4 MW BIOMASS BASED COGENERATION PLANT BY GODREJ AGROVET LTD.

Document Prepared by Earthood Services Private Limited

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Summary:

Earthood Services Private Limited (hereafter referred to as ESPL) has been contracted by Infinite Solutions to conduct the verification of the project - "4 MW Biomass based Cogeneration Plant by Godrej Agrovet Ltd.", VCS ID 1744 with regards to the relevant requirements of VCS programme guidelines and standard (VCS standard version 4.2, & VCS program guide version 4.1). Relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting have been applied for verification.

The monitoring period covered under this verification is from 01/07/2020 to 30/09/2021 (both days included).

The verification includes confirming the implementation of the monitoring plan of the registered VCS PD/01/ and MR/02/ (VCS ID 1744) and the application of the monitoring methodology as per AMS-I.C version 20: "Thermal energy production with or without electricity".

The 4MW project activity is a greenfield renewable biomass-based cogeneration plant which involves installation of 50 TPH Boiler and 4 MW turbine generator. Locally available biomass types such as shredded empty bunch fibre, palm fibre, and palm shell are being used for the project activity. The type of biomass used will be determined by the season. The project activity generates clean electricity & helps in avoiding the fossil fuel (coal) usage to meet its captive requirement of heat & electricity, thereby reducing the equivalent GHG emissions from the atmosphere. By using biomass-based cogeneration system for combined heat and power generation, the project activity will result in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

A risk-based approach has been followed to perform this verification. In the course of verification, 01 Corrective Action request (CAR), 00 Forward Action request (FARs), and 07 Clarification request (CLs) were raised and successfully closed.

The review of the project description, monitoring report and additional documents related to baseline and monitoring methodology; the subsequent background investigation, virtual interviews and stakeholders have provided ESPL with sufficient evidence to validate the fulfillment of the stated criteria.

ESPL confirms that the project is implemented in accordance with the registered VCS PD/01/. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the project's GHG emissions, and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the

information seen and evaluated we confirm that for the project activity “4 MW Biomass based Cogeneration Plant by Godrej Agrovet Ltd.”, the total actual GHG Emission reductions achieved in second monitoring period of 01/07/2020 to 30/09/2021 (including both days) are 42,407tCO2e through displacing 9500.86746 MWh of electricity from fossil-fuel dominated electricity grid with electricity generation using renewable resources.

CONTENTS

1 INTRODUCTION

1.1 Objective

Earthood Services Private Limited (ESPL) has been contracted by Infinite Solutions, to undertake the second verification of the renewable energy project titled “4 MW Biomass based Cogeneration Plant by Godrej Agrovet Ltd.” (VCS ID-1744). The verifiers have reviewed the GHG data collected to date for the monitoring period from 01/07/2020 to 30/09/2021 (both days included) covered in this verification. The objective of this verification is a thorough and independent assessment of registered project activities against the applicable VCS requirement by the VVB. The verification process shall determine whether the proposed project activity complies with the requirements of latest VCS guidelines, applicability conditions of the selected methodology, relevant host country regulations and guidance issued by the VCS Board.

1.2 Scope and Criteria

The scope of verification is to assess the claims and assumptions made in the VCS monitoring report (MR) against the VCS criteria, including but not limited to, VCS standard, applied methodology and other relevant rules and requirements established for VCS project activities. The Verification is not meant to provide any consulting towards the project proponent. However, stated requests for clarification and/or correction actions may have provided inputs for improvement of the project design.

1.3 Level of Assurance

The level of assurance of the verification report falls under reasonable assurance engagements as selected by the VVB. Reasonable assurance is a high level of assurance regarding material misstatements, but not an absolute one.

Reasonable assurance includes the understanding that there is a remote likelihood that material misstatements will not be prevented or detected on a timely basis. To achieve reasonable assurance, the auditor needs to obtain sufficient appropriate audit evidence to reduce audit risk to an acceptably low level. This means that there is some uncertainty arising from the use of sampling, since it is possible that a material misstatement will be missed. The evidence used to achieve a reasonable level of assurance is specified in section 2.3 and 2.4 of this report.

1.4 Summary Description of the Project

The project activity is a biomass-based cogeneration unit which involves installation of 50 TPH Boiler & 4 MW Turbine Generator. The biomass generated by palm oil production unit to generate steam which is used to generate electricity by 4 MW Turbine Generator for captive consumption. This is a greenfield project located at Seethanagaram village, West Godavari, Andhra Pradesh, India. The project activity involves the utilization of in-house generated renewable biomass fibre, shell and empty fruit bunches (EFB) in the palm fruit processing facility as a fuel for generating steam which will further be used for generating the electricity and catering the thermal energy requirement.

The project activity involves installation of 50 TPH Boiler & 4 MW Turbine Generator. The project activity is generating heat and electricity simultaneously. The commissioning date is 01/10/2018. The project activity results in reductions of greenhouse gas (GHG) emissions that are real, measurable, and verifiable and also plays beneficial role in the mitigation of climate change.

