/.
8. **Document Review:** Relevant documents, such as the verification report, monitoring plan, methodology, VCS PD, and QA/QC procedures, are thoroughly reviewed.
9. **On-Site Assessment:** This includes interviews and evaluation of the actual project scenario.
10. **Resolution of Discrepancies:** Any non-conformities identified during the assessment are addressed and resolved.
11. **Independent Review:** A technical reviewer provides an independent assessment.
12. **Final Verification:** After completeness checks, the verification report and certification are issued.

The following sections outline each step in more detail.

2.2 Document Review

During document review, VKU has applied standard auditing techniques to assess the quality of information provided. The verification was performed primarily based on the review of VCS monitoring report (MR) for “1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts” Version 01 of 20-September-2023 and final Version 03 of 15-February-2024/1/ and the emission reduction (ER) calculations spreadsheet for “1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts” Version 01 dated 20-September-2023 and final version 03 of 15-February-2024 received from the PP /2/. In addition, the registered VCS Project Document (VCS-PD) dated 28-August-2020 /3/ has been specifically referred for baseline estimations and the monitoring plan for the project was reviewed.

As per section 3.26 and clause 3.26.3 of the VCS Standard version 4.5/9/ it is an obligation for the project proponent to make available to the validation/verification body the required supporting documents and data needed to support statements and data as documented in the monitoring report /1/. Thus, the assessment team reviewed the following documents during verification and confirms the requirements have been met.

Table 4: The following table lists the documentation reviewed during the verification:

Current Verification Reference Documents	
/1/	Enen Green Services Private Limited: VCS monitoring report for “1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts.” - Version 01 of 20-September-2023. - Version 02 of 25-January-2024 - Version 03 of 15-February-2024
/2/	Enen Green Services Private Limited: Emission Reduction Calculation spreadsheet for “1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts”, - Version 01 of 20-September-2023. - Version 02 of 25-January-2024 - Version 03 of 15-February-2024
Background Documents/Weblinks	
/3/	<u>Registered VCS PD for the project “1.6 MW Bundled Rice Husk Based Cogeneration</u>

	<u>Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts”, Version 03 dated 28-August-2020 prepared by Enen Green Services Pvt. Ltd.</u>
/4/	<u>Registered RCP Validation Report for the project “1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts”, Version 02 dated 17-September-2020 prepared by Earthhood Services Private Limited</u>
/5/	<u>Registered Previous Verification Report for the project “1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts”, Version 01.1 dated 22-September-2022 prepared by LGAI Technological Center, S.A. (Applus+ Certification)</u>
/6/	<u>VCS program Definitions (Version 4.4) of 29-August-2023</u>
/7/	<u>VCS Registration & Issuance Process (Version 4.4) of 04-October-2023</u>
/8/	<u>VCS Program Guide, version 4.4 of 29-August-2023</u>
/9/	<u>VCS Standard, version 4.5 of 11-December-2023</u>
/10/	<u>VCS Validation and verification manual version 3.2 dated 19-October-2016</u>
/11/	<u>VCS: Monitoring report Template VCS Version 4.2</u>
/12/	CDM Executive Board: Baseline and Monitoring methodologies: <u>AMS I.C. -Thermal energy production with or without electricity Version 21</u> <u>AMS I.D- Grid connected renewable electricity generation Version 18</u>
/13/	<u>VERRA: Project search</u>
/14/	<u>UNFCCC: Project search</u>
/15/	<u>Gold Standard Foundation</u>
/16/	<u>EIA NOTIFICATION dated 14-September-2006</u>
/17/	<u>Tool to calculate the emission factor for an electricity system (Version 07)</u>
/18/	<u>CO₂ Baseline Database for the Indian Power Sector Version 15</u>
/20/	<u>Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion</u>
/21/	<u>Tool for the demonstration and assessment of additionality Version 07.0.0</u>
Reference/Supporting documents submitted by PP to VVB	
/22/	Commissioning certificate of the 2 boilers (12 TPH, 14 TPH)

/23/	Boiler inspection certificates valid for current Monitoring period
/24/	Declaration Letter by PP regarding not availing any other form of Environmental Credit, no double counting of Emission reduction occurred, non-participation in other emission trading schemes and other binding limits
/25/	Invoices for the purchase of Biomass
/26/	Shutdown/Breakdown Details for current monitoring period from 01-January-2022 to 30-June-2023 (inclusive of both start and end dates)
/27/	Certificates of Calibration for all the meters belonging to the project activity
/28/	NCV _{biomass} test certificates
/29/	Grievance Register present at the project activity
/30/	Daily Plant Logbook records of parameters related to Steam & Energy Generation Report
/31/	Employment records of the personnel for current monitoring period from 01-January-2022 to 30-June-2023 (inclusive of both start and end dates)
/32/	Training Details of the concerned personnels for current monitoring period from 01-January-2022 to 30-June-2023 (inclusive of both start and end dates)
/33/	Biomass Consumption Records for current Monitoring Period (01-January-2022 to 30-June-2023, inclusive of both start and end dates)
/34/	Diesel Consumption Records for current Monitoring Period (01-January-2022 to 30-June-2023, inclusive of both start and end dates)
VVB Documents used during Current Verification	
/35/	GPS Google earth software used for Location; <u>Google Earth</u>
/36/	<u>GPS Map Camera: Geotag Photos & Add GPS Location</u>
/37/	Personnel Interviews and Focussed Group Discussions conducted during onsite visit Project Site 1 - 09-November-2023 Project Site 2 – 20 -November-2023
/38/	Site Visit Photographs and attendance sheet on: Project Site 1 - 09-November-2023 Project Site 2 – 20 -November-2023

/39/	VKU-Audit and Sampling Plan_ VKU.VER.139.23_VCS_784
/40/	VKU-Attendance Sheet of Onsite Audit_ VKU.VER.139.23_VCS_784
/41/	ISO 14064-2:2019: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas reductions or removal enhancement. ISO 14064-3:2019: Specification with guidance for verification and validation of greenhouse gas statements

2.3 Interviews

An on-site inspection was performed by the assessment team at project I site location P.O. Bahadurgarh, District: Patiala, State: Punjab, Country: India on 09-November-2023 and at project II site in village: Mugalpur urf Agwanpu Mustakam, District: Moradabad, State: Uttar Pradesh, Country: India on 20-November-2023; Tables 05 & 06 provide a comprehensive overview of the onsite interview process/37/ conducted during the verification. These tables outline the personnel involved in the interviews, along with their respective roles. The interviews specifically targeted individuals responsible for monitoring of the project activity, data collection and management, as well as those involved in the quality assurance and quality control QA/QC procedure. The tables serve to identify the individuals interviewed and provide relevant information regarding their roles within the project. Key personnel interviewed during the opening meeting and closing meeting session of the onsite audit, and the main topics of the interviews are summarized in the table below:

Table 5: Details of Personal Interview & /Focussed Group Discussion with Technical Team

SL.	Name	Gender	Role	Organization	Topic
1	Ashish Agrawal	Male	Manager (Accounts)	Milk Food Limited	Implementation of the project, Baseline emission, Emission reduction calculation, technical description of the project and Monitoring, calibration, grievance mechanism,
2	Avinash Chandra Singh	Male	Factory Manager	Milk Food Limited	
3	Abhishek Kumar	Male	Asst. Manager HR	Milk Food Limited	

4	R.N. Singh	Male	Manager (Manufacturing)	Milk Food Limited	Management practices, data storage, QA/QC procedure.
5	BP Singh	Male	Manager Q.C.	Milk Food Limited	
6	Sanjay Khanna	Male	DGM Engineering	Milk Food Limited	
8	Randhir Singh	Male	Instt. Engineer	Milk Food Limited	
9	Vishal	Male	Engineer	Milk Food Limited	
10	Pulak Mishra	Male	Consultant	Enen Green Services Pvt. Ltd.	

The topics covered during interview ranges from general features and implementation of project to technical details of the project like calibration detail/26/, monitoring and measuring system and data collection, recording and data archiving procedures. The assessment was based on the feedback received during onsite interviews coupled with the documentation.

During Onsite Visit/38/, local stakeholders involved in the projects /37/ have been also interviewed to verify implementation of grievance mechanism and process of its resolution, as mentioned in the Monitoring report/1/ (refer section 1.11, & 2.2 of MR/1/). It also included confirmation of sustainable development claims and verification of the socio-economic impact made by the project on the local community. Assessment team also checked records and observed that the PP has provided opportunities for the locals to express their opinions and grievances, Project developed has put efforts to resolve any issues through effective communication & consultation with stakeholders. Assessment team could verify & confirm all the above statements via focussed group discussions and personal interview/37/ with stakeholders as tabulated below:

Table 6: The stakeholders interviewed are mentioned in the table below

SL.	Name and Role	Gender	Designation	Category	Topic
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PROJECT I (Patiala)					Project activity implementation and its impact on social, economic and environmental parameters of the local people of the area & around the situated project activity. Discussion on ongoing communication procedure and the address of their grievance mechanism followed by the project proponent. Roles and responsibilities, Qualification, salary and working hours staffs. The ongoing trainings provided to the locals for self-employment. Scope and generation of employment in the locality due to the implementation of said project activity in the area.
1	Raju	Male	Security Guard	Local Stakeholder	
2	Harshit Mishra	Male	Store keeper		
3	Naresh Kumar Sharma	Male	Accounts		
4	Vipin Kumar Bansal	Male	Accounts - Executive		
5	Jaiwinder Singh	Male	Maintenance - Fitter		
PROJECT II (Moradabad)					
1	Swaran Singh	Male	Asst. Supervisor Generator (D.G Set)	Local Stakeholder	
2	Bikhanjit Singh	Male	Asst. Supervisor- Refrigeration		
3	Santosh Kumar	Male	Asst. foreman boiler		
4	Maljit Singh	Male	Asst. foreman boiler		
5	Rajiv Kumar Sharma	Male	Manager- Q.C.		

The VKU Assessment Team meticulously documented the information obtained during the interviews with site personnel /37/. This data was recorded using VKU's dedicated form,

specifically VKU.F46W.Attendance Sheet for Audit/40/ Through a comprehensive process involving documentation, desk review, document verification, and interviews with site personnel and local stakeholders, VKU Assessment Team affirms that no negative comments have been received during the current monitoring period. For further details, please refer to section 4.2.2 below

2.4 Site Visits

This project activity is a bundled project activity consisting of two project sites implemented in two states (Punjab & Uttar Pradesh) in country India.

Project Site	Village	District	State	Country	Latitude ²	Longitude
Project Site I	P.O. Bahadurgarh	Patiala	Punjab	India	30° 22'20.5" N	76° 28'28.0" E
Project Site II	Mugalpur urf Agwanpur, Mustakam	Moradabad	Uttar Pradesh	India	28° 54'50.10" N	78° 43'23.80" E

Decision to take site visit was based on independent risk assessment, as defined in section 4.1.13 of VCS standard version 4.5/9/

On-site inspections were performed by the assessment team at both project sites. Project Site I was visited at location P.O. Bahadurgarh, District: Patiala, State: Punjab, Country: India on dated 09-November-2023 and project site II was visited at village: Mugalpur urf Agwanpur Mustakam, District: Moradabad, State: Uttar Pradesh on dated 20-November-2023 to carry out the following:

- An assessment of the implementation of the registered project activity in accordance with the VCS PD /3/ and MR/1/.
- A review of the information flows that have been used to generating, aggregating and reporting the monitoring parameter;
- Interviews/37/ with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in VCS PD /3/.
- A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data source.
- A check of the monitoring equipment including calibration performance/26/ and observations of monitoring practices against the requirements of the VCS PD/3/, the

² Since at the time of project registration there was some editorial mistake in the locations of the project activity, therefore the corrected location of the projects i.e. the exact geo coordinates are updated in section 1.7 of MR. Also PP has requested the deviation for the same in section 3.2.2 of the MR and is assessed by VVB in section 3.3 of this report and found correct.

- applied methodology including applicable tool(s), and wherever applicable, the applied standardized baseline.
- A review of calculations and assumptions made in determining the GHG data and emission reductions.
 - An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

2.5 Resolution of Findings

The aim of this phase of the verification is to address any remaining issues that require clarification to enable VKU to reach a favourable conclusion regarding the project description. In the interest of transparency, a customized verification protocol has been developed for this project activity. The protocol transparently outlines the requirements, method of verification and the outcomes of verifying the specified criteria. The verification protocol is organized into three tables, each containing various columns, which are described as follows: -

A corrective action request (CAR) is raised if one of the following occurs:

- If monitoring and reporting reveal non-conformities with the monitoring plan or methodology, or if the evidence offered to demonstrate conformity is insufficient;
- Errors in the application of assumptions, data, or calculations of emission reductions have been made, which will affect the estimate of emission reductions;
- The project's proponent has not addressed issues encountered in a FAR during validation to be assessed during verification.

A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

A forward action request (FAR) is also raised in cases where any required deviation/information is not fulfilled in current verification and thus needs to be taken up in consequent verification for better transparency thus holding the applicability of the methodology eligible to the project activity and there is no impact of the same on additionality, baseline scenario & emission reduction calculation of project.

Keeping in line with the VCS Standard Version 4.5, Clause 4.1.21 Assessment team has documented a summary of total 06 findings (03 CL, 03 CARs and 00 FARs) were raised during this verification which were closed successfully and details are given under [Appendix B](#) of this report.

2.5.1 Forward Action Requests

This is third periodic verification of the project activity under second crediting period. Based on the review of the VCS Validation Report/4/ and previous VCS Verification Report /5/, no FAR was raised during Validation and previous Verification which needs to be closed during this verification and no FAR was raised during current verification, **(01-January-2022 to 30-June-2023; Inclusive of both start and end dates)**.

2.6 Eligibility for Validation Activities

VKU has not undertaken any validation activities as part of the verification and does not hold accreditation for validation of any pertinent sectoral scope. Therefore, this section is not applicable. It is important to emphasize that during current verification, no validation assessment has been carried out either by VKU itself or parallelly by other certification bodies. This information has been confirmed through focussed group discussions and interview with the PP /37/ during onsite visit.

Assessment team assessed the VERRA's website at the time of submission: <https://verra.org/validation-verification/vku-certification-pvt-ltd/#vcs> wherein the scope of services of VKU certification Pvt. Ltd. is mentioned as verification. VKU Certification Pvt. Ltd is currently undergoing validation accreditation with ANAB for which witness audit has already been conducted. Thus, ensuring that the accreditation details mentioned in FVR is consistent and correct.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

Project's GHG Program Status:

The project has applied for registration under the Verified Carbon Standard (VCS) with VCS-784 during the current monitoring period, which spans from 01-January-2022 to 30-June-2023(inclusive of both dates). This registration status has been confirmed through rigorous scrutiny of the VERRA registry website.

The project is also registered under CDM mechanism of UNFCCC. Reference no of project is 5219. The project has claimed the Credits (CERs) under CDM for the verification period 14-February-2012 to 31-January-2014. However, for the current monitoring period there is no application or registration for verification under CDM mechanism in order to avoid double counting.

The project has not been registered under any GHG program except VCS & CDM. Furthermore, double counting issue has also been assessed and the project verification team has also checked the following registries:

- Gold Standard project database (<https://registry.goldstandard.org/projects?q=&page=1>)
- Carbon Registry-India <https://cri.nccf.in/>
- International Carbon Registry [International Carbon Registry](#)
- GCC PROJECTS PORTAL (globalcarboncouncil.com)
- Bio Carbon registry (<https://biocarbonregistry.com/en/projects/>)
- ICR registry (<https://www.carbonregistry.com/explore/projects>)
- Social Carbon registry (https://wilder.earth/social_carbon)
- UCR registry (<https://www.ucarbonregistry.io/>)
- Cercarbono registry (<https://www.ecoregistry.io/>)

All above stated websites were checked and this assessment team confirms that project isn't available within any of the above stated databases, at the time of this report date and the project hasn't been listed in any of them.

Verification through Declaration:

The Project Proponent (PP) has substantiated this single-registration claim through the declaration /26/ submitted, affirming that the GHG emission reductions achieved by the project during the current monitoring period will not be sought or claimed under any other registries apart from VCS.

Issuance Records Confirmation:

The assessment team further corroborated this by cross-checking the issuance records available on the VERRA and CDM websites. This exhaustive cross-verification process unequivocally confirmed that the emission reductions generated by the project activity have not been, double counted, thus warranting acceptance by the assessment team.

Rejection by other GHG programs

The Project is not rejected by other GHG programs. A declaration/26/ for the same is checked and found correct by the assessment team. Also, assessment team independently verified with the registries websites and checked projects from the PP matching the same project design and found that no such project either exists or were rejected by the registries.

Hence, based on the aforementioned statements, it can be concluded that the project meets the requirements to participate in the VCS Program.

3.2 Methodology Deviations

No instances of methodology deviation have been identified during current monitoring period from 01-January-2022 to 30-June-2023 (both dates included), signifying the adherence and compliance of the project to the prescribed methodologies. Furthermore, it is noteworthy that no methodology deviations were observed during the Validation & and previous VCS Verification processes which were confirmed from the VCS Validation report /4/ and previous VCS Verification reports/5/, affirming the project's steadfast commitment to upholding the designated methodologies and ensuring accurate and reliable results.

3.3 Project Description Deviations

The project participant has requested following deviation from project description during current monitoring period (3rd Verification i.e. 01-January-2022 to 30-June-2023, both days included) under second crediting period.

- **Requested Deviation**

During onsite visit for the current verification (3rd Verification i.e. 01-January-2022 to 30-June-2023) the geo-coordinates of the project activity are noted as **latitude 30°22'20.5" N and longitude 76°28'28.0" E for project I site and latitude 28°54'50.10" N and longitude 78°43'23.80" E for project II site**, which are different as per registered VCS PD. To achieve more precise detection, the PP has revised the monitoring report since at the time of project registration, there was some editorial mistakes in PD, therefore the final location of the project is updated under section 1.7 of the monitoring report. The map image has also been corrected in accordance to the corrected coordinates. The image also showcases nearby sites to contextualize the location of the plant

- **VVB Assessment**

VVB hereby confirms that the location of the project activity as depicted by the geo-coordinates is correct as checked by GPS Map Camera Software during onsite visit & Google Earth Pro during desk-review & Verification Assessment. The methodology's applicability, additionality, or the suitability of the baseline scenario remains unaffected by the deviation and the nature of this deviation is permanent.



There are no other project description deviations applied during this monitoring period or in previous monitoring reports.

3.4 Grouped Project

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

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

Based on the onsite audit conducted with the project proponent (PP) representative at the project's implementation sites, it was determined that the project is implemented as per the requirement of the registered VCD PD/3/.

The main purpose of the project activity is to replace the complete steam generation from coal fired boiler to rice husk (Biomass) boiler and partially displace the grid power (electrical energy) to the electrical energy from steam turbines. The project activity is utilizing only biomass (rice husk) available in the region as fuel and steam and the electrical energy is generated for captive consumption in industrial process of MFL (Milk Food Limited). Biomass (Rice Husk) is a carbon neutral fuel and as it does not lead to the emissions of any GHG in the atmosphere. In the absence of the project activity, the steam and electricity would have been supplied to the processing plant by the coal-based boilers and grid respectively.

This bundled project activity includes the biomass (rice husk) fired boilers, steam turbines (for electricity generation) at each cogeneration project sites. The project activity had procured and utilized biomass (rice husk) available within the 75 km radius from project sites. During the current monitoring period the maximum distance from where the rice husk is procured is 40 km. The biomass residue used as fuel for the project activity is collected from the local dealers and then transported to the project site through trucks and trolleys. The Biomass laden trucks are weighed on Weigh Bridge (electronic) installed at the entrance gate of the project site. The biomass is stored in the open area at the project site. The biomass does not require any processing as it is ready to be fired as received.

At **project I** (Patiala) boiler generates 14 TPH of steam with the outlet parameters i.e., pressure 45 kg/cm² (g), and temperature as 420 °C. The part of the steam generated in the boiler i.e. 1.2 TPH at 17kg/cm², 275 °C is fed directly to the process and the rest 12.8 TPH is fed to a back pressure turbine-generator. The bleed steam flow from the turbine is at 17 kg/cm², 3.1 TPH, 240 °C and the exhaust steam flow from the turbine is at 4 kg/cm², 9.7 TPH, 170 °C. This steam is further sent for process requirement. The electricity generating capacity is 1 MW.

At **project II** (Moradabad) Boiler generates 12 TPH of steam with the outlet parameters i.e., pressure 32 kg/cm², and temperature as 400 °C. Out of 12 TPH steam generated in the boiler 2.3 TPH is fed to a Dryer at 17 Kg/ cm², 360 °C and another 9.7 TPH of steam is fed to a Back Pressure TG set at 30 Kg/cm², 360 °C, the exhaust steam is at 3 kg/cm², 240 °C. The electricity generating capacity is 0.6 MW.

There are no fossil fuels burned or greenhouse gas emissions from this procedure but only in case of emergency or breakdown backup generators are used and for this PP has the accounted the project emissions for the amount of diesel that is consumed by the generators. During the current monitoring period (01-January-2022 to 30-June-2023; Inclusive of both the days) under the second crediting period, no unforeseen incidents or events occur that could significantly impact the operation of the project activity were identified, with the exception of scheduled maintenance and service breakdowns/Shutdowns.

The total duration of these breakdowns/Shutdowns for the current monitoring period was calculated as 61 Days /30/. There was some unexpected downtime of plant & due to routine maintenance etc.

Table no 07: Breakdown/Shutdown for the current Monitoring Period (01-January-2022 to 30-June-2023

Project Activity	Total No. of Days	Duration of Non-operational/shutdown in year 2022	No. of operational /shutdown days in year 2022	Duration of Non-operational/shutdown in year 2023	No. of operational/shutdown days in year 2023	Total No. breakdown /shutdown of Days	Total No. of actual operational Days
Project I	546	11-06-2022 to 24-06-2022	14	16-06-2023 to 30-06-2023	15	29	517
Project II	546	20-07-2022 to 05-08-2022	17	01-06-2023 to 15-06-2023	15	32	514
Total Days	1,092	Total Breakdown/Shutdown of Bundled Project Activity				61 Days	1,031 Days

The total operational days for this bundled project activity were 1,092 Days, representing 546 days of current monitoring period. During the monitoring period, the project activity experienced no unexpected incidents or events that could have had a significant impact on its operation. However, there were some scheduled breakdowns/Shutdowns with actual operating hours as 61 Days, as per technical and manufactures specifications.

Project I:

Total Operational Days of Project I..... = 546 Days

Actual Operating Days = 517 Days

Shutdown/Breakdown Days = 29 Days

Percentage of Shutdown/Breakdown Days..... = 5.3 %

Project II:

Total Operational Days of Project II..... = 546 Days

Actual Operating Days = **514 Days**

Shutdown/Breakdown Days = **32 Days**

Percentage of Shutdown/Breakdown Days..... = **5.86 %**

It's crucial to highlight that these breakdowns did not have substantial impact on the calculation of project activity's reduction of greenhouse gas (GHG) emissions. The breakdowns due to scheduled maintenance activity is as per the manufacture's specification.

The project undertaken is a bundle of two cogeneration plants (namely **Project I & Project II**) out of which the project I is located at Milk food Limited at P.O. Bahadurgarh, District – Patiala, State – Punjab, Country - India with latitude 30°22'20.5" N and longitude 76°28'28.0" E and project II is located at Milk food Limited in Village: Mugalpur urf Agwanpur, Mustakam, District – Moradabad, State – Uttar Pradesh with latitude of 28° 54'50.10" N and longitude of 78° 43'23.80" E. This was confirmed by the assessment team during the onsite audit by using GPS map camera (GPS App) /36/ and by google earth/35/ during the desk review.

There is no change in project design with reference to previous verification/12/and VCS standard version 4.5 /9/ in section 3.3 of the report. The project is implemented as per the description provided in the registered VCS PD/3/. The power rating of the turbine has been verified with the name plates as well as with the technical details mentioned in PD/3/. The same could be verified from the VCS Validation Report/4/ Assessment team confirms that the technical parameters are consistent. The major technical details of the projects are as follows:

Table no 09: Technical specifications of Boiler of Project I

Make:	M/s Cheema Boilers Ltd.
Design capacity	14 TPH
Design pressure	45 Kg/cm ²
Steam temperature	420 ± 5 °C
Thermal Efficiency (%)	78 %
Fuel used	Biomass residue (Rice Husk)

Table no 10: Technical specifications of Turbine of Project I

Make:	M/S Pentagon Turbines Pvt. Ltd.
Design capacity	1000 KW
Inlet Steam Temperature	430 °C
Inlet Steam Pressure	43 kg/cm ²
Purchase date	16-August 2007

Table no 11: Technical specifications of Boiler of Project II

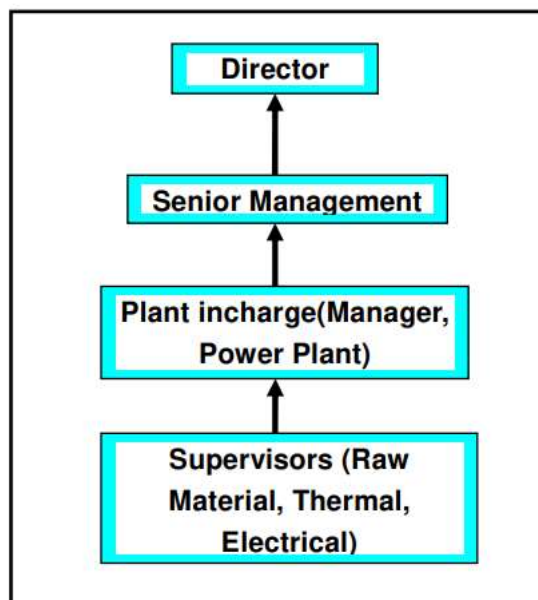
Make:	M/S Industrial Boiler Ltd.
Design capacity	12 TPH
Design pressure	32 Kg/cm ²
Steam temperature	400 ± 5 °C
Thermal Efficiency (%)	78+2 %
Fuel used	Biomass residue (Rice Husk)

Table no 12: Technical specifications of Turbine of Project II

Make:	M/S I.B. Turbo Pvt. Ltd.
Type	Back pressure turbine
Design capacity	600 KW
Inlet Steam Temperature	360 °C
Inlet Steam Pressure	32 kg/cm ²
Purchase date	25-July-2007

The project I was commissioned on 06-May-2009 & the project II was commissioned on 04-June-2009. The project activity underwent continuous operation from the commissioning dates. During the current monitoring period, it was observed that the project underwent continuous operation and no unforeseen incident/event evolved which can impact the operation of the project activity except some scheduled breakdown for maintenance as per manufacturers specification which is acceptable to the assessment team.

The assessment team confirmed through onsite visit & interview/Focussed Group Discussion with PP representative that there is no proposed or actual change to the project design during this monitoring period. It was observed that the monitoring plan was implemented as per the registered VCS PD/3/ and applied methodology. The organizational role and responsibility as mentioned in the registered VCS PD/3/is followed onsite. Meters are calibrated as per calibration frequency in registered PD/3/. All the emergency preparedness as mentioned in MR/1/ are followed onsite and no discrepancies were found regarding the same.



All monitoring personnel undergo comprehensive initial training on equipment operation, data collection, and adherence to the monitoring plan. Regular refresher sessions and specialized training for any replaced new equipment are provided to ensure accurate data collection. Emergency response drills are also conducted periodically, emphasizing specific roles and responsibilities during unexpected situations. These measures ensure that monitoring staff stay informed and well-prepared to handle various monitoring scenarios.

In the event of irregular or unexpected readings, the concerned operator immediately notifies the plant in-charge for investigation, with recalibration initiated if necessary. A clear protocol addresses equipment failures, outlining temporary measures and prompt reporting to management. Communication hierarchies are established for emergencies, ensuring a swift reporting chain. Periodic emergency review meetings analyse past events, fostering continuous improvement. Detailed documentation of emergency events is maintained, and lessons learned are shared during training sessions for ongoing refinement of emergency response plans.

Assessment team confirms following:

- a) There are no material discrepancies between project implementation and the project description provided in the registered PD.
- b) The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analyzing the monitored data and parameters) are implemented as per monitoring plan described in project description and the applied methodology.
- c) There are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the second crediting period (i.e., 06-May-2019 to 05-May-2029) of project description/3/ and the applied methodology/13/.

- d) Materiality threshold applied is 05% as per 4.1.10 of VCS Standard v4.5, It was concluded that the materiality threshold applicable to the project activity based on the type of project i.e., Project is 05%. **This effectively means that there is uncertainty inherent in the estimation of emission reduction of 05%. This is consistent with the section 4.1.10 of VCS standard v4.5 which is equal to 4,825.5 tCO₂e.**
- e) The GHG emission reductions or removals generated by the project have not been included in any emissions trading program or any other mechanism that includes GHG allowance trading/28/.
- f) The project is registered under VCS and CDM; however, PP has submitted the declaration/28/stating, that they will not claim same GHG emission reductions of the project from any other GHG programme for the current monitoring period when project is seeking to get GHG emission reduction from VCS only. Audit team also checked the other GHG programs including GS Registry, GCC, UCR & CR-I, however PP has submitted the declaration/28/ for the same.
- f) The project activity has replaced coal-based boiler with a rice husk-based boiler. As a result, no coal was supplied to the plant location. Whereas the project activity has used rice husk instead of coal as a feedstock for the boiler. Consequently, the Scope 3 emissions associated to the production and supply of rice husk to the project location should be taken into account. Nevertheless, since rice husk is typically considered a waste material destined for landfills or burnt in open areas, its utilization in the project activity does not affect the emissions of goods and services within the supply chain. The project's procurement strategy for rice husk revolves around sourcing it from a radius of 40km and pays for the rice husk and as well as the transportation cost. And so is the case for any industry that is using rice husk as a fuel. The nearest major rice husk consumer is located more than 100km from the project location, so it does not make any business sense for a plant to procure rice husk from 100+ km and pay additional transportation charges when it can procure rice husk from their neighboring areas. Thus, in the absence of the project activity, the rice husk in the region of project location would have gone into landfills or burnt in open areas otherwise, making it a waste material.

Since, it is a waste material and would have gone into landfills or burnt in open areas in the absence of project activity, it will not impact the emissions of goods and services in the supply chain.

Furthermore, by procuring rice husk from nearby suppliers, the project also contributes to the local economy and foster relationships with neighboring businesses. This localized approach promotes sustainability by reducing carbon emissions associated with long-distance transportation and strengthens the project's environmental credentials.

Likewise, the emissions from the transport of rice husk is also considered to have not impacted the emissions of goods and services in the supply chain as it has replaced the transport of coal to the project location. Apart from this there is no change in the operations as the project activity is all about fuel transition in boilers so, whichever fuel is used in the boilers there will be no effect in any categories in Scope 3 except for categories 1 and 4 as defined by the GHG Protocol under Scope 3 emissions.

It's important to note that aside from these changes in the project activity, there have been no alterations to the organization's operations and business. Therefore, there are no other impacts on the emissions of goods and services within the supply chain.

- g) The project activity complies with indicators for **sustainable development** in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India as discussed under **section 1.11 of MR/1/**. Assessment team has verified the same during on site visit/36/ and found all the indicators to be effective and applicable for the project activity.

As per the VCS Standard Version 4.5³ Page no 79, Appendix 03: Document History and Effective dates, For V4.2, serial number 04 states that “it is required by project proponents to demonstrate contributions to a minimum of three SDGs in all monitoring reports verified after the effective date. Effective immediately for all projects that request registration on or after 20-January-2023. Projects that request registration before 20-January-2023 shall demonstrate contributions to at least three SDGs by 20-January-2025”. This is project's third periodic verification of second crediting period for the Monitoring Period 01-January-2022 to 30-June-2023 (Inclusive of both start and end dates), Since this project is registered before 20-January-2023, so the Project Proponent (PP) must demonstrate contributions to at least three SDGs by 20-January-2025.

For the current monitoring period, the PP is voluntarily showing contributions to Six SDGs, as indicated below:

1. **7.2.1 i.e., Renewable energy share in the total final energy consumption** - The project has generated 2,18,715.31 MWh (1,15,420.11 in P-I and 103,295.20 in P-II) of renewable energy by utilising rice husk (Biomass) in current Monitoring period and overall, 20,00,344.51 MWh (10,58,393.88 and 9,41,950.63 MWh in P-I & P-II respectively) renewable energy has been generated by project activity from the beginning of the project activity till the end of this monitoring period.
2. **8.6.1 i.e., proportion of youth (aged 15–24 years) not in education, employment, or training** - The project has provided full time employment to 108 local youths since the start of the project activity till the end of this monitoring period.

³ <https://verra.org/documents/vcs-standard-v4-5/>

3. **9.4.1 i.e., tCO₂ emissions per unit of value added** - The project has retrofitted 2 boilers to generate energy from renewable biomass for captive consumption instead of going for affordable but inefficient fossil fuel fired boilers. This has reduced the carbon intensity from 0.4443 tCO₂/MWh to 0.0010 tCO₂/MWh till this monitoring period.
4. **11.6.2 i.e., Annual mean levels of fine particulate matter (e.g. PM_{2.5} and PM₁₀) in cities (population weighted)** - The project has prevented the release of PM particles into the air by avoiding the burning of 40,946.13 tonnes (21,608.03 and 19,338.10 tonnes in P-I & P-II respectively) of coal in this monitoring period and avoiding the burning of 3,74,488.46 tonnes of coal (sum of 1,98,144.01 tonnes and 1,76,344.45 tonnes of coal in P-I & P-II respectively) which would have happened in the absence of project activity during current and previous monitoring periods.
5. **12.2.1 i.e., Material footprint, material footprint per capita, and material footprint per GDP** - The project has prevented the extraction of fossil fuel by avoiding the burning of 40,946.13 tonnes (21,608.03 and 19,338.10 tonnes in P-I & P-II respectively) and avoiding the burning of 3,74,488.46 tonnes (1,98,144.01 tonnes and 1,76,344.45 tonnes of coal in P-I & P-II respectively) and replaced with renewable biomass for energy generation from the beginning of the project till the end of this monitoring period..
6. **13.2.2 i.e., Total greenhouse gas emissions per year** - By utilizing renewable biomass available in the region for cogeneration of steam and electricity for captive consumption, 96,510 tonnes of carbon (50,873 and 45,637 tCO₂e in P-I & P-II respectively) into the atmosphere during current monitoring period have been avoided. Overall, prevented the release of 9,25,013 tCO₂e (4,89,836 tCO₂e in P-I & 4,35,177 tCO₂e in P-II) emissions to the environment since commissioning of the project activity.

All the above stated information was verified by VKU assessment team during onsite visit/38/ at the project implemented sites and also by interviewing the site personnel and by conducting focussed group discussion with them /37/.

Moreover, the project activity will conserve coal by avoiding the process steam and power generation from coal fired boiler. Also helps in Mitigating the emission of GHG (CO₂) as rice husk is a carbon neutral fuel. The project activity does not fall under the purview of the Environmental Impact Assessment (EIA) notification of the Ministry of Environment and Forest, Government of India (As per Ministry of Environment and Forests (MoEF) Notification No. - S.O. 1533, dated 14th September 2006). Therefore, does not require an Environmental Impact Assessment (EIA). Also, there are no potential harmful socio-economic and environmental effects in the project activities. The net impact under environmental pollution category is positive. The project activity does not have any major adverse impacts on environment during its construction or operational phase. All necessary measures to handle impacts were found in place, which was confirmed during site visit /38/.

Table 10: Assessment of the audit history is as below

Audit Type	Period	Program	VVB Name	Number of years
Validation	<u>06-May-2009 to 05-May-2019</u>	VCS	TUV NORD CERT GmbH	10 years (First crediting period)
Verification	<u>06-May-2009 to 31-May-2011</u>	VCS	TUV NORD CERT GmbH	02 years 00 month and 26 Days
Verification	<u>01-June-2011 to 13-February-2012</u>	VCS	Perry Johnson Registrars Carbon Emissions Services, Inc	00 years 08 month and 13 Days
Verification	<u>14-february-2012 to 31-January-2014</u>	CDM	Perry Johnson Registrars Carbon Emissions Services, Inc	01 years 11 month and 18 Days
Verification	<u>01-February-2014 to 31-December-2017</u>	VCS	LGAi Technological Center, S.A. (Applus+ Certification)	03 years 11 month and 00 Days
Verification	<u>01-January-2018 to 05-May-2019</u>	VCS	Earthood Services Private Limited	01 years 04 month and 05 Days
Renewal of Crediting period	<u>06-May-2019 to 05-May-2029</u>	VCS	Earthood Services Private Limited	10 years (Second crediting period)
Verification	<u>06-May-2019 to 31-December-2020</u>	VCS	LGAi Technological Center, S.A. (Applus+ Certification)	01 years 07 month and 26 Days
Verification	<u>01-January-2021 to 31-Dec-2021</u>	VCS	LGAi Technological Center, S.A. (Applus+ Certification)	01 years 00 month and 00 Days
Verification	01-January-2022 to 30-June-2023	VCS	VKU Certification Pvt. Ltd.	01 years 06 month and 00 Days
Total	06-May-2009 to	N/A	N/A	14 years 01 month and 25

	30-June-2023			Days
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4.2 Safeguards

4.2.1 No Net Harm

There is no negative impact to any socio-economic conditions of the region due to the project activity. Being renewable power generation project there is no negative environmental and socio-economic impacts in fact project activity contributes positively by providing environment friendly power generation leading to sustainable development of the region (as referred under the section 1.11). Also, the generation of local employment/31/ has directly supported the socio-economic development of the status of the project region.

Rational: As per the notifications issued by Ministry of Environment and Forest(Government of India) notification dated 14-September-2006 and notification dated 01-December-2009 (ref:<http://moef.nic.in/downloads/rules-and-regulations/3067.pdf>), regarding the requirement of environmental Impact Assessment (EIA) studies as per the Environmental Protection Rule, 1986 (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii) Ministry of Environment and Forests), any project developer in India needs to file an application to the Ministry of Environment and Forests (including a public hearing and an EIA) in case the proposed industry or project is listed in a predefined list. The renewable energy power Projects are not included in this list and thus, Environmental Impact Assessment for the biomass projects is not required to be done. This project activity will not involve any negative environmental or socio-economic impacts, as the biomass-based boiler are installed for generation of steam and power using biomass as fuel in boiler which is a clean source of energy. Hence no mitigation measures are required.

Throughout the monitoring period, the project operation had no negative impacts on air, water, soil quality, surroundings, or socio-economic factors. The use of Rice Husk to generate energy as a renewable resource not only preserved natural resources but also promoted environmental well-being without any detrimental consequences for the local environment.

Furthermore, the project activity has positively impacted the local community by creating job opportunities during construction and operation phases, as verified through Employment Records/31/ on-site interviews /37/and visits by the VKU Assessment Team.

4.2.2 Local Stakeholder Consultation

The project in question i.e., VCS 784: “1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts” has undergone stakeholder consultation in compliance with the Verified Carbon Standard (VCS) and local

regulations Local community, local villagers and village panchayat, Authorities of the local administration, personals from Punjab State Electricity Board (PSEB), Punjab Pollution Control Board (PPCB), Punjab Energy Development Agency (PEDA), Uttar Pradesh State Electricity Board (UPSEB), Uttar Pradesh Pollution Control Board (UPPCB), Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA), Rice husk suppliers were engaged through multiple phases using methods such as focus group discussions and social mapping.

Stakeholder Engagement Overview:

All the stakeholders have been invited through advertisement in the newspaper, personal letters and public notice to attend the stakeholders meeting. The village Panchayat/local villagers have been informed through munadi (announcement by a hired person in the village/localities) about the project and requested to attend the meeting communicate any suggestions / objections regarding the project activity. A public notice was affixed at main gate of Milkfood Limited An advertisement was published and informed the public regarding the project proposal and invited objections if any. During the stakeholder meeting, the Project Investor introduced the VCS project activity, emphasizing its environmentally friendly nature and contribution to reducing greenhouse gas emissions.

The details of the Stakeholder Meetings are as follows:

Project Site	Date of Advertisement	Date of Meeting	Location of Meeting
Project I	17-July-2009	27-July-2009	Bahadurgarh, District: Patiala, State: Punjab
Project II	17-July-2009	30-July-2009	Village: Mugalpur urf Agwanpur Mustakam, District: Moradabad, State: Uttar Pradesh

Feedback Mechanisms:

Project Proponent is open for continuous interaction with stakeholders and maintaining the stakeholder feedback register place at both the project sites for the comments at any point of time during the project crediting period. Understanding the significance of ongoing dialogue, the Project Proponent has established an inclusive framework for stakeholder engagement. PP has explained this mechanism for on-going communication to the local stakeholders and transparently positioned a dedicated grievance register at the project sites serves as an accessible platform for stakeholders to continually share their feedback, experiences, and concerns. This register, prominently placed at the main gates of the project sites, provides a channel for stakeholders to voice their opinions, ensuring transparency and openness in the project's operations.

Local stakeholders may even meet after prior appointment with appointed person by management for any issues or concern. Appointed person resolves their issues if any and also

notify higher management about their concern and steps taken to resolve their issues. The same will be recorded and reviewed on quarterly basis. No issues and grievance for the project activity has been identified during the current monitoring period.

VVB's Assessment:

The VKU verification team has checked the grievance register which is placed in security guard room at the main entrance gate of the plants (for both the plant sites) and the same has been cross verified from the local stakeholders during stakeholders' engagement process. The VKU verification team did not come across any negative comments or feedback in grievance register and also from local stakeholders during their on-site assessment, as summarized in section 2.2 of MR/1/. As a result, the verification team concluded that the ongoing communication with local stakeholders complies with the established guidelines defined in section 3.18, clause 3.18.3, 3.18.4 of the VCS Standard versions 4.5/9/. The project proponent's efforts in engaging with stakeholders have been deemed suitable and in line with the prescribed requirements. The local stakeholders interviewed in [Interviews](#) section 2.3 of this report confirmed the same. Hence confirming that the project activity does not have a negative impact on the surrounding environment, thus promoting environmental wellbeing, hence complying with the guidelines set in section 3.19 of VCS standard version 4.5.

4.3 AFOLU-Specific Safeguards

The project is a non-AFOLU project, hence this section is not Applicable

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The equations and choices provided in the methodology and all other methodological tools are correctly quoted in the MR/1/. The emission reductions of the project activity are calculated using the formulae mentioned in the applied methodologies i.e. AMS I.C version 21 and AMS I.D version 18 /13/. The verification team has reviewed the emission reduction spread sheets (ER sheets) /2/ and checked all the formulae and they are found correct and are in accordance with the monitoring plan of the PD/3/ and the applied monitoring methodologies.

The project monitoring plan involves total 19 parameter to be monitored;

Data / Parameter	Description	Source of Data
Net Electricity ($EG_{PJ,y}$)	Net electricity generated by project I	On-site instruments (energy meter)
Net Electricity ($EG_{PJ,y}$)	Net electricity generated by project II	On-site instruments (energy meter)
$Q_{fossil, i,y}$	Quantity of fossil fuel (coal) of type i combusted in boiler in year y	On site measurement; plant log sheet/records.

FC_{i,j,y}	Quantity of fossil fuel (diesel) combusted in boiler in year y	On site measurement; plant log sheet/records.
Q_{steam}	Quantity of steam generated from project activity biomass fired boiler	On site measurement taken from steam flow meters.
T_{steam}	Temperature of the steam generated	On site measurement taken from temperature gauge installed at steam outlet from the boiler.
P_{steam}	Pressure of the steam generated	On site measurement from pressure gauge.
Q_{steam,HP,I}	Quantity of steam used in the process at high pressure (after conjunction point of direct and bleed steam) (at high pressure side)	Onsite measurement taken from steam flow meter.
T_{steam,HP,I}	Temperature of the steam used in the process at high pressure (after conjunction point of direct and bleed steam) (at high pressure side)	On-site measurement from temperature gauge installed at steam outlet from boiler
P_{steam,HP,I}	Pressure of the steam used in the process at high pressure (after conjunction point of direct and bleed steam) (at high pressure side)	On-site measurement from Pressure gauge.
Q_{steam,HP,II}	Quantity of steam used in the process at high pressure side	On-site measurement from Steam flow meter.
T_{steam,HP,II}	Temperature of the steam used in the process at high pressure (at high pressure side)	On-site measurement from temperature gauge installed at steam outlet from boiler.
P_{steam,HP,II}	Pressure of the steam used in the process at high pressure (at high pressure side)	On-site measurement from pressure gauge.
Q_{steam,LP}	Quantity of steam extracted from the turbine that is used in the process at low pressure (Exhaust Steam at the outlet of the turbine) (at Low pressure side)	On-site measurement from steam flow meter.

T_{steam,LP}	Temperature of the steam extracted from the turbine that is used in the process (at low pressure side)	On-site measurement from temperature gauge installed at steam outlet from boiler.
P_{steam,LP}	Pressure of the steam extracted from the turbine that is used in the process (at low pressure side)	On-site measurement from Pressure gauge.
T_{FW}	Temperature of the feed water in the boiler	On-site measurement from temperature gauge installed at feed water inlet.
Q_{biomass, l,y}	Quantity of rice husk consumed annually	On-site measurement.
NCV_{biomass}	Net Calorific Value of biomass residue (rice husk)	Third party (lab test of biomass)

All the above stated parameters are incorporated in ER sheet/2/ prepared by PP and has been reviewed by assessment team thoroughly by cross checking the values of Bills/Invoice/ Plant Logbook Records/ Purchase Records submitted by PP and found correct including all the formulae and conversions and aggregations.

The monitoring plan specified in the registered VCS Project Design (PD), is diligently being followed at the site. The assessment team has conducted a thorough verification of the entire information flow, starting from data generation and aggregation to recording, calculation, and reporting of the relevant parameters in the Monitoring Report (MR/1/). The emission reductions are based on the steam generated by the project activity.

The project proponent (PP) has provided all the necessary data for the current monitoring period, ensuring a comprehensive and accurate assessment. The values of all the parameters which were used in deriving the greenhouse gas (GHG) emission reduction, have been found to be well correlated between the data sets and the Emission Reduction (ER) spreadsheet provided by the PP.

The verification of each monitoring parameter has been discussed later in [section 4.5](#).

The appropriateness of default values used in the monitoring report is elaborated below:

Table No: 11 Data and Parameters Available at Validation or Ex-ante parameters:

Parameter	Unit	Description	Value
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EF_{EF,CO_2}	tCO ₂ /TJ	The CO ₂ emission factor per unit of energy of coal that would have been used in the baseline plant in absence of the project activity	94.6 tCO₂/TJ is consistent with the default values, as per table 1.4 of IPCC 2006 Volume 2 Energy. Para 34 of AMS I C version 21, also suggested to adopt IPCC default emission factor.
$\eta_{BL, thermal}$	%	The efficiency of the boiler using coal that would have been used in the absence of the project activity.	82% Manufacturer specification
$EF_{grid,CM,y}$	tCO ₂ /MWh	Combined margin CO ₂ emission factor for Indian grid	0.94193 tCO₂/MWh is consistent with the Central Electricity Authority (CEA) version 15 Value of data
$COEF_{i,y}$	tCO ₂ /litre	The CO₂ emission coefficient of fuel type I (Diesel) (tCO₂/mass or volume unit) It is calculated based on EB 41, Annex 11; $COEF_{i,y} = NCV_{i,y} \cdot EF_{CO_2,i,y}$ Where, $NCV_{i,y}$ = weighted average net calorific value of the fuel type i (Diesel) in year y (GJ/mass or volume unit) $EF_{CO_2,i,y}$ = weighted average CO₂ emission factor of fuel type I (Diesel) in year y (tCO₂/GJ)	0.0032 tCO₂/litre is consistent with Table 1.2 & Table 1.4 Chapter 1 Volumes 2 of IPCC, 2006.
PLF	%	Net Calorific Value of diesel	90% is consistent with Third party Determination report.
$\eta_{BI,biomass}$	%	The efficiency of the project activity biomass-based boiler	78% is consistent with the Manufacturer specification

According to applied methodology AMS.I.C., Thermal energy production with or without electricity Version.21, Sectoral scope: 1, the emissions are calculated as below:

Baseline Emission:

Project I

1. As per para 37 of AMS.I.C., Thermal energy production with or without electricity Version.21 Baseline emissions for supply of electricity to and / or displacement electricity from a grid shall be calculated as per the procedures detailed in "AMS-I.D.: Grid connected renewable electricity generation Version 18.

As per the Para 22 of the AMS.I.D. version 18 and section 4.1 of validated VCS PD:

Baseline emission (t CO₂) = Net Electricity generated (MWh) x EF_{grid,CM,y} (t CO₂e/MWh).

2. For steam/ heat produced using fossil fuels the baseline emissions are calculated as follows:

As per the Para 34 of the AMS.I.C version 21.0 and section 4.1 of validated VCS PD:

The baseline emissions are calculated as follows:

$BE_{thermal, Co2,y} = [(EG_{thermal,y}/\eta_{BL,thermal}) * EF_{EF,CO2}]_{HP} + [(EG_{thermal,y}/\eta_{BL,thermal}) * EF_{EF,CO2}]_{LP}$

The detailed calculation has been provided in section 4.5 of this report and in Excel Sheet.

Project II:

1. As per para 37 of AMS.I.C., Thermal energy production with or without electricity Version.21 Baseline emissions for supply of electricity to and / or displacement electricity from a grid shall be calculated as per the procedures detailed in AMS I.D.: Grid connected renewable electricity generation version 18.

As per the Para 23 of the AMS.I. D version 18 and section 4.1 of validated VCS PD:

Baseline emission (t CO₂) = Net Electricity generated (MWh) x EF_{grid,CM,y} (tCO₂e/MWh)

2. For steam/ heat produced using fossil fuels the baseline emissions are calculated as follows:

As per the Para 34 of the AMS.I.C version 21 and section 4.1 of validated VCS PD:

The baseline emissions are calculated as follows:

$BE_{thermal, Co2,y} = [(EG_{thermal,y}/\eta_{BL,thermal}) * EF_{EF,CO2}]_{HP} + [(EG_{thermal,y}/\eta_{BL,thermal}) * EF_{EF,CO2}]_{LP}$

The detailed calculation has been provided in section 4.5 of this report and in Excel Sheet.

Leakage emissions:

As per para 77 of section 5.4 of the AMS-I.C. Version 21 and section 4.3 of validated VCS PD the energy generating equipment was not transferred from another activity or the existing equipment was not transferred to another activity. Hence, no leakage calculation is required.

As per para 78 of section 5.4 of the AMS-I.C. Version 21 and section 4.3 of validated VCS PD also the biomass residues are transported within a distance of 75 KM that is less than 200 KM. Hence leakage for this part is zero.

Leakage emissions: $LE_y = 0 \text{ tCO}_2\text{e}$

Project Emissions:

As per para 67 of section 5.3.1 of the AMS-I.C. Version 21 and section 4.3 of validated VCS PD project is equipped with a diesel generator to meet the emergency requirements of powerhouse etc. Therefore, CO2 emissions from on-site combustion of fossil fuels ($PE_{FF,y}$) shall be calculated using the latest version of the “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion”

Project emissions out of usage of fossil fuel (diesel) are being accounted as project emissions by using the following equation.

$$PE_{FC,j,y} = \sum_i FC_{i,j,y} \times COEF_{i,y} \quad \text{Equation (1)}$$

$$PE_y = FC_{i,j,y} \times COEF_{i,y}^4 \quad \text{Equation (1)}$$

$$PE_y = PE_{FF,y}^5 \quad \text{Equation (15)}$$

$$COEF_{i,y} = NCV_{i,y} * EF_{CO2,i,y}^6 \quad \text{Equation (4)}$$

Where,

⁴ As per Tool to calculate project or leakage CO2 emissions from fossil fuel combustion Version 03.0 equation 01 has been modified for this project activity.

⁵ As per AMS-I.C. Small-scale Methodology: Thermal energy production with or without electricity Version 21.0 Sectoral scope(s): 01 equation 15 has been modified for this project activity.

⁶ As per Tool to calculate project or leakage CO2 emissions from fossil fuel combustion Version 03.0 equation 04 has been modified for this project activity.

PE_y	Project emissions from the project activity during the year y (t CO ₂)
$PE_{FF,y}$	Project emissions from fossil fuel consumption during the year y (t CO ₂)
$PE_{FC,j,y}$	The CO ₂ emissions from fossil fuel combustion in process j during the year y (tCO ₂ /yr)
$FC_{i,j,y}$	The quantity of fuel type i combusted in process j during the year y (mass or volume unit/yr)
$COEF_{i,y}$	The CO ₂ emission coefficient of fuel type i in year y (tCO ₂ /mass or volume unit)
$NCV_{i,y}$	Is the weighted average net calorific value of the fuel type i in year y (GJ/liter)
$EF_{CO_2,i,y}$	The weighted average CO ₂ emission factor of fuel type i in year y (tCO ₂ /GJ)
PE_y	Project emissions from the project activity during the year y (t CO ₂)
$PE_{FF,y}$	Project emissions from fossil fuel consumption during the year y (t CO ₂)
$PE_{FC,j,y}$	The CO ₂ emissions from fossil fuel combustion in process j during the year y (tCO ₂ /yr)
$FC_{i,j,y}$	The quantity of fuel type i combusted in process j during the year y (mass or volume unit/yr)
$COEF_{i,y}$	The CO ₂ emission coefficient of fuel type i in year y (tCO ₂ /mass or volume unit)
$NCV_{i,y}$	Is the weighted average net calorific value of the fuel type i in year y (GJ/liter)
$EF_{CO_2,i,y}$	The weighted average CO ₂ emission factor of fuel type i in year y (tCO ₂ /GJ)

Calculation for total project emissions:

Combining equation 01 & 04

$$PE_y = FC_{i,j,y} \times NCV_{i,y} * EF_{CO_2,i,y}$$

Project I:

Project Emission = Total diesel consumption X NCV of Diesel X Emission factor of Diesel

Project II:

Project Emission = Total diesel consumption X NCV of Diesel X Emission factor of Diesel

The detailed calculation has been provided in section 4.5 of this report and in Excel Sheet.

Methods and formulae set out in the project description for calculating actual emissions for current monitoring period.

The calculation of emission reduction has been done in accordance with the applied methodology used i.e., AMS-I.C. Small-scale Methodology: Thermal energy production with or without electricity Version 21.0, Sectoral scope: 1/13/. As per the applied methodology, the values of leakage is considered as zero & Project emissions are calculated at actual for the project activity. The equation used for calculation of baseline emission is given below:

$$ER_y = BE_y - PE_y - LE_y \quad \text{Equation (21)}$$

Where;

ER_y = Emission reductions in a given year

BE_y = Baseline emissions in a given year

PE_y = Project emissions in a given year

LE_y = Leakage emissions in a given year

As per calculation mentioned in section 4.1 of registered PD dated 28-August-2020:

Estimated Emission Reduction as in VCS PD for the equivalent period of the current Monitoring period, 01-January-2022 to 30-June-2017 (Inclusive of both the days):	
Monitoring Period Start Date	01-January-2022
Monitoring Period End Date	30-June-2023
Days in Current Monitoring period	546 days
Annual VCU as per VCS PD	70,113 (tCO ₂ e)
Estimated Emission Reduction as in VCS PD for the equivalent period of the current Monitoring period	= (Annual Estimated GHG emission reductions as per revised VCS PD/Total days in a year) *days in current monitoring period = (70,113/365) * 546 = 104,881 (tCO ₂ e) Round down Value
Estimated Emission Reduction	104,881 (tCO ₂ e)
Percentage Difference	-7.98 %

PP has submitted all the evidences like and Invoices, Purchase Records, Bills, Plant logbook/30/ records to VKU Assessment Team for verification and assessment of ER Sheet/2/

The project monitoring has been carried out in accordance with the registered VCS PD version 03 dated 28-August-2020 /3/ and monitoring report of current monitoring period version 02 from 01-January-2022 to 30-June-2023 (Inclusive of both dates) /1/. The monitoring plan laid in monitoring report is being followed at the site. The assessment team has verified the information flow for data & parameters (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values) in the MR/ 1/ by sufficient supporting documents provided by PP and also by interviewing the concerned persons during onsite visit /38/

The emission reductions are purely based on the net electricity and steam generated from project activity. PP has provided all the sufficient data for current monitoring period. The values of the parameter net electricity generation and steam generation by each project plant used in deriving the GHG emission reduction are very well correlated between the data sets and ER spreadsheet/2/ provided by PP. the verification of each monitoring parameter has been discussed later in section 4.5.

Hence VKU Assessment Team can state that the calculation method and formulae used in calculating baseline emission is following the methodology used i.e., AMS-I.C. Small-scale Methodology: Thermal energy production with or without electricity Version 21” & “AMS I.D- Grid connected renewable electricity generation Version 18” /13/. The applied default values, emission factors and assumptions in the calculations are all reasonable. The assumptions, emission factors and default values that were applied in the calculations are justified.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

While verifying the reported emission reduction, VKU ensured that there was a clear audit trail that contained the evidence and records that validate the figures. All source documents that form the basis for assumptions and other information underlying the greenhouse gas (GHG) data are shown above.

When assessing the audit trails, VKU 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/1/, VKU cross-checked the monitoring report against the other sources to confirm that the stated figures were correct. The sources and data referenced are provided in Section 2.2 above.

All records needed for monitoring are archived in line with the requirements of the registered monitoring plan. No significant, lack of evidence and missing data were detected during verification. Hence, the verification team confirms that the monitoring system ensures required quality of the monitoring system to ensure the quality of the monitored data. All internal data are subjected to QA/QC measures.

The operational status of project activity is monitored through onsite visit. For enhancing the QA/QC, training has been provided to the concerned personnel which was further verified from the training records provided by the PP.

Also, PP has set up grievance mechanisms/29/ and rectifies any issues for the operation of the project device. So, VKU's opinion that this method of calculation of emission reductions is

accurate and results in conservative estimation of emission reduction and is line with the applicable VCS requirements and methodologies/13/.

The below tables describe how the parameter, that is to be measured according to the monitoring plan, has been verified to confirm that the actual monitoring complies with the monitoring plan, monitoring data has been thoroughly assessed and that the calibration requirements are met.

The project monitoring plan involves total 19 parameter to be monitored which is further elaborated below:

Table No: 12 Assessment of parameters Net Electricity (EG_{PJ,y})

Parameter	Net Electricity (EG _{PJ,y}) (Net electricity generated by project I)	
Unit	MWh	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated meters, recorded Hourly and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Equipment: Energy meters Serial No.: 07880005 Accuracy: 0.5s Calibration Frequency: Once in a three year. Calibration records has been checked during onsite visit and Results are under the specified

		limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment used is 0.5s, which is as per the registered VCS PD/3/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, calibration interval is in line with the monitoring Plan and applied methodology. The frequency of the calibration is considered for once in three years.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are valid for the whole reporting period. Assessment team has reviewed all the calibration reports/Certificates for the current monitoring period and all was inline with the registered PD.

	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, the calibration is carried out appropriately for current monitoring.
	How were the values in the monitoring report verified?	Cumulative value of Net Electricity (EG_{PJ,y}) for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in MWh. The monthly values were verified from the Plant Logbooks & thus found to be consistent. Value of this parameter for the current monitoring period was verified as 5,669.46 MWh .
	If applicable, has the reported data been cross-checked with other available data?	Not Applicable.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, Energy meter was duly calibrated by accredited agency and Quality Management System will be used and the same procedurally records of net electricity generation will be checked by Plant in charge and a consolidated monthly monitoring report will be submitted to top management for internal review.
Findings	CL#02 & CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

	The emission reduction calculation for the project activity is based on the electricity generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.
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Table No: 13 Assessment of parameters Net Electricity (EG_{PJ,y})

Parameter	Net Electricity (EG _{PJ,y}) (Net electricity generated by project II)	
Unit	MWh	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated meters, recorded Hourly and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/8/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Equipment: Energy meters Serial No.: 104707/227-3706 Accuracy: 0.5s Calibration Frequency: Once in a three year. Calibration records has been checked during onsite visit and Results are under the specified limits.
	Is accuracy of the monitoring equipment as stated in the	Yes, the accuracy of the monitoring equipment used is 0.5s, which is

	monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	as per the registered VCS PD/3/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, calibration interval is in line with the monitoring Plan and applied methodology. The frequency of the calibration is considered for once in three years.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are valid for the whole reporting period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, the calibration is carried out appropriately for current monitoring as per the registered monitoring plan and VCS VWS manual version 3.2/8/.
	How were the values in the monitoring report verified?	Cumulative value of Net Electricity (EG_{PJ,y}) for entire monitoring period 01-January-2022 to 30-June-2023

		(inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in MWh. The monthly values were verified from the Plant Logbooks & thus found to be consistent. Value of this parameter for the current monitoring period was verified as 5,382.04 MWh.
	If applicable, has the reported data been cross-checked with other available data?	Not Applicable.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, Energy meter was duly calibrated by accredited agency and Quality Management System will be used and the same procedurally records of net electricity generation will be checked by Plant in charge and a consolidated monthly monitoring report will be submitted to top management for internal review.
Findings	CL#02 & CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the electricity generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Table No: 14 Assessment of parameters $Q_{\text{fossil}, i, y}$

Parameter	$Q_{\text{fossil}, i, y}$ (Quantity of fossil fuel (coal) of type i combusted in boiler in year y)
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Unit	Tonne	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured using calibrated Weigh bridge, recorded daily and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/8/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Project – I (Patiala –Punjab, India): Equipment: Weigh bridge Serial No. of Project I: 14W800381 Type: Electronic Range: 0 to 40 TON Calibration Frequency: Once in three years Project – II (Moradabad, Uttar Pradesh, India): Equipment: Weigh bridge Serial No. of Project II: 17ES00282 Type: Electronic Range: 0 to 40 TON Calibration Frequency: Once in three years Calibration records has been checked during onsite visit and

		Results are under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment used is as per the registered PD/3/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, calibration interval is in line with the monitoring Plan as outlined in the registered PD and applied methodology. The frequency of the calibration is considered for once in three years.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are valid for the whole reporting period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/8/.

	How were the values in the monitoring report verified?	Cumulative value of $Q_{\text{fossil}, i, y}$ for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in MWh. The monthly values were verified from the Plant Logbooks & thus found to be consistent. Values of this parameter for the current monitoring period was verified as 0 Tonnes.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $Q_{\text{fossil}, i, y}$ in Plant Logbooks, from where reported data can be verified. Also, the reported has been cross-checked with invoices (Purchase Bills) of fossil fuels (Coal).
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place. The data is recorded by the supervisor daily and it is verified by the plant manager by cross checking it with the fossil fuel of type i procurement data (Invoices). Weigh scale was calibrated annually by external accredited agencies.
Findings	CL#02 & CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were	

	recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.
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Table No: 15 Assessment of parameters $FC_{i,j,y}$

Parameter	$FC_{i,j,y}$ - Quantity of fossil fuel(diesel) combusted in boiler in year y	
Unit	Litre	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	The total quantity of diesel consumed will be measured on a regular basis using dip stick/ level gauge or store issues, which is recorded daily and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/8/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Not Applicable
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does	Not Applicable

	the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not Applicable
	Calibration frequency /interval:	Not Applicable
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Not Applicable
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Not Applicable
	Is(are) calibration(s) valid for the whole reporting period?	Not Applicable
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not Applicable.
	How were the values in the monitoring report verified?	Cumulative value of FC_{ij,y} (Quantity of fossil fuel (diesel) combusted in boiler in year y) for entire monitoring period 01-January-2022 to 30-December-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in litre. Value of this parameter for the

		current monitoring period was verified as 42,219 Litre .
	Project I	13,400 Litre
	Project II	28,819 Litre
	Total	42,219 Litre
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of FC_{i,j,y} in Plant Logbooks, from where reported data can be verified. Also, the reported has been cross-checked with invoices (Purchase Bills) of fossil fuels (Diesel).
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place. The data is recorded by the supervisor daily and it is verified by the plant manager by cross checking it with the fossil fuel procurement data (Invoices).
Finding	CL#02 & CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the diesel consumed by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Table No: 16 Assessment of parameters Q_{steam}

Parameter	Q_{steam} (Quantity of steam generated from project activity biomass boiler)
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Tonnes	Tonnes	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated steam flow meter, recorded hourly and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Project – I (Patiala –Punjab, India): Equipment: Steam flow meter Serial no. of equipment: 0612221 Range: 0 to 18 TON Location: Main Steam Line Project – II (Moradabad, Uttar Pradesh, India): Equipment: Steam flow meter Serial no. of equipment: F3056 Range: 0 to 18 TON Location: Main Steam Line Calibration records has been checked during onsite visit and Results are under the specified

		limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment is as per the registered PD/3/ and monitoring plan.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, calibration interval is in line with the monitoring plan of registered VCS PD and applied methodology/13/. The frequency of the calibration is considered for once in three years.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are provided by PP are valid for the whole reporting period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS

		manual version 3.2/10/.						
	How were the values in the monitoring report verified?	Cumulative value of Q_{steam} for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in Tonnes. The monthly values were verified from the Plant Logbooks & thus found to be consistent. Values of this parameter for the current monitoring period was verified as 288,833.8 Tonnes. <table><tr><td>Project I</td><td>153,753.40 Tonnes</td></tr><tr><td>Project II</td><td>135,080.40 Tonnes</td></tr><tr><td>Total</td><td>288,833.8 Tonnes</td></tr></table>	Project I	153,753.40 Tonnes	Project II	135,080.40 Tonnes	Total	288,833.8 Tonnes
	Project I	153,753.40 Tonnes						
	Project II	135,080.40 Tonnes						
	Total	288,833.8 Tonnes						
If applicable, has the reported data been cross-checked with other available data?	Not Applicable.							
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes. The data is recorded by the supervisor every and it is verified by the plant manager. Steam flow meters is calibrated by external accredited agencies.							
Findings	CL#02 & CAR#02 were raised and resolved							
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were							

	recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the quantity of steam generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.
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Table No: 16 Assessment of parameters T_{steam}

Parameter	T _{steam} (Temperature of the steam generated)	
Unit	Degree. Celsius	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated temperature gauge, recorded hourly and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Project – I (Patiala –Punjab, India): Equipment: temperature gauge Serial no. of equipment: T1P521531 Range: 0 to 600 Degree. Celsius. Least count: 5°C

		Location: Main Steam Line Project – II (Moradabad, Uttar Pradesh, India): Equipment: temperature gauge Serial no. of equipment: 150113660003 Range: 0 to 600 Degree. Celsius. Least count: 5°C Location: Main Steam Line Calibration records has been checked during onsite visit and Results are under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment (temperature gauge) used is as per the registered PD/3/ and monitoring plan. It is further verified by calibration records and by interviewing the concerned personnels
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the	Yes, calibration interval is in line with the monitoring plan and applied methodology/13/. The frequency of the calibration is considered for once in three years.

	selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?					
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.				
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are provided by PP are valid for the whole reporting period.				
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/10/.				
	How were the values in the monitoring report verified?	Cumulative value of T_{steam} for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in °C. The monthly values were verified from the Plant Logbooks & thus found to be consistent. Values of this parameter for the current monitoring period was verified as below. <table><tr><td>Project I</td><td>397 °C</td></tr><tr><td>Project II</td><td>400 °C</td></tr></table>	Project I	397 °C	Project II	400 °C
	Project I	397 °C				
	Project II	400 °C				
If applicable, has the reported data been cross-checked with other available data?	Not Applicable.					
Does the data management ensure correct transfer of data and reporting of emission reductions	Yes, data management ensure correct transfer of data and reporting of emission reductions					

	and are necessary QA/QC processes in place?	and are necessary QA/QC processes. The data is recorded by the supervisor every and it is verified by the plant manager. Temperature gauges is calibrated by external accredited agencies.
Findings	CL#02 & CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the electricity temperature of the steam generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Table No: 17 Assessment of parameters P_{steam}

Parameter	P_{steam} (Pressure of the steam generated)	
Unit	Kg/cm ²	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated pressure gauge, recorded hourly and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified

		by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Project – I (Patiala –Punjab, India): Equipment: temperature gauge Range: 0 to 60 Kg/cm². Least Count: 0.5 Serial no. of equipment: DP150KA Location: Main Steam Line Project – II (Moradabad, Uttar Pradesh, India): Equipment: temperature gauge Range: 0 to 70 Kg/cm². Serial no. of equipment: 424-P5-07 Least Count: 0.5 Kg/cm² Location: Main Steam Line Calibration records has been checked during onsite visit and Results under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment (pressure gauge) used is as per the registered PD/3/ and monitoring plan.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different	Yes. The accuracy of monitoring equipment's is valid for the entire range.

	measuring ranges?	
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, calibration interval is in line with the monitoring plan and applied methodology/13/. The frequency of the calibration is considered for once in three years.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are provided by PP are valid for the whole reporting period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/10/.
	How were the values in the monitoring report verified?	Cumulative value of P_{steam} for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in Kg/cm^2. The monthly values were verified from the Plant Logbooks & thus found to be consistent. Values of this parameter for the

		current monitoring period was verified as below.
	Project I	42 Kg/cm ²
	Project II	32 Kg/cm ²
	If applicable, has the reported data been cross-checked with other available data?	Not Applicable.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes. The data is recorded by the supervisor every and it is verified by the plant manager. Pressure gauges is calibrated by external accredited agencies.
Findings	CL#02 & CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the pressure of the steam generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Table No: 17 Assessment of parameters $Q_{\text{steam,HP,I}}$

Parameter	$Q_{\text{steam,HP,I}}$ (Quantity of steam used in the process at high pressure(after conjunction point of direct and bleed steam)(at high pressure side)		
Unit	Tonne		
Means of verification	Criteria/Requirements	Assessment/Observation	
	Measuring /Reading /Recording	Measured	continuously using

	frequency	calibrated steam flow meter, recorded hourly and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Project – I (Patiala –Punjab, India): Equipment: Steam Flow Meter Serial no. of equipment: FTX55PL Location: Bleed Steam Line Range: 0 to 7.50 TPH Calibration records has been checked during onsite visit and Results are under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment is as per the registered VCS PD/3/.
	Is the accuracy valid for the entire measuring range or do different	Yes. The accuracy of monitoring equipment's is valid for the entire

	accuracy levels apply to different measuring ranges?	range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, calibration interval is in line with the monitoring plan and applied methodology/13/. The frequency of the calibration is considered for once in three years.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are provided by PP are valid for the whole reporting period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/10/.
	How were the values in the monitoring report verified?	Cumulative value of $Q_{\text{steam,HP,I}}$ for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in Tonne. The monthly values were verified from the Plant Logbooks & thus found to be consistent. Value of this parameter for the

		current monitoring period was verified as 83,443.91 Tonne .
	If applicable, has the reported data been cross-checked with other available data?	Not Applicable.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place. The data is recorded by the supervisor every hour and it is verified by the plant manager. Steam flow meter is calibrated by external accredited agencies.
Findings	CL#02 & CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based quantity of steam generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Table No: 18 Assessment of parameters $T_{\text{steam,HP,I}}$

Parameter	$T_{\text{steam,HP,I}}$ (Temperature of steam used in the process at high pressure(after conjunction point of direct and bleed steam)(at high pressure side)	
Unit	Degree. Celsius	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated temperature gauge, recorded hourly and aggregated monthly.

	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Project – I (Patiala –Punjab, India): Equipment: Steam flow meter Serial no. of equipment: 06D0023 Location: Bleed Steam Line Range: 0 to 500 DEG. C Calibration records has been checked during onsite visit and Results are under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment is as per the registered VCS PD/3/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration

		frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, calibration interval is in line with the monitoring plan and applied methodology/13/. The frequency of the calibration is considered for once in three years.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are provided by PP are valid for the whole reporting period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately.
	How were the values in the monitoring report verified?	Cumulative value of $T_{\text{steam,HP,I}}$ for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in Degree Celsius. The monthly values were verified from the Plant Logbooks & thus found to be consistent. Value of this parameter for the current monitoring period was verified as 318 °C .
	If applicable, has the reported data	Not Applicable.

	been cross-checked with other available data?	
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place. The data is recorded by the supervisor every hour and it is verified by the plant manager. Temperature gauge is calibrated by external accredited agencies.
Findings	CL#02 & CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the temperature of the steam generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Table No: 19 Assessment of parameters $P_{\text{steam,HP,I}}$

Parameter	$P_{\text{steam,HP,I}}$ (Pressure of steam used in the process at high pressure(after conjunction point of direct and bleed steam)(at high pressure side)	
Unit	Kg/cm ²	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated Pressure gauge, recorded hourly and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS

	methodology? (Yes / No)	PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Project – I (Patiala –Punjab, India): Equipment: Pressure gauge Serial no. of equipment: 04B0078 Location: Bleed Steam Line Range: 0 to 60.00 KG/CM ² Calibration records has been checked during onsite visit and Results under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment is as per the registered VCS PD/3/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line	Yes, calibration interval is in line

	with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	with the monitoring plan and applied methodology/13/. The frequency of the calibration is considered for once in three years.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are provided by PP are valid for the whole reporting period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VWS manual version 3.2/8/.
	How were the values in the monitoring report verified?	Cumulative value of $P_{\text{steam,HP,I}}$ for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in Kg/cm ² . The monthly values were verified from the Plant Logbooks & thus found to be consistent. Value of this parameter for the current monitoring period was verified as 17 Kg/cm² .
	If applicable, has the reported data been cross-checked with other available data?	Not Applicable.
	Does the data management ensure correct transfer of data and	Yes, data management ensure correct transfer of data and

	reporting of emission reductions and are necessary QA/QC processes in place?	reporting of emission reductions and are necessary QA/QC processes in place. The data is recorded by the supervisor every hour and it is verified by the plant manager. Pressure gauge is calibrated by external accredited agencies.
Findings	CL#02 & CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the pressure of the steam generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Table No: 20 Assessment of parameters $Q_{\text{steam,HP,II}}$

Parameter	$Q_{\text{steam,HP,II}}$ (Quantity of steam used in the process at high pressure side)	
Unit	Tonnes	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated steam flow meter, recorded hourly and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered

		monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Project – II (Moradabad, Uttar Pradesh, India): Equipment: Steam Flow Meter Serial no. of equipment: 08092501 Location: Bleed Steam Line Range: 0 to 7.50 TPH Calibration records has been checked during onsite visit and Results under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment is as per the registered VCS PD/3/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the	Yes, calibration interval is in line with the monitoring plan and applied methodology/8/. The frequency of the calibration is

	frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	considered for once in three years.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are provided by PP are valid for the whole reporting period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/8/.
	How were the values in the monitoring report verified?	Cumulative value of $Q_{\text{steam,HP,II}}$ for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in Tonne. The monthly values were verified from the Plant Logbooks & thus found to be consistent. Value of this parameter for the current monitoring period was verified as 35,086.80 Tonne .
	If applicable, has the reported data been cross-checked with other available data?	Not Applicable.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place.

		The data is recorded by the supervisor every hour and it is verified by the plant manager. Steam flow meter is calibrated by external accredited agencies.
Findings	CL#02 & CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the quantity of steam generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Table No: 21 Assessment of parameters $T_{\text{steam,HP,II}}$

Parameter	$T_{\text{steam,HP,II}}$ (Temperature of the steam used in the process at high pressure (at high pressure side))	
Unit	Degree. Celsius	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated temperature gauge, recorded hourly and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk

		review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Project – II (Moradabad, Uttar Pradesh, India): Equipment: Temperature Guage Serial no. of equipment: 3440-M3-07 Location: Bleed Steam Line Range: 0 to 500 DEG. C Calibration records has been checked during onsite visit and Results under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment is as per the registered VCS PD/3/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance	Yes, calibration interval is in line with the monitoring plan and applied methodology/13/. The frequency of the calibration is considered for once in three years.

	with the local/national standards, or as per the manufacturer's specifications?	
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are provided by PP are valid for the whole reporting period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VWS manual version 3.2/8/.
	How were the values in the monitoring report verified?	Cumulative value of $T_{\text{steam,HP,I}}$ for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in Degree Celsius. The monthly values were verified from the Plant Logbooks & thus found to be consistent. Value of this parameter for the current monitoring period was verified as 375 °C.
	If applicable, has the reported data been cross-checked with other available data?	Not Applicable.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place. The data is recorded by the

	supervisor every hour and it is verified by the plant manager. Temperature gauge is calibrated by external accredited agencies.
Findings	CL#02 & CAR#02 were raised and resolved
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the temperature of the steam generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.

Table No: 22 Assessment of parameters $P_{\text{steam,HP,II}}$

Parameter	$P_{\text{steam,HP,II}}$ (Pressure of the steam used in the process at high pressure (at high pressure side))	
Unit	Tonnes	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated Pressure gauge, recorded hourly and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/8/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/

		with site personnel.
	Monitoring equipment	Project – II (Moradabad, Uttar Pradesh, India): Equipment: Pressure gauge Serial no. of equipment: 424-P5-07 Location: Bleed Steam Line Range: 0 to 70 KG/CM² Calibration records has been checked during onsite visit and Results under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment is as per the registered VCS PD/3/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's	Yes, calibration interval is in line with the monitoring plan and applied methodology/13/. The frequency of the calibration is considered for once in three years.

	specifications?	
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are provided by PP are valid for the whole reporting period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VWS manual version 3.2/10/.
	How were the values in the monitoring report verified?	Cumulative value of $P_{\text{steam,HP,I}}$ for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in Kg/cm². The monthly values were verified from the Plant Logbooks & thus found to be consistent. Value of this parameter for the current monitoring period was verified as 30 Kg/cm².
	If applicable, has the reported data been cross-checked with other available data?	Not Applicable.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place. The data is recorded by the supervisor every hour and it is verified by the plant manager. Pressure gauge is calibrated by

	external accredited agencies.
Findings	CL#02 & CAR#02 were raised and resolved
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the pressure of the steam generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.

Table No: 20 Assessment of parameters $Q_{\text{steam,LP}}$

Parameter	$Q_{\text{steam,LP}}$ (Quantity of steam extracted from the turbine that is used in the process at low pressure (Exhaust Steam at the outlet of the turbine) (at Low pressure side))	
Unit	Tonnes	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated steam flow meter, recorded hourly and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.

	Monitoring equipment	Project – I (Patiala –Punjab, India): Equipment: Steam Flow Meter Serial no. of equipment: 061221 Location: Exhaust Steam Line Range: 0 to 7.50 TPH Project – II (Moradabad, Uttar Pradesh, India): Equipment: Steam Flow Meter Serial no. of equipment: J0129-03 Location: Exhaust Steam Line Range: 0 to 6 TPH Calibration records has been checked during onsite visit and Results under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment is as per the registered VCS PD/3/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years,

		which is in line with registered VCS PD /3/.			
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, calibration interval is in line with the monitoring plan and applied methodology/13/. The frequency of the calibration is considered for once in three years.			
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.			
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are provided by PP are valid for the whole reporting period.			
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/10/.			
	How were the values in the monitoring report verified?	Cumulative value of $Q_{\text{steam,HP,II}}$ for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in Tonne. The monthly values were verified from the Plant Logbooks & thus found to be consistent. Value of this parameter for the current monitoring period was verified as below. <table><tr><td>Project I</td><td>70,309.49 Tonne</td></tr><tr><td>Project II</td><td>99,993.60 Tonne</td></tr></table>	Project I	70,309.49 Tonne	Project II
Project I	70,309.49 Tonne				
Project II	99,993.60 Tonne				

	If applicable, has the reported data been cross-checked with other available data?	Not Applicable.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place. The data is recorded by the supervisor every hour and it is verified by the plant manager. Steam flow meter is calibrated by external accredited agencies.
Findings	CL#02 & CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the quantity of steam generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Table No: 21 Assessment of parameters $T_{\text{steam,LP}}$

Parameter	$T_{\text{steam,LP}}$ (Temperature of the steam extracted from the turbine that is used in the process (at low pressure side))	
Unit	Degree. Celsius	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated temperature gauge, recorded hourly and aggregated monthly.
	Is measuring and reporting	Yes, the reporting frequency is in

	frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Project – I (Patiala –Punjab, India): Equipment: Temperature Guage Serial no. of equipment: 06-0093-14 Location: Exhaust Steam Line Range: 0 to 400 DEG. C Project – II (Moradabad, Uttar Pradesh, India): Equipment: Temperature Guage Serial no. of equipment: 91218274 Location: Exhaust Steam Line Range: 0 to 500 DEG. C Calibration records has been checked during onsite visit and Results under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy	Yes, the accuracy of the monitoring equipment used is as per the registered VCS PD/3/.

	of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, calibration interval is in line with the monitoring plan and applied methodology/13/. The frequency of the calibration is considered for once in three years.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are provided by PP are valid for the whole reporting period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/10/.
	How were the values in the monitoring report verified?	Cumulative value of $T_{\text{steam,HP,I}}$ for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is

		reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in Degree Celsius. The monthly values were verified from the Plant Logbooks & thus found to be consistent. Value of this parameter for the current monitoring period was verified as below. <table><tr><td>Project I</td><td>212 °C</td></tr><tr><td>Project II</td><td>250 °C</td></tr></table>	Project I	212 °C	Project II	250 °C
	Project I	212 °C				
	Project II	250 °C				
If applicable, has the reported data been cross-checked with other available data?	Not Applicable.					
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place. The data is recorded by the supervisor every hour and it is verified by the plant manager. Temperature gauge is calibrated by external accredited agencies.				
Findings	CL#02 & CAR#02 were raised and resolved					
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the temperature of the steam generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.					

Table No: 22 Assessment of parameters $P_{\text{steam,LP}}$

Parameter	$P_{\text{steam,LP}}$ (Pressure of the steam extracted from the turbine that is used in the process (at low pressure side))	
Unit	Kg/cm ²	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated Pressure gauge, recorded hourly and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Project – I (Patiala –Punjab, India): Equipment: Pressure gauge Serial no. of equipment: 06-0093/06 Location: Exhaust Steam Line Range: 0 to 10 KG/CM² Project – II (Moradabad, Uttar Pradesh, India): Equipment: Pressure gauge

		Serial no. of equipment: 5034273 Location: Exhaust Steam Line Range: 0 to 10 KG/CM² Calibration records has been checked during onsite visit and Results under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment used is as per the registered VCS PD/3/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, calibration interval is in line with the monitoring plan and applied methodology/13/. The frequency of the calibration is considered for once in three years.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the	Yes, calibration records are

	whole reporting period?	provided by PP are valid for the whole reporting period.				
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/10/.				
	How were the values in the monitoring report verified?	Cumulative value of $P_{\text{steam,HP,I}}$ for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in Kg/cm². The monthly values were verified from the Plant Logbooks & thus found to be consistent. Value of this parameter for the current monitoring period was verified as below: <table><tr><td>Project I:</td><td>3.61 Kg/cm²</td></tr><tr><td>Project II:</td><td>3.79 Kg/cm²</td></tr></table>	Project I:	3.61 Kg/cm ²	Project II:	3.79 Kg/cm ²
	Project I:	3.61 Kg/cm ²				
	Project II:	3.79 Kg/cm ²				
If applicable, has the reported data been cross-checked with other available data?	Not Applicable.					
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place. The data is recorded by the supervisor every hour and it is verified by the plant manager. Pressure gauge is calibrated by external accredited agencies.					
Findings	CL#02 & CAR#02 were raised and resolved					

Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the pressure of the steam generated by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.
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Table No: 23 Assessment of parameters T_{FW}

Parameter	T _{FW} (Temperature of the feed water in the boiler)	
Unit	Degree Celsius	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated temperature gauge, recorded hourly and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Project – I (Patiala –Punjab, India): Equipment: Temperature Guage

		Serial no. of equipment: 03122 Location: Water Inlet Line of Water Range: 0 to 1200 DEG. C Project – II (Moradabad, Uttar Pradesh, India): Equipment: Temperature Guage Serial no. of equipment: 1070043 Location: Water Inlet Line of Water Range: 0 to 1200 DEG. C Calibration records has been checked during onsite visit and Results are under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Yes, the accuracy of the monitoring equipment used is as per the registered VCS PD/3/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line	Yes, calibration interval is in line

	with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	with the monitoring plan and applied methodology/13/. The frequency of the calibration is considered for once in three years.				
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.				
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are provided by PP are valid for the whole reporting period.				
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/8/.				
	How were the values in the monitoring report verified?	Cumulative value of T_{FW} for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in Degree Celsius. The monthly values were verified from the Plant Logbooks & thus found to be consistent. Value of this parameter for the current monitoring period was verified as below. <table><tr><td>Project I</td><td>100 °C</td></tr><tr><td>Project II</td><td>98 °C</td></tr></table>	Project I	100 °C	Project II	98 °C
	Project I	100 °C				
Project II	98 °C					
If applicable, has the reported data been cross-checked with other available data?	Not Applicable.					

	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place. The data is recorded by the supervisor every hour and it is verified by the plant manager. Temperature gauge is calibrated by external accredited agencies.
Findings	CL#02 & CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the temperature of feed water which is used for steam generation by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Table No: 24 Assessment of parameters $Q_{biomass, i, y}$

Parameter	$Q_{biomass, i, y}$ (Quantity of rice husk consumed annually)	
Unit	Tonne	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	Measured continuously using calibrated Weigh bridge, recorded daily and aggregated monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no

		deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Project – I (Patiala –Punjab, India): Equipment: Weigh bridge Serial no. of equipment: 14W800381 Range: 0 to 40 TON Type: Electronic Project – II (Moradabad, Uttar Pradesh, India): Equipment: Weigh bridge Serial no. of equipment: 17ES00282 Range: 0 to 40 TON Type: Electronic Range: 0 to 40 TON Calibration records has been checked during onsite visit and Results under the specified limits.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per	Yes, the accuracy of the monitoring equipment (weigh bridge) used is as per the registered PD/3/ and Monitoring Report for current Monitoring period.

	the manufacturer's specification?	
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	As per MR /1/ Calibration frequency is once in three years, which is in line with registered VCS PD /3/.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes, calibration interval is in line with the monitoring Plan and applied methodology. The frequency of the calibration is considered for once in three years.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, calibration is carried out by third party institution.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, calibration records are valid for the whole reporting period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes, calibration carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/10/.
	How were the values in the monitoring report verified?	Cumulative value of $Q_{\text{biomass}, i, y}$ for entire monitoring period 01-January-2022 to 30-June-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in Tonnes. The monthly values were verified from the Plant Logbooks &

		thus found to be consistent. Values of this parameter for the current monitoring period was verified as below: <table><tr><td>Project I:</td><td>46,418 Tonnes</td></tr><tr><td>Project II:</td><td>40,153 Tonnes</td></tr></table>	Project I:	46,418 Tonnes	Project II:	40,153 Tonnes
	Project I:	46,418 Tonnes				
	Project II:	40,153 Tonnes				
If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of Q_{biomas, i,y} in Plant Logbooks, from where reported data can be verified. Also, the reported has been cross-checked with invoices (Purchase Bills) of fossil fuels (Coal).					
Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place. The data is recorded by the supervisor daily and it is verified by the plant manager by cross checking it with the fossil fuel of type i procurement data (Invoices). Weigh scale was calibrated annually by external accredited agencies.					
Findings	CL#02 & CAR#02 were raised and resolved					
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is based on the quantity of rice husk consumed/utilised by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.					

Table No: 25 Assessment of parameters $NCV_{biomass}$

Parameter	$NCV_{biomass}$ – (Net Calorific Value of biomass residue (rice husk))	
Unit	Kcal/kg	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	The Net Calorific Value of biomass residue (rice husk) will be checked on annually basis through Govt. approved independent laboratory.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes, the reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Not Applicable
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	Not Applicable
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not Applicable
	Calibration frequency /interval:	Not Applicable

	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Not Applicable												
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Not Applicable												
	Is(are) calibration(s) valid for the whole reporting period?	Not Applicable												
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Not Applicable.												
	How were the values in the monitoring report verified?	Cumulative value of NCV_{biomass} (Net Calorific Value of biomass residue (rice husk)) for entire monitoring period 01-January-2022 to 30-December-2023 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/. Value of this parameter for the current monitoring period was verified as below. <table><tr><td colspan="2">Project I</td></tr><tr><td>21-03-2022</td><td>2,988 Kcal/kg</td></tr><tr><td>12-01-2023</td><td>3,011 Kcal/kg</td></tr><tr><td colspan="2">Project II</td></tr><tr><td>13-04-2022</td><td>2,968 Kcal/kg</td></tr><tr><td>15-02-2023</td><td>2,974 Kcal/kg</td></tr></table>		Project I		21-03-2022	2,988 Kcal/kg	12-01-2023	3,011 Kcal/kg	Project II		13-04-2022	2,968 Kcal/kg	15-02-2023
Project I														
21-03-2022	2,988 Kcal/kg													
12-01-2023	3,011 Kcal/kg													
Project II														
13-04-2022	2,968 Kcal/kg													
15-02-2023	2,974 Kcal/kg													

	If applicable, has the reported data been cross-checked with other available data?	Not Applicable.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place. The net calorific value of the biomass is obtained from the external Govt. approved independent laboratory. As it is a 3rd party lab it is not linked with PP in any manner. Therefore, VVB able to confirm that the data management system is effective and reliable
Finding	CL#02 & CAR#02 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is calculated based on the NCV value of rice husk (Biomass) which is used for steam generation by the project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

During the verification assessment of the project activity, accuracy of all the metering have been checked and found appropriate by assessment team during onsite visit/36/. The installation and working conditions of the meters were checked during the site inspection/36/ and were found to be satisfactory as compared to the provision of calibration/testing frequency, prescribed under the VCS PD/3/, the meters are supposed to undergo testing/calibration once in three years. Details of meters are provided in below table:

Table No: 18 Calibration details of meters: The calibration details of meters installed are as below.

Meters located at Project I (Patiala):

S. N.	NAME	LOCATION	APPLICATION	ACCURACY CLASS OR RANGE OF EQUIPMENT	LEAST COUNT	SR. NO.	CALIB. DATE	VALID TILL
1.	DIGITAL ENERGY METER	STEAM TURBINE	MONITORING ENERGY PROD BY TURBINE	R T R	1 KWH	07 880005	08-05-2021, 07-05-2022, 06-05-2023	05-05-2024
2.	DIGITAL FLOW INDICATOR AND TOTALISER	MAIN STEAM LINE	MAIN STEAM FLOW INDICATOR AND TOTALISER	Range: 0 to 18 Ton	0.01 %	N/A	25-03-2021, 24-03-2020, 23-03-2023	22-03-2024
3.	FLOW TRANSMITTER	MAIN STEAM LINE	MAIN STEAM FLOW TRANSMITTER	Range: 0 to 7500 MM H ₂ O	0.1 MMH ₂ O	0237802	06-02-2021	05-02-2024
4.	DIGITAL PRESSURE INDICATOR	MAIN STEAM LINE	SUPER HEATER HEADER PRESSURE	Range: 0 to 60.00 KG/CM ²	0.5 KG/CM ²	DP1 50KA	27-03-2021, 26-03-2022, 25-03-2023	24-03-2024
5.	PRESSURE TRANSMITTER	MAIN STEAM LINE	MAIN STEAM PRESSURE TRANSMITTER	Range: 0 to 80 bar	0.1 BAR	08D0011	06-02-2021	05-02-2024
6.	DIGITAL PID CONTROLLER	MAIN STEAM LINE	MAIN STEAM TEMPRATURE MEASURING	Range: 0 to 600°C	5°C	T1P521531	06-06-2021, 04-06-2022, 29-05-2023	28-05-2024
7.	DIGITAL FLOW	BLEED	BLEED STEAM FLOW	Range: 0 to	0.01 TPH	FTX55PL	08-05-2021,	05-05-2024

	INDICATOR AND TOTALISER	STEAM LINE	INDICATOR AND TOTALISER	7.50 TON			07-05-2022, 06-05-2023	
8.	FLOW TRANSMITTER	BLEED STEAM LINE	BLEED STEAM FLOW TRANSMITTER	Range: 0 to 10000 MMH ₂ O	0.1 MMH ₂ O	91M728060	06-02-2021	05-02-2024
9.	DIGITAL PID CONTROLLER	BLEED STEAM LINE	BLEED STEAM PRESSURE MEASURING	Range: 0 to 60.00 KG/CM ²	0.01 KG/CM ²	04B0078	27-03-2021, 26-03-2022, 25-03-2023	24-03-2024
10.	PRESSURE TRANSMITTER	BLEED STEAM LINE	BLEED STEAM PRESSURE	Range: 0 to 60 bar	0.1 BAR	0249655	06-02-2021	05-02-2024
11.	DIGITAL PID CONTROLLER	BLEED STEAM LINE	BLEED STEAM TEMPRATURE MEASURING	Range: 0 to 500°C	5°C	06D0023	27-03-2021, 26-03-2022, 25-03-2023	24-03-2024
12.	DIGITAL FLOW INDICATOR AND TOTALISER	EXHAUST STEAM LINE	EXHAUST STEAM FLOW INDICATOR AND TOTALISER	Range: 0 to 7.50 TPH	0.01 TPH	0612221	01-04-2021, 31-03-2022, 30-03-2023	29-03-2024
13.	FLOW TRANSMITTER	EXHAUST STEAM LINE	EXHASUT STEAM FLOW TRANSMITTER	Range: 0 to 3800 MMH ₂ O	0.1 MMH ₂ O	00271118 09/06	06-02-2021	05-02-2024
14.	DIGITAL PID CONTROLLER	EXHAUST STEAM LINE	EXHAUST STEAM PRESSURE	Range: 0 to 10 KG/CM ²	0.01 KG/CM ²	05L0012	23-01-2021, 22-01-2022, 21-01-2023	20-01-2024
15.	PRESSURE TRANSMITTER	EXHAUST STEAM LINE	EXHAUST STEAM PRESSURE	Range: 0 to 8 KG/CM ²	0.1 KG/CM ²	06G0098	06-02-2021	05-02-2024

16.	TEMPERATURE GAUGE 4 INCH	EXHAUST STEAM LINE	EXHAUST TEMPERATURE MEASURING	Range: 0 to 400°C	1°C	06-0093/14	27-03-2021, 26-03-2022, 25-03-2023	24-03-2024
17.	PRESSURE GAUGE	EXHAUST STEAM LINE	EXHAUST PRESSURE MEASURING	Range: 0 to 10 KG/CM ²	0.1 KG/CM ²	06-0093/06	06-03-2021, 05-03-2022, 04-03-2023	03-03-2024
18.	DIGITAL TEMP. INDICATOR	STEAM BOILER	FEED WATER TEMPERATURE INDICATION	Range: 0 to 1200°C	1°C	03122	01-04-2021, 31-03-2022, 30-03-2023	29-03-2024
19.	DIGITAL WEIGHING INDICATOR	WEIGH BRIDGE	MATERIAL WEIGHING INDICATION	Range: 0 to 40 TON	5 KG	14W800381	15-12-2021, 09-12-2022	08-12-2023

Meters located at Project II (Moradabad):

S. N.	NAME	LOCATION	APPLICATION	ACCURACY CLASS OR RANGE OF EQUIPMENT	LEAST COUNT	SR. NO.	CALIB. DATE	VALID TILL
1.	DIGITAL ENERGY METER	STEAM TURBINE	MONITORING ENERGY PROD BY TURBINE	R T R	1 KWH	104707/227- 3706	18-11-2021, 07-09-2022	06-09-2023
2.	TEMPERATURE GAUGE 4 INCH	STEAM TURBINE	INLET STEAM TEMPERATURE	Range: 0 to 600°C	5°C	GG17020270	18-11-2021, 07-09-2022	06-09-2023

			MEASURING					
3.	DIGITAL FLOW INDICATOR AND TOTALISER	MAIN STEAM LINE	MAIN STEAM FLOW INDICATOR AND TOTALISER	Range: 0 to 18 Ton	0.01 %	AL1380115	18-11-2021, 07-09-2022	06-09-2023
4.	PRESSURE GAUGE 12 INCH	MAIN STEAM LINE	MAIN LINE STEAM PRESSURE MEASURING	Range: 0 to 70.00 KG/CM ²	0.5 KG/CM ²	424-P5-07	18-11-2021, 07-09-2022	06-09-2023
5.	TEMPERATURE GAUGE 6 INCH	MAIN STEAM LINE	MAIN LINE STEAM TEMPRATURE MEASURING	Range: 0 to 600°C	5°C	150113660003	18-11-2021, 07-09-2022	06-09-2023
6.	PRESSURE/FLOW TRANSMITTER	MAIN STEAM LINE	MAIN STEAM FLOW TRANSMITTER	Range: 0 to 10000 MM H ₂ O	0.1 MMH ₂ O	06027897	18-11-2021, 07-09-2022	06-09-2023
7.	DIGITAL FLOW INDICATOR AND TOTALISER	EXHAUST STEAM LINE	EXHAUST STEAM FLOW INDICATOR AND TOTALISER	Range: 0 to 6.0 TPH	0.01 TPH	J0129-03	18-11-2021, 07-09-2022	06-09-2023
8.	FLOW TRANSMITTER	BLEED STEAM LINE	BLEED STEAM FLOW TRANSMITTER	Range: 0 to 10000 MMH ₂ O	0.1 MMH ₂ O	91H749346	18-11-2021, 07-09-2022	06-09-2023
9.	PRESSURE GAUGE 12 INCH	EXHAUST STEAM LINE	EXHAUST STEAM PRESSURE MEASURING	Range: 0 to 70.00 KG/CM ²	0.5 KG/CM ²	424-P5-05	18-11-2021, 07-09-2022	06-09-2023
10.	DIGITAL FLOW INDICATOR AND TOTALISER	EXHAUST STEAM LINE	EXHAUST STEAM FLOW INDICATOR AND TOTALISER	Range: 0 to 12 TPH	0.1 TPH	J0129-04	18-11-2021, 07-09-2022	06-09-2023

11.	FLOW TRANSMITTER	EXHAUST STEAM LINE	EXHASUT STEAM FLOW TRANSMITTER	Range: 0 to 2500 MMH ₂ O	N/A	91H749345	18-11-2021, 07-09-2022	06-09-2023
12.	TEMPERATURE GAUGE 4 INCH	EXHAUST STEAM LINE	EXHAUST TEMPERATURE MEASURING	Range: 0 to 500°C	5°C	91218274	18-11-2021, 07-09-2022	06-09-2023
13.	PRESSURE GAUGE 4 INCH	EXHAUST STEAM LINE	EXHAUST PRESSURE MEASURING	Range: 0 to 10 KG/CM ²	0.1 KG/CM ²	5034273	18-11-2021, 07-09-2022	06-09-2023
14.	DIGITAL TEMP. INDICATOR	STEAM BOILER	FEED WATER TEMPRATURE INDICATION	Range: 0 to 1200°C	1°C	1070043	18-11-2021, 07-09-2022	06-09-2023
15.	DIGITAL WEIGHING INDICATOR	WEIGH BRIDGE	MATERIAL WEIGHING INDICATION	Range: 0 to 40 TON	5 KG	17ES00282	26-05-2022, 26-05-2023	26-06-2024

Calibration: These measuring instruments viz., weigh bridge, thermos gauges, pressure gauges and energy meters are calibrated from third party instrumentation labs once in a three year, and records of it are maintained. All the monitoring equipment's required for the calculation of emission reductions have been installed after procedural check; therefore, there is less possibility of defects. However, all these equipment's are daily inspected by the concerned operator while taking the reading. In case of any irregular reading or unexpected reading the shift in charge is informed for further check and calibration of the equipment's. It is evident from the above table that calibration for the meters is carried out as per the frequency mentioned in the registered monitoring plan and hence no delay in calibration identified during the current monitoring period.

The details of monitoring equipment are involved in the project activity and their calibration details/26/ are mentioned in Appendix 1 of the VCS MR/1/. The meters have been checked through photos in Verification On- visit and the meter details are found to be consistent with that observed during the site visit.

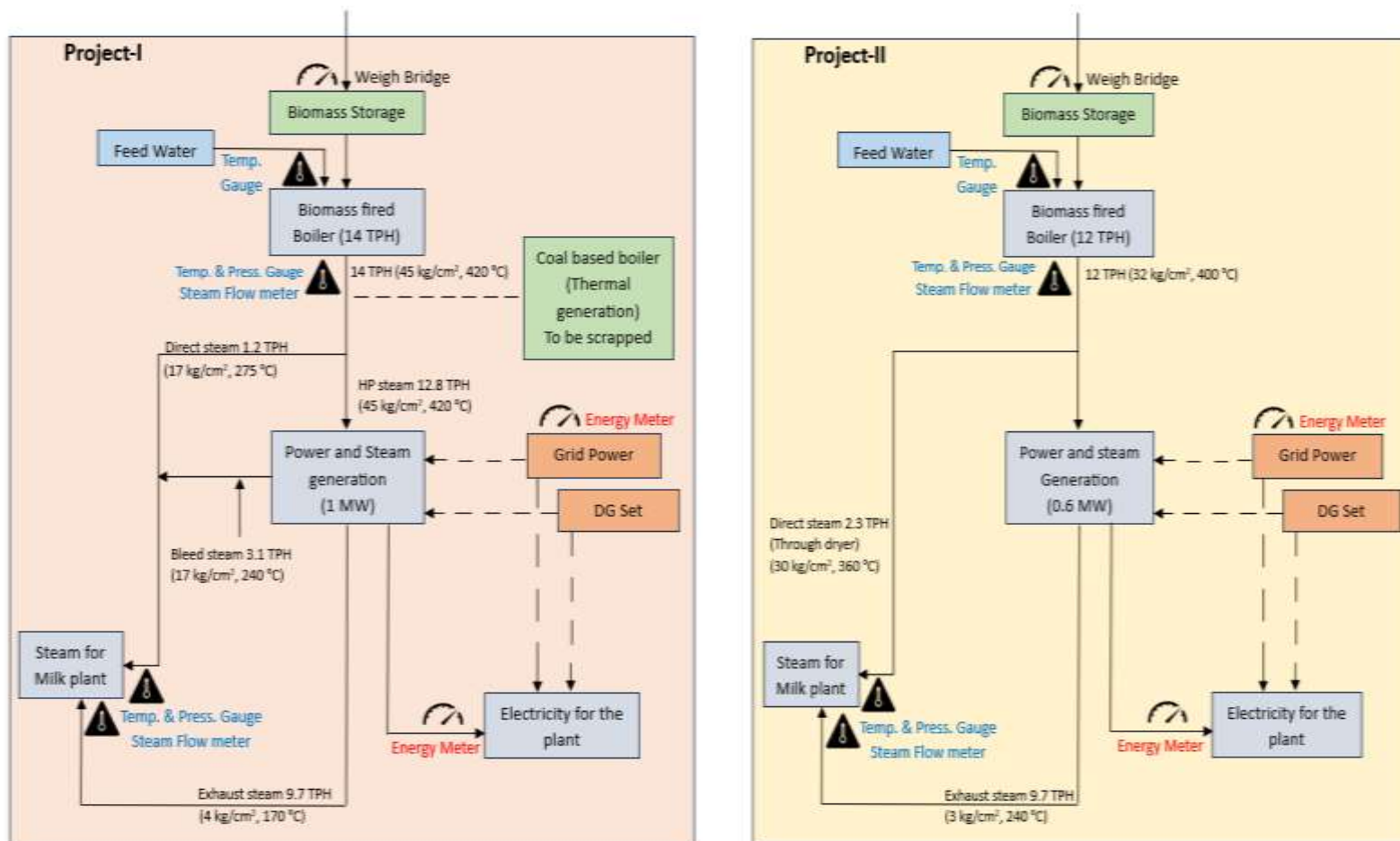
Data Measurement & Recording:

The project proponent has practiced the monitoring as per the designed measurement & verification plan and ensures the proper, regular measurement and recording of the data pertaining to the GHG emission reduction.

For carrying out the task of monitoring, the responsibilities were lined with a monitoring team consisting of supervisors (for raw material feed, thermal energy and electrical energy). Hourly and daily recording of all monitoring parameters were done by supervisors. Daily plant records were properly reviewed by plant in-charge.

In the event of irregular or unexpected readings, the concerned operator immediately notifies the plant in-charge for investigation, with recalibration initiated if necessary. Site In charge create a daily progress report of the project and accumulate daily reading on monthly basis.

The single line diagram for the data collection and management system is given below:



Single line diagram for Implemented Project-I & Project-II along with meter location

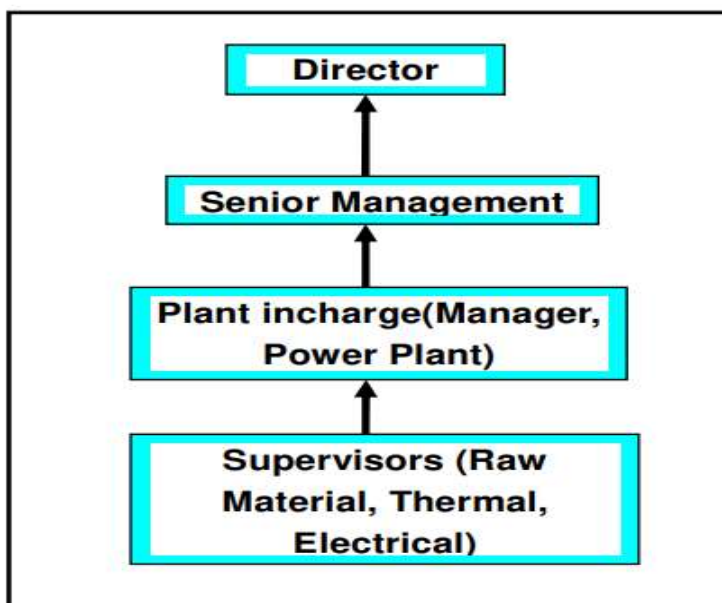
Data Transfer and Archiving Policy:

Measured values of all the instruments (e.g., Weight bridge, Steam Flow Meter, Pressure Gauge, Temperature gauge, Electric Energy Meter) are recorded on Paper. The frequency of the recording the values of monitoring instruments is hourly or daily. However all the instruments measured the parameters continuously. Plant records such as log books, purchase receipts, calibration certificates of measuring devices, and public data such as IPCC and CEA are maintained systematically as verified by the assessment team during the site visit and found appropriate.

QA/QC Procedure:

Monthly consolidated report of the cogeneration plant performance parameters were submitted to the top management for review and regular internal audits were conducted by the top management in every three months. No, ambiguities/NC was detected during the internal audits. In the event of irregular or unexpected readings, the concerned operator immediately notifies the plant in-charge for investigation, with recalibration initiated if necessary. A clear protocol addresses equipment failures, outlining temporary measures and prompt reporting to management. Communication hierarchies are established for emergencies, ensuring a swift reporting chain.

An organogram regarding the hierarchy of monitoring and QA/QC is given below:

**Training:**

All monitoring personnel undergo comprehensive initial training on equipment operation, data collection, and adherence to the monitoring plan. Regular refresher sessions and specialized training for any replaced new equipment are provided to ensure accurate data collection.

Emergency response drills are also conducted periodically, emphasizing specific roles and responsibilities during unexpected situations. These measures ensure that monitoring staff stay informed and well-prepared to handle various monitoring scenarios.

During onsite visit /36/ the verification team checked all the meters and confirmed that the meters were working satisfactorily. Hence it can be concluded that the approach followed by the PP is conservative and in line with the guidelines provided under paragraph 3.4.2 of Validation and verification manual version 3.2/8/.

The assessment team has verified the purchase bills (Invoices) /26/ plants records provided by MFL (Milk Food Limited) confirmed that only the data recorded through meters (e.g., Weight bridge, Steam Flow Meter, Pressure Guage, Temperature gauge) is used to calculate quantity of steam generated, net thermal energy generated by the project and energy meter is used to quantify the net electricity generated by the project consequently for ER calculations recorded in ER sheet /2/.

In view of the above discussion the VKU assessment team is able to confirm that evidence used to determine the GHG reductions and removals are sufficient and appropriate with respect to quality and quantity.

GHG Calculations:

According to applied methodology AMS.I.C., Thermal energy production with or without electricity Version.21, Sectoral scope: 1, the emissions are calculated as below:

Baseline Emission:

Project I

3. As per para 37 of AMS.I.C., Thermal energy production with or without electricity Version.21 Baseline emissions for supply of electricity to and / or displacement electricity from a grid shall be calculated as per the procedures detailed in "AMS-I.D.: Grid connected renewable electricity generation Version 18.

As per the Para 22 of the AMS.I.D. version 18 and section 4.1 of validated VCS PD:

$$\begin{aligned}\text{Baseline emission (t CO}_2\text{)} &= \text{Net Electricity generated (MWh)} \times 0.94193 \text{ (t CO}_2\text{e/MWh)} \\ &= 5,669.46 \times 0.94193 \\ &= \mathbf{5,340.24 \text{ tCO}_2\text{e}}\end{aligned}$$

4. For steam/ heat produced using fossil fuels the baseline emissions are calculated as follows:

As per the Para 34 of the AMS.I.C version 21.0 and section 4.1 of validated VCS PD:

The baseline emissions are calculated as follows:

$$\begin{aligned}\text{BE}_{\text{thermal, Co}_2, \text{y}} &= [(\text{EG}_{\text{thermal, y}} / \eta_{\text{BL, thermal}}) * \text{EF}_{\text{EF, CO}_2}] \text{ HP} + [(\text{EG}_{\text{thermal, y}} / \eta_{\text{BL, thermal}}) * \text{EF}_{\text{EF, CO}_2}] \text{ LP} \\ &= [(221.48 / 0.82) \times 94.6] + [(173.59 / 0.82) \times 94.6] \\ &= \mathbf{45,577.67 \text{ tCO}_2\text{e}}\end{aligned}$$

The detailed calculation has been provided in the Excel Sheet.

“Since the project activity displaces both grid power and steam from coal fired boiler, the baseline is summation of both 1 and 2.”

$$\begin{aligned}\text{Total Baseline Emission} &= 5,340.24 + 45,577.67 \\ &= \mathbf{50,917 \text{ tCO}_2\text{e}} \text{ (Round down)}\end{aligned}$$

Project II:

2. As per para 37 of AMS.I.C., Thermal energy production with or without electricity Version.21 Baseline emissions for supply of electricity to and / or displacement electricity from a grid shall be calculated as per the procedures detailed in AMS I.D.: Grid connected renewable electricity generation version 18.

As per the Para 23 of the AMS.I. D version 18 and section 4.1 of validated VCS PD:

$$\begin{aligned}\text{Baseline emission (t CO}_2\text{)} &= \text{Net Electricity generated (MWh)} \times 0.94193 \text{ (tCO}_2\text{e/MWh)} \\ &= 5,382.04 \times 0.94193 \\ &= \mathbf{5,069.50 \text{ tCO}_2\text{e}}\end{aligned}$$

3. For steam/ heat produced using fossil fuels the baseline emissions are calculated as follows:

As per the Para 34 of the AMS.I.C version 21 and section 4.1 of validated VCS PD:

The baseline emissions are calculated as follows:

$$\begin{aligned}\text{BE}_{\text{thermal, Co}_2, y} &= [(\text{EG}_{\text{thermal, y}} / \eta_{\text{BL, thermal}}) * \text{EF}_{\text{EF, CO}_2}] \text{ HP} + [(\text{EG}_{\text{thermal, y}} / \eta_{\text{BL, thermal}}) * \text{EF}_{\text{EF, CO}_2}] \text{ LP} \\ &= [(97.01 / 0.82) \times 94.6] + [(255.45 / 0.82) \times 94.6] \\ &= \mathbf{40,661.75 \text{ tCO}_2\text{e}}\end{aligned}$$

The detailed calculation has been provided in the Excel Sheet.

“Since the project activity displaces both grid power and steam from coal fired boiler, the baseline is summation of both 1 and 2.”

$$\begin{aligned}\text{Total Baseline Emission} &= 5,069.50 + 40,661.75 \\ &= \mathbf{45,731 \text{ tCO}_2\text{e}} \text{ (Round down)}\end{aligned}$$

$$\begin{aligned}\text{Final Baseline Emissions} &= 50,917 + 45,731 \\ &= \mathbf{96,648 \text{ tCO}_2\text{e}} \text{ (Round down value)}\end{aligned}$$

Leakage emissions:

As per para 77 of section 5.4 of the AMS-I.C. Version 21 and section 4.3 of validated VCS PD the energy generating equipment was not transferred from another activity or the existing equipment was not transferred to another activity. Hence, no leakage calculation is required.

As per para 78 of section 5.4 of the AMS-I.C. Version 21 and section 4.3 of validated VCS PD also the biomass residues are transported within a distance of 40 KM that is less than 200 KM. Hence leakage for this part is zero.

Leakage emissions: $LE_y = 0 \text{ tCO}_2\text{e}$

Project Emissions:

As per para 67 of section 5.3.1 of the AMS-I.C. Version 21 and section 4.3 of validated VCS PD project is equipped with a diesel generator to meet the emergency requirements of powerhouse etc. Therefore, CO2 emissions from on-site combustion of fossil fuels ($PE_{FF,y}$) shall be calculated using the latest version of the “Tool to calculate project or leakage CO2 emissions from fossil fuel combustion”

Project emissions out of usage of fossil fuel (diesel) are being accounted as project emissions by using the following equation.

$$PE_{FC,j,y} = \sum_i FC_{i,j,y} \times COEF_{i,y} \quad \text{Equation (1)}$$

$$PE_y = FC_{i,j,y} \times COEF_{i,y}^7 \quad \text{Equation (1)}$$

$$PE_y = PE_{FF,y}^8 \quad \text{Equation (15)}$$

$$COEF_{i,y} = NCV_{i,y} * EF_{CO2,i,y}^9 \quad \text{Equation (4)}$$

Where,

⁷ As per Tool to calculate project or leakage CO2 emissions from fossil fuel combustion Version 03.0 equation 01 has been modified for this project activity.

⁸ As per AMS-I.C. Small-scale Methodology: Thermal energy production with or without electricity Version 21.0 Sectoral scope(s): 01 equation 15 has been modified for this project activity.

⁹ As per Tool to calculate project or leakage CO2 emissions from fossil fuel combustion Version 03.0 equation 04 has been modified for this project activity.

PE_y	Project emissions from the project activity during the year y (t CO ₂)
$PE_{FF,y}$	Project emissions from fossil fuel consumption during the year y (t CO ₂)
$PE_{FC,j,y}$	The CO ₂ emissions from fossil fuel combustion in process j during the year y (tCO ₂ /yr)
$FC_{i,j,y}$	The quantity of fuel type i combusted in process j during the year y (mass or volume unit/yr)
$COEF_{i,y}$	The CO ₂ emission coefficient of fuel type i in year y (tCO ₂ /mass or volume unit)
$NCV_{i,y}$	Is the weighted average net calorific value of the fuel type i in year y (GJ/liter)
$EF_{CO2,i,y}$	The weighted average CO ₂ emission factor of fuel type i in year y (tCO ₂ /GJ)

Calculation for total project emissions:

Combining equation 01 & 04

$$PE_y = FC_{i,j,y} \times NCV_{i,y} * EF_{CO2,i,y}$$

Project I:

Project Emission = Total diesel consumption X NCV of Diesel X Emission factor of Diesel

$$= 13.40 \times 43.39 \times 0.0748$$

$$= \mathbf{44 \text{ tCO}_2\text{e (Round up)}}$$

The detailed calculation has been provided in the Excel Sheet.

Project II:

Project Emission = Total diesel consumption X NCV of Diesel X Emission factor of Diesel

$$= 28.82 \times 43.39 \times 0.0748$$

$$= \mathbf{94 \text{ tCO}_2\text{e (Round Up)}}$$

The detailed calculation has been provided in the Excel Sheet.

Total Project Emission = 44 + 94

$$= \mathbf{138 \text{ tCO}_2\text{e (Round Up Value)}}$$

Methods and formulae set out in the project description for calculating actual emissions for current monitoring period.

The calculation of emission reduction has been done in accordance with the applied methodology used i.e., AMS-I.C. Small-scale Methodology: Thermal energy production with or without electricity Version 21.0, Sectoral scope: 1/10/. As per the applied methodology, the values of leakage is considered as zero & Project emissions are calculated at actual for the project activity. The equation used for calculation of baseline emission is given below:

$$ER_y = BE_y - PE_y - LE_y \quad \text{Equation (21)}$$

Where;

ER_y = Emission reductions in a given year

BE_y = Baseline emissions in a given year

PE_y = Project emissions in a given year

LE_y = Leakage emissions in a given year

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-Jan-2022 to 31-Dec-2022	64,609	92	0	64,517
01-Jan-2023 to 30-Jun-2023	32,039	46	0	31,993
Total	96,648	138	0	96,510

(It is to note that the value of Net GHG emission reductions or removals (tCO₂e) calculated above is rounded down vintage wise, to keep up with the conservativeness of the Emission Reductions Calculation.)

The verification team attests to the correctness of the formulas and methodologies used to compute baseline emissions. The applied default values, emission factors, and assumptions in the calculations are all reasonable. The assumptions, emission factors and default values that were applied in the calculations are justified. The actual emission reduction achieved during the current monitoring period are 7.98% lower than the estimated ERs in the registered PD/3/. We as VKU Assessment Team accepted this as this is mainly due to non-operationality (Scheduled Shutdown) of the project. Project is shut down for 61 days of current monitoring period due to routine maintenance as per manufacturers specifications. which in turn, affect the amount of steam and electricity generated. Hence, it is acceptable to the VKU Assessment Team. All the data was available to the assessment team by PP during site visit/36/ and as supporting evidences which have been monitored as per required monitoring frequency. The

means of verification for the values of parameters, used for baseline emission calculation, is described above. Hence the 7.98 % actual lower emission reduction achieved during the current monitoring period neither affects additionality nor there is any deviation from the registered/revised monitoring plan.

The verification team has checked and confirmed the emission reduction calculations in the spreadsheet and found to be accurate. The monitoring report/1/ is supported by emission reduction spreadsheet/2/. The consistency and formula were verified and found to be accurate.

VKU is of the opinion that this method of calculation of emission reductions is accurate and results in conservative estimation of emission reduction and is in line with the applicable VCS requirements set out in section 3.15 of VCS Standard version 4.5 and that the verification of the GHG statement was conducted in accordance with ISO 14064-3; 2019.

4.6 Non-Permanence Risk Analysis

There is no non-permanence risk that could lead to material errors, omissions or misstatements rating determined by the project proponent for the project activity and no risk was identified in the audit/verification plan hence not applicable.

5 VERIFICATION OPINION

VKU Certification Pvt. Ltd. (here after referred as VKU) has performed third verification (Monitoring Period: 01-January-2022 to 30-June-2023; Inclusive of both start and end date) under second crediting period (06-May-2019 to 05-May-2029; Inclusive of both start and end date) for the project activity “1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts.” in India, VCS Registry Project ID 784, with regard to the relevant requirements for VCS activities. The project proponents of the “1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts.” amounts to **96,510** carbon dioxide equivalent (tCO₂e).

As described in section 1 to 4 of this verification report, VKU has performed the entire verification according to the verification criteria with the relevant requirements outlined in VCS standard Version 4.5/6/and ISO 14064-3:2019.

The project proponents of the “1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts.” project is responsible for:

- The preparation of greenhouses gas emissions data and the reported greenhouse gas emission reductions from the project on the basis set out in the monitoring plan contained in the registered VCS PD /3/
- The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of greenhouse gas emission reductions of the project.

It is the responsibility of VKU to express an independent verification opinion about the project’s conformity with the requirements of VCS Standard version 4.5/7/ and GHG program applied, on the reported greenhouse gas emission reductions from the project.

Based on documented evidence and corroborated by an on-site assessment, VKU can confirm that:

- The project has been implemented and operated as per the registered VCS PD of 28-August-2020 /3/
- The monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard version 4.5/7/ requirements;

VKU Certification’s (VVB’s) Verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. VKU Certification planned and performed the verification by obtaining evidence and other information and explanations that VKU Certification considered necessary to give **reasonable assurance** that reported GHG emission reductions are fairly stated.

As per VCS Standard Version 4.5, clause 4.1.23, 4.1.24 and 4.1.25, VKU's opinion that the GHG emission reduction stated in the final monitoring report version 03 dated 15-February-2023 for the "1.6 MW Bundled Rice Husk Based Cogeneration Plant by M/s Milk food Limited (MFL) in Patiala (Punjab) & Moradabad (U.P) Districts" in India for the period 01-January-2022 to 30-June-2023 (Inclusive of both start and end dates) **are fairly and correctly stated**.

Table No 19: Opinion/Conclusion by Validation-Verification Body

Opinion	Final Documents	Monitoring Period	Emission Reductions achieved	Remarks
Positive opinion ☒ Negative Opinion ☐ Adverse Opinion ☐ Unmodified Opinion ☒ Modified Opinion ☐	Monitoring Report Version 3 dated 15-February-2024 Emission Reduction Sheet Version 3 dated 15-February-2024	01-January-2022 to 30-June-2023 (Inclusive of both the days)	96,510 tCO _{2e}	The GHG emission reductions are calculated on the basis of approved methodology AMS-I.C: Thermal Energy Production with or without electricity-Version 21/13/ and the monitoring plan included in the registered VCS PD /3/
Hence VKU is able to certify that the emission reduction from the project during the current monitoring period 01-January-2022 to 30-June-2023 (Inclusive of both start and end dates) amounts to 96,510 tCO_{2e} assessed in line with the applicable VCS requirements set out in section 3.15 of VCS Standard version 4.5/13/ The VVB hereby issues a resolutely positive and unmodified opinion meticulously drafted in strict accordance with ISO 14064-3:2019, /46/ Section 09, and the precise provisions of Clause 9.7.1.6 & 9.7.2 of ISO 14065:2020. /47/ This opinion stands in full alignment with the exacting requirements delineated in ISO/IEC 17029:2019, Section 9.7./48/ Our verification process provides a robust and reasonable level of assurance regarding the veracity of the reported GHG emission reduction data. This data is devoid of any material misstatements and is steadfastly supported by the evidence furnished by the Project Proponent (PP), comprehensively presented in Table 04 of this report.				

Verified GHG emission reductions and removals in the above verification period, broken down by calendar year:

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-Jan-2022 to 31-Dec-2022	64,609	92	0	64,517
01-Jan-2023 to 30-Jun-2023	32,039	46	0	31,993
Total	96,648	138	0	96,510

The estimated ex-ante GHG emission reductions and removals and the achieved emission reductions and removals for this monitoring period are reported as below-

Year	Ex-ante emissions reductions/ removals (tCO ₂ e)	Achieved emissions reductions/ removals (tCO ₂ e)	Percent difference (%)	Justification for the difference
01-January-2022 to 31-December-2022	70,113	64,517	- 7.98	Boiler at project I has been non-operational for a period of 29 days and boiler at project II has also non-operational for a period of 32 days for the entire monitoring period i.e., from the 01-January-2022 to 30-June-2023. These are planned shutdowns for the purpose of maintenance.
01-January-2023 to 30-June-2023	34,768	31,993	- 7.98	
01-January-2022 to 30-June-2023	1,04,881	96,510	- 7.98	

APPENDIX A: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emissions
BEF	Baseline Emission Factor
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
MDL	Modern Dairies Limited
DNA	Designated National Authority
EB	Executive Board
EF	Emission Factor
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MoV	Means of Verification
MR	Monitoring Report
NA	Not Applicable
OSV	On Site Visit
PAI	Project Activity Instances
PD	Project Design
PP(s)	Project Proponent(s)

QA/QC	Quality Assurance /Quality Check
Ref.	Document Reference
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VCU	Verified Carbon Unit
VCS	Verified Carbon Standard
VKU	VKU Certification Ltd.
VVS	Validation and Verification Standard
VVB	Validation and verification body

APPENDIX B: AUDIT FINDINGS

CL: Clarification Request: 03

CAR: Corrective Action Requests: 03

FAR: Forward Action Request: 00

Description of Clarification Requests (CLs) raised by VVB:

Type	Date	01-December-2023
CL#01	Reference	Section of verification protocol 01/DR/OSV/AT Section of verification protocol 02/DR/OSV/AT
Description of the Non-Conformance		
1) In Section 1.3 of MR: Provide evidence that Enen Green Services Private Limited is Project Proponent for the project activity. 2) In Section 1.8 & 1.9 of MR: A. PP has not submitted the declaration towards avoiding double counting for the current monitoring period. B. PP to further elaborate and justify that rice husk is a waste material and would have gone into landfills or burnt in open areas otherwise. 3) In Section 1.10 of MR: A. How this has happened, it is a fuel switch project instead of coal used in baseline rice husk is used. How this switch is improving social status and living conditions and the prevailing living standard in the vicinity of the project activity and thus results in empowering the nearby population. Clarify. Table 1: Sustainable Development Contributions For SDG 7.2: What is this SDG (7.2) indicating to increase? For SDG 13.0: What is this SDG (13.0) indicating to increase? 4) In Section 2.1 of MR: A. PP to elaborate on the socio-economic impacts created by the project activity in the MR. B. In Section 2.2 of MR: PP has not submitted the copy of the grievance register placed at each site.		
1stResponse from PP	Date	20-December-2023
1) PP has now shared the Registration Deed of Representation with the VVB as the evidence for the section 1.3 of MR that says ENEN Green Services Private Limited is Project Proponent for the project activity.		

2) In Section 1.8 & 1.9 of MR:

- A. PP has now shared the double counting declaration for the current monitoring period with VVB as per section 1.9 of MR.
- B. PP has now elaborated that the rice husk is a waste material. In the absence of PA would have gone into landfills or burnt in open areas in section 1.10 of the MR version 4.2.

3) In Section 1.10 of MR:

The fuel switch is improving the social status by contributing to increase in local employment by employing local population. Also, improving living condition by avoiding harmful impacts due to emission (SOx, NOx and PM particles) from coal burning for the plant operation. Also, several local businesses were benefitted who provided goods and services for the retro-fitment of the boilers. Additionally, the project activity has provided full-time employment to the locals which has contributed to their economic well-being.

Table 1: Sustainable Development Contributions

For SDG 7.2:

This SDG is indicating an increment in renewable energy share by this PA.

For SDG 13.0:

This SDG was indicating to increase the avoidance or removal of tonnes of greenhouse gas emissions.

However, PP has now revised the SDG indicator to be in line with the Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development.

4) In section 2.1 of MR v4.2

- A. PP has now elaborated the socio-economic impacts created by the project activity.
- B. PP has now shared the copies of grievance register placed at each site with the VVB.

1stAssessment by Audit Team	Status	Closed	Date	29-January-2024
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- 1) For Section 1.3 of MR:** Assessment team confirms that PP has provided the evidence that Enen Green Services Private Limited is Project Proponent for the project activity, hence accepted.
- 2) For Section 1.8 & 1.9 of MR:**
 - A. PP has submitted the declaration towards avoiding double counting for the current monitoring period, hence accepted.
 - B. PP has elaborated and justified the statement, hence accepted.
- 3) For Section 1.10 of MR:**
 - A. PP has provided the justification regarding how this switch is improving social status and living conditions and the prevailing living standard in the vicinity of the project activity and thus results in empowering the nearby population, hence accepted.

Table 1: Sustainable Development Contributions

For SDG 7.2:

PP has clarified that SDG is indicating an increment in renewable energy share by this PA, hence accepted.

For SDG 13.0:

PP has clarified that SDG is indicating to increase the avoidance or removal of tonnes of greenhouse gas emissions and PP has now revised the SDG indicator to be in line with the Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development, hence accepted.

4) For Section 2.1 of MR:

- A. PP has elaborated on the socio-economic impacts created by the project activity in the MR, hence accepted.
- B. **For Section 2.2 of MR:** PP has submitted the copy of the grievance register placed at each site, hence accepted.

Hence, accepted #CL01 is closed.

Type	Date	01-December-2023
CL#02	Reference	Section of verification protocol 03/DR/OSV/AT
Description of the Non-Conformance		
1) In Section 3.1 of MR: A. <i>“Project activity was operational during the first monitoring period”?</i> The statement is giving indication that the project is not operational after the first monitoring period. B. PP to submit the shutdown details for the boiler present at each site. 2) PP to submit the pending documents as per the List of Documents shared. 3) The latest MR template is available on the VERRA website. Clarify why the latest version of MR Template is not used.		
1 st Response from PP	Date	20-December-2023
1) For section 3.1 of MR: A. There was an editorial mistake. The project activity is in operation since the commissioning date till now. However, PP has now corrected the same. B. PP has now explained the shutdown/breakdown details for the boiler present at the both the locations and, PP has shared the shutdown details with the VVB. 2) PP has submitted all the required document to VVB as per the List of Documents shared. 3) As per the update ID 51, section “Revised VCS Project Templates” of the VCS Program Updates – Overview for Validation/Verification Bodies (VVBs) dated 28th September, “The effective date for the new templates is March 1, 2024. All project requests submitted on or after that date must use the new templates.” Hence, the MR is prepared as per MR Version 4.2.		
1 st Assessment by Audit Team	Status	Closed
	Date	29-January-2024

1) For Section 3.1 of MR:

- A. PP has clarified that the project activity is in operation since the commissioning date till now and also updated the same in MR, hence accepted.
- B. PP has submitted the shutdown details for the boiler present at each site, hence accepted.

2) PP has submitted the pending documents as per the List of Documents shared, hence accepted.

3) PP has provided the clarification regarding “why the latest version of MR Template is not used”, hence accepted.

Hence, accepted #CL02 is closed.

Type	Date	14-February-2024
CL#03	Reference	Section of verification protocol 01 and 04/DR/TR
Description of the Non-Conformance		
1) In Section 1.1 of MR: Is the project activity in implementation phase under CDM? 2) In Section 1.10 of MR: Are the location of the petcoke which fed the plant in baseline location and the rice husk feeding the plant in project scenario at same distance. If no how is the leakage due to transportation not considered 3) In Section 1.11 of MR: Basis or evidences of contributions Over Project Lifetime is not provided for SDG 7.2, 8.6. 9.4, 11.6, 12.2, 13.0. 4) In Section 4.3 of MR: A. What happens to production during irregular reading or unexpected reading periods and eventually effect on ER? B. How are procedures for the event of irregular or unexpected readings is in line with VCS and CDM standards and protocols. 5) In ER Sheet: Clarify the basis of the formula used in G4 & G5 cell of Calculation Sheet.		
1 st Response from PP	Date	16-Febrary-2024
1) No, the project activity is not under the CDM. However, the verified ERs for the monitoring period i.e., 14-february-2012 to 31-January-2014 has been issued from CDM registry. 2) The project activity was procuring petcoke from more than 50 km radius in baseline and the rice husk is being procured within 40 km radius that is less than the distance travelled due to transportation. Also, as mentioned in the approved PD “as per Para 78 of AMS I C version 21, the leakage has to be considered if the biomass residue is transported over a distance of more than 200 Km due to the implementation of the project activity otherwise it can be neglected.” The project activity is procuring and utilizing biomass available within the 40 Km radius from Milkfood Limited. Hence, leakage has been considered as zero. 3) The values mentioned here for the SDG contribution is the sum of the total project’s SDG contribution in current and previous monitoring periods with the help of previous MRs and FVRs. Basis and the evidences of contributions Over Project Lifetime is not provided for SDG 7.2, 8.6. 9.4, 11.6, 12.2, 13.0 have been shared with VVB. 4) During these kinds of events when equipment’s are not working properly or irregular reading or unexpected reading are found, the plant operation does not affect and runs		

continuously however readings are not recorded for that period which results in a conservative ER. However, in the current monitoring period such incidents had not taken place.

5) There was a typing error in the ER Sheet which has been now corrected.

1stAssessment by Audit Team	Status	Closed	Date	28-February-2024
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1) **For Section 1.1 of MR:** PP has confirmed that the project activity is not registered in CDM, as verified by the assessment team.

2) **For Section 1.10 of MR:** PP has confirmed that the project activity was procuring petcoke from more than 50 km radius in baseline scenario and the rice husk is being procured within 40 km radius that is less than the distance travelled due to transportation. Which is confirmed by assessment team by checking the purchase invoices of rice husk. Also, as mentioned in the approved PD “as per Para 78 of AMS I C version 21, the leakage has to be considered if the biomass residue is transported over a distance of more than 200 Km due to the implementation of the project activity otherwise it can be neglected. It is in line with the methodology as verified by the assessment team.

3) **For Section 1.11 of MR:** Evidences of contributions Over Project Lifetime is provided for SDG 7.2, 8.6, 9.4, 11.6, 12.2, 13.0, as verified by the assessment team.

4) **For Section 4.3 of MR:** PP has confirmed that during these kinds of events when equipment’s are not working properly or irregular reading or unexpected reading are found, the plant operation does not affect and runs continuously however readings are not recorded for that period which results in a conservative ER. However, in the current monitoring period such incidents had not taken place.

5) **For ER Sheet:** There was a typing error in the ER Sheet which has been now corrected, as verified by the assessment team.

Hence, accepted #CL03 is closed.

Description of Corrective Action Requests (CARs) raised by VVB:

Type	Date	01-December-2023
CAR#01	Reference	Section of verification protocol 01/DR/OSV/AT
Description of the Non-Conformance		
1) On the title page of MR: a) Report ID is not provided as per the requirement of VCS MR template version 4.2. 2) Content table: Content Table is not consistent as per the requirements of VCS MR template version 4.2. 3) In Section 1.1 of MR: a) The assessment team has found that the calculation for the valuating number of years found is incorrect. b) PP has not mentioned the name of the VVB conducting the verification for current monitoring period. 4) In Section 1.2 of MR: a) This section is not consistent with the requirements of section 1.2 of VCS MR Template Version 4.2. 5) In Section 1.7 of MR: Project is not visible at these coordinates. 6) In Section 1.8 & 1.9 of MR: The title of Section 1.8 & 1.9 is not as per the VCS MR template Version 4.2. 7) In Section 1.10 of MR: A. Current Project Contribution for SDG 7.2.1 & 13.0 is not consistent throughout the MR and ER Sheet.		
1stResponse from PP	Date	20-December-2023
1) On the title page of MR: a) There was an editorial mistake. PP has now provided the Report ID as per the requirement of VCS MR template version 4.2. 2) Content table: PP has updated the Content table and is now consistent as per the requirements of VCS MR template version 4.2 3) In section 1.1 of MR: a) There was a calculative error. PP has now corrected the same. b) PP did not mention the name of the VVB as MR has been shared with VVB during the finalization of VVB for the verification. However, PP has now mentioned the name of the VVB conducting the verification for current monitoring period. 4) In section 1.2 of MR: a) PP has now elaborated the section 1.2 and is now consistent with the requirements of VCS MR Template Version 4.2. 5) In section 1.7 of MR: The project locations in approved PD had an editorial mistake. The coordinate mentioned in approved PD were inconsistent with the plant locations. However, PP has now corrected the coordinates and requested for project description deviation. Also, maps have now been corrected with the adjacent sites mentioned to contextualize the location of the plants. 6) In section 1.8 & 1.9 of MR: There was an editorial mistake. PP has added section 1.8 i.e., "Title and Reference of Methodology". Hence, section 1.8 & 1.9 of the MR are now in line with the VCS MR template version 4.2. 7) In section 1.10 of MR: A. There was an editorial error in section "Current project Contribution" for SDG 7.2.1 & 13.0. PP has now corrected the same as per the data for electricity generated in the current monitoring period and is now consistent throughout		

the MR and ER Sheet.				
1stAssessment by Audit Team	Status	Closed	Date	29-January-2024
1) For the title page of MR: a. PP has provided the Report ID as per the requirement of VCS MR template version 4.2, hence accepted. 2) For Content table: PP has updated the Content table as per the requirements of VCS MR template version 4.2, hence accepted. 3) For section 1.1 of MR: a. PP has calculated and updated the calculation for valuating number of years, hence accepted. b. PP has mentioned the name of the VVB conducting the verification for current monitoring period, hence accepted. 4) For section 1.2 of MR: a. PP updated the section which is consistent with the requirements of section 1.2 of VCS MR Template Version 4.2, hence accepted. 5) For section 1.7 of MR: PP has updated the coordinates requested for project description deviation. Also, maps have now been corrected with the adjacent sites mentioned to contextualize the location of the plants, hence accepted. 6) For section 1.8 & 1.9 of MR: PP has updated the section as per VCS MR template version 4.2, hence accepted. 7) For section 1.10 of MR: PP has updated the “<i>Current project Contribution</i>” for SDG 7.2.1 & 13.0. and the same as per the data for electricity generated in the current monitoring period and consistent throughout the MR and ER Sheet, hence accepted. Hence, accepted #CAR01 is closed.				

Type	Date	01-December-2023
CAR#02	Reference	Section of verification protocol 02/DR/OSV/AT Section of verification protocol 04/DR/OSV/AT Section of verification protocol 05/DR/OSV/AT
Description of the Non-Conformance		
1) In Section 2.2 of MR: Section not filled as per guideline. No mention of ongoing communication. 2) In Section 2.2 of MR: No methodology and tools used are mentioned in MR 3) In Section 4.1 of MR: Purpose of data is not consistent with PD version 03 dated 28.08.2020 4) In Section 4.2 of MR: Frequency of calibration, when was last calibrated, when next calibration due is not mentioned in the MR. 5) In Section 4.3 of MR: Section 4.3 is not as per the guidelines and requirements of VCS MR Template version 4.2.		

Assessment team not able to trace any training procedure, emergency procedure, Single line diagram, Monitoring parameter locations in the MR.

6) In Section 5.1 of MR:

- A. Methodology version used for baseline calculation is not consistent with section 4.1 of PD version 3.0
- B. Calculations not carried for each year separately in MR as well as ER sheet i.e., for year 2022 and 2023 separately showing relevant monitoring period
- C. Baseline emissions calculation is not consistent with the ER sheet submitted by PP.

7) In Section 5.2 of MR: There is no information about project emissions due to coal consumption at each project site in the MR, if any.

8) In Section 5.4 of MR: PD Reference mentioned is incorrect.

9) In APPENDIX 1: Details of Meters installed in Moradabad Plant are not matching with calibration records mentioned in MR.

10) In APPENDIX 1: Location of instruments installed at each site is not evident in the Appendix 1 of MR.

11) In ER Sheet:

- A. Assessment team not able to trace any Version No, Date, Project Title, Crediting period?
- B. Assessment team not able to trace any data and calculation for Project I.

1stResponse from PP

Date

20-December-2023

- 1) In Section 2.2 of MR:** PP has now updated the section as per the requirements. Also, ongoing communication processes for both the units has been updated.
- 2) In Section 3.1 of MR:** The methodology AMS-I.C. has been applied in this project activity. However, PP has now mentioned in the section 3.1 of MR.
- 3) In Section 4.1 of MR:** There was an editorial mistake. The purpose of this data is to calculate baseline emission. PP has now corrected the same.
- 4) In Section 4.2 of MR:** PP has given all the calibration details in Annexure-1 in the MR and given reference for the same in tables in section 4.3 of the MR.
- 5) In Section 4.3 of MR:** PP has now elaborated the section 4.3 of the MR as per the guidelines and requirements of VCS MR Template version 4.2.
PP has added training procedure, emergency procedure, Single line diagram, Monitoring parameter locations in the same section of the MR.

6) In Section 5.1 of MR:

- A. There was an editorial mistake. PP has corrected the same and is now consistent with the section 4.1 of the validated PD version 3.0.
- B. The calculations given in baseline emission quantification section are as per the project activity 1 and 2 and the same is consistent with ER sheet. Additionally, year-wise calculations i.e., for 2022 and 2023 has been done in revised ER sheet separately.
- C. There was an editorial error in baseline emission calculation. PP has now corrected the same and is now consistent with the ER sheet.

7) In Section 5.2 of MR: PP has not added the information about the coal consumption as coal has not been consumed in this current monitoring period.
However, diesel has been used for the electricity generation in DG sets. PP has now elaborated same in MR.

8) In Section 5.4 of MR: There was an editorial mistake. PP has now corrected the same.

9) In APPENDIX 1: PP has now revised the other required calibration details in appendix

1 of MR. 10) In APPENDIX 1: PP has now revised the location of instruments installed at each site in appendix 1 of MR. 11) In ER Sheet: A. PP has now added a sheet “Introduction” for the basic information like, Project Title, Monitoring Period, Version no, Date and Methodology. B. PP has now added the data and calculation sheet for the Project I in revised ER sheet. Revised ER sheet has been shared with the VVB.				
1stAssessment by Audit Team	Status	Closed	Date	29-January-2024
1) For Section 2.2 of MR: PP has updated the section as per the requirements. Also, ongoing communication processes for both the units has been updated IN MR, hence accepted. 2) For Section 2.2 of MR: PP has mentioned the methodology and tools in MR, hence accepted 3) For Section 4.1 of MR: PP has updated the purpose of data as per PD version 03 dated 28.08.2020 4) For Section 4.2 of MR: PP has submitted calibration records to VVB and updated the calibration details in MR, hence accepted. 5) For Section 4.3 of MR: PP has updated the section 4.3 as per the guidelines and requirements of VCS MR Template version 4.2. 6) For Section 5.1 of MR: A. PP has updated the methodology version used for baseline calculation and it is consistent with section 4.1 of PD version 3.0, hence accepted. B. PP has updated the calculation for each year separately in MR as well as ER sheet i.e., for year 2022 and 2023 separately showing relevant monitoring period, hence accepted. C. Baseline emissions calculation is consistent with the ER sheet submitted by PP, hence accepted. 7) For Section 5.2 of MR: PP has added the information about the coal consumption as coal has not been consumed in this current monitoring period. However, diesel has been used for the electricity generation in DG sets. PP has elaborated same in MR, hence accepted. 8) For Section 5.4 of MR: PP has updated the PD Reference and it is found correct, hence accepted. 9) For APPENDIX 1: Details of Meters installed in Moradabad Plant are not matching with calibration records mentioned in MR. 10) For APPENDIX 1: PP has revised the location of instruments installed at each site in the Appendix 1 of MR, hence accepted. 11) For ER Sheet: A. PP has updated the version No, date, project title and crediting period, hence accepted. B. PP has added the data and calculation sheet for the Project I in revised ER sheet. Revised ER sheet has been shared with the VVB, hence accepted. Hence, accepted #CAR02 is closed.				

Type	Date	14-February-2024
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CAR#03	Reference	Section of verification protocol 01, 03 and 04/DR/TR		
Description of the Non-Conformance				
1) In Section 1.1 of MR: Computation error and not expressed the duration in YYMMDD format. 2) In Section 1.6 of MR: PP has not stated the lifetime of the boiler. 3) In Section 1.7 of MR: The visibility of the location is not prominent. 4) In Section 3.1 of MR: Percentage of non-operational days not mentioned. 5) In Section 4.1 of MR: The font size is not as per the MR template requirements. 6) In Section 4.2 of MR: Purpose of the data for $Q_{biomass, i, y}$ & $NCV_{biomass}$ is not mentioned. 7) In APPENDIX 1: METER DETAILS: What was the previous calibration date and are the calibration conducted within the validity. Generic statement applicable to all monitoring parameter calibration dates.				
1 st Response from PP		Date	16-February-2024	
1) PP has now computed the duration in YYMMDD format in section 1.1 of the MR. 2) PP has now stated the lifetime of the boiler with the reference in the section 1.6 of MR. 3) The location of the plant is now clearly visible as PP has now marked the projected plant area in section 1.7 of the MR. 4) Percentage of the non-operational days in current monitoring period has now been mentioned in the section 3.1 of the MR. 5) The font size is now as per the MR template requirements in the section 4.1 of the MR. 6) The purpose of the data for $Q_{biomass, i, y}$ & $NCV_{biomass}$ is for the back calculation of the energy generated/ cross check of the energy balance. 7) Calibrations has been done within the calibration due dates for every parameter. Calibration dates for previous monitoring period has now been added in APPENDIX 1 of the MR.				
1 st Assessment by Audit Team	Status	Closed	Date	28-February-2024
1) For Section 1.1 of MR: PP has now computed the duration in YYMMDD format in section 1.1 of the MR, as verified by the assessment team. 2) For Section 1.6 of MR: PP has stated the lifetime of the boiler is 20 years in section 1.6 of MR, as verified by the assessment team. 3) For Section 1.7 of MR: Map of the project activity has been revised as verified by the assessment team. 4) For Section 3.1 of MR: Percentage of non-operational days mentioned in MR, as verified by the assessment team. 5) For Section 4.1 of MR: The font size has been updated per the MR template requirements. 6) For Section 4.2 of MR: Purpose of the data for $Q_{biomass, i, y}$ & $NCV_{biomass}$ is mentioned in section 4.2 of MR, as verified by the assessment team. 7) For APPENDIX 1: METER DETAILS: Calibrations has been done within the calibration due dates for every parameter. Calibration dates for previous monitoring period has now been added in APPENDIX 1 of the MR. PP has also submitted the evidences for the same, as verified by the assessment team.				
Hence, accepted #CAR03 is closed.				

Description of Forward Action Requests raised by VVB:

Type		Date		DD Month YYYY
FAR		Reference		Section of Val/Ver protocol
Description of the Non-Conformance				
1st Response from PP		Date		DD Month YYYY
1st Assessment by Audit Team	Status	Open/Closed	Date	DD Month YYYY

APPENDIX C: COMPETENCE STATEMENTS

ASSESSMENT TEAM

Team Leader-



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Deepali Sharma
Nationality	Indian
Countries of Experience	India, Zimbabwe, Madagascar, Mozambique
Education Qualification	M.Sc in Environmental Sciences
Year of Experience	03 Years +
Area of Expertise	Climate Change & Environment / Industry
Eligible Sectoral Scope	TA 1.2 - Energy generation from renewable energy sources TA 3.1. Energy demand

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	YES
Verifier	YES
Team Leader	YES
Technical Reviewer	NO
Local Expert (Country Wise)	YES
TA Expert (1.2 & 3.1)	YES
Financial Expert	NO

Reviewed by	Apoorva Gupta (Quality Manager)	Date	19/10/2023
Approved by	Barun Kumar (Technical Manager)	Date	19/10/2023

Technical Expert (TE to TL)



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Sunil Kathuria
Nationality	Indian
Countries of Experience	Malaysia, Uganda, Kenya, South Africa, Nigeria Bangladesh, China, Vietnam, Thailand, Philippines, United Kingdom, Germany, USA
Education Qualification	B.E. (Electrical Power)
Year of Experience	40 Years
Area of Expertise	Climate Change & Environment Energy Generation / Distribution GHG Footprints Manufacturing Sector
Eligible Sectoral Scope	TA 1.1 - Thermal energy generation TA 1.2 - Renewables TA 2.1 - Energy distribution TA 3.1 - Energy Demand (General & Cook Stove) TA 4.1 - Cement and lime production (Manufacturing Industries)

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	YES
Verifier	YES
Team Leader	YES
Technical Reviewer	YES
Local Expert (Country Wise)	YES
TA Expert (1.1, 1.2, 2.1, 3.1, 4.1)	YES
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	13/05/2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	13/05/2023

Validator Verifier-Trainee



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Anil Dhankar
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (BCZ) M.Sc. (Environmental Science)
Year of Experience	9 months as Project Trainee in VKU
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	NA

Roles

Project Trainee	NO
Validator/Verifier Trainee	YES
Validator	NO
Verifier	NO
Team Leader	NO
Technical Reviewer	NO
Local Expert (Country Wise)	NO
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	07/07/2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	07/07/2023

Project Trainee



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Sanjana Bhana
Nationality	Indian
Countries of Experience	India
Education Qualification	M.Sc. (Environmental Science) B.Sc. (Biotechnology)
Year of Experience	1+ Year
Area of Expertise	Environmental Compliance Management
Eligible Sectoral Scope	NA

Roles

Project Trainee	YES
Validator/Verifier Trainee	NO
Validator	NO
Verifier	NO
Team Leader	NO
Technical Reviewer	NO
Local Expert (Country Wise)	NO
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	05/06/2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	05/06/2023

Reviewer's Team

Technical Reviewer



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Sanjay Kumar K
Nationality	Indian
Countries of Experience	Vietnam, Thailand, India
Education Qualification	BE (Civil Engineering) ME (Environmental Engineering)
Year of Experience	12+ Years
Area of Expertise	Climate Change & Environment / Industry
Eligible Sectoral Scope	TA 1.2 - Energy generation from renewable energy sources TA 3.1. Energy demand TA 6.1. Construction TA 13.1. Solid waste and wastewater

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	YES
Verifier	YES
Team Leader	YES
Technical Reviewer	YES
Local Expert (Country Wise)	YES
TA Expert (1.2, 3.1, 6.1 & 13.1)	YES
Financial Expert	NO

Reviewed by	Apoorva Gupta (Quality Manager)	Date	16/10/2023
Approved by	Barun Kumar (Technical Manager)	Date	16/10/2023

Technical Expert (TE to TR)



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Vivek Kumar Ahirwar
Nationality	Indian
Countries of Experience	India, Madagascar, Thailand, Nepal, South Africa, Vietnam, Mozambique, Kenya, Ethiopia, Spain, Singapore, Zimbabwe, Columbia, Zambia, Libya, Indonesia, Myanmar
Education Qualification	B.E.(Mechanical) M.Tech.(Energy Management)
Year of Experience	15 Years +
Area of Expertise	Climate Change & Environment & Industry
Eligible Sectoral Scope	TA 1.1 Thermal Energy & Biomass TA 1.2 Renewables/Non-renewables TA 2.1 Energy Distribution TA 3.1 Energy Demand TA 13.1 Solid waste and Wastewater

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	YES
Verifier	YES
Team Leader	YES
Technical Reviewer	YES
Local Expert (Country Wise)	YES
TA Expert (TA 1.1, 1.2, 2.1, 3.1, 13.1)	YES
Financial Expert	YES

Reviewed by	Apoorva Gupta (Quality Manager)	Date	11/10/2023
Approved by	Barun Kumar (Technical Manager)	Date	11/10/2023