The project activity has geographical coordinates of latitude 17°10' 38" N and longitude 81°41' 35"E.Location of the project was verified through Google Map (https://www.google.com/maps)/14/ and found consistent with the data provided in the registered PD /01/. The unit of the project activity were commissioned on 01/10/2018. The same was verified against the registered VCS PD/01/ and commissioning certificates/09/.

The emission reductions from the project activity during the period 01/07/2020 to 30/09/2021 (including both days) amount to 42,407 tonnes of CO_2e and the total net electricity generated is 9,500.86746 MWh and 347.54 TJ energy from steam has been given to cater the in-house requirements during the current monitoring period.

The project activity is undergoing second verification and the implementation of project activity is also verified. Based on the assessment of the documents, the assessment team can confirm that the project activity is fully functional and implemented as described in the registered VCS PD/01/ and the Monitoring Report/02/.

2 VERIFICATION PROCESS

The registered VCS project is undergoing second verification, the approach adopted to ensure the quality of emission reductions is described in the following sections.

2.1 Method and Criteria

The verification approach consists of two phases:

In the first phase, ESPL completed a strategic review and risk assessment of the project activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant.
- Protocols used to estimate or measure GHG emissions from these sources.
- Collection and handling of data.
- Controls on the collection and handling of data.
- Means of verifying reported data; and
- Compilation of the Monitoring Report.

At the end of this phase, ESPL produced a Verification Checklist which, based on the risk assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

In the second phase using the Verification checklist, ESPL verified the implementation of the monitoring plan and the data presented in the VCS MR/02/ for the period in question. This involved virtual interviews of project proponent representative's and a desk review of the Monitoring Report. This verification report describes the findings of this assessment.

2.2 Document Review

The verification is performed primarily as a document review of the registered VCS PD/01/and previous verification and validation report/20/ and associated documents as stated in detail in Appendix 1 of this document. The assessment is performed by a verification team using a protocol. The cross checks between information provided in the Monitoring report/02/, VCS PD/01/ and information from sources other than those used, if available, the team's sectoral or local expertise and, if necessary, independent background investigations.

2.3 Interviews

Due to the current situation with the global COVID-19 pandemic scenario, an on-site inspection has not been performed by the assessment team. However, the representatives of the PP were interviewed during the virtual audit conducted on 18/01/2022 i.e., personnel responsible for monitoring of the project activity, data collection and management, and QA/QC procedure. The verification team has conducted the remote site visit inline with 4.1.2 of VCS standard 4.2. The details of the people interviewed are mentioned in the table below:

Interviewee	Organization	Topics Covered	Team Member
Mr. Vikash Yadav	Infinite Solutions (Manager)	Project implementation, start date as per the VCS requirements. Electricity Generation Records Reliability & accuracy of readings considered for emission reduction calculations, Calibration procedure. Consideration of monitoring period, monitoring methodology, project documentation and emission reduction calculations. Monitoring and measuring system, Collection of measurements Observations of established practices Data Verification of monitoring parameters. QA/QC procedures, data management, internal audits to maintain data quality & reliability, maintenance Practices.	N Premjit Singh Shreya Kunj
Mr. Anshul Vyas	Infinite Solutions (Analyst)		
Mr. Ravi Kumar Kaki	Godrej Agrovet (Plant in-charge)		

2.4 Site Inspections

As discussed in the above section, physical site inspection is not done for the current verification. However, to achieve a reasonable level of assurance, the assessment team has followed the alternative means to substantiate the verification criteria as described in the below table:

Assessment Criteria	Means of verification/source Documents	Assessment opinion
Description of project activity	Commissioning certificates /9/ Technical specifications provided by EPC contractor for	The information with reference to project capacity, technology, plant equipment's and commissioning dates as

	the project activity /15/ VCS previous verification report /20/. Virtual site visit conducted on 18/01/2022.	provided in section 1.1 of MR are found consistent with the documents.
Compliance of the project implementation with the registered project design document	Monthly Electricity generation data /17/ Logbook records for diesel consumption /06/ Logbook records for biomass consumption/06/ Geographical co-ordinates of project activity verified through Google Map's Photograph of equipment's installed at site and screen shots of online monitoring system /14/ VCS previous validation and verification report /20/. Virtual site visit conducted on 18/01/2022.	Monthly Electricity generation data indicate the amount of electricity generated. Location of project is verified through Google Map and found consistent with registered VCS PD/01/. All the information's regarding the project implementation as discussed above are further verified through VCS PD/01/, MR/02/, VCS previous verification report /20/, and found consistent.
Compliance of the registered monitoring plan with applied methodologies and standardized baselines	Virtual site visit conducted on 18/01/2022. Monthly Electricity generation data/17/. Logbook records for diesel consumption/06/ Logbook records for biomass consumption/06/ VCS verification report/20/.	The organizational structure, responsibilities and competencies of the personnel confirmed through virtual interview/08/. Frequency of monitoring of parameters listed under approved monitoring plan is verified through electricity generation data. The methods used for measuring, recording, storing, aggregating, and reporting the data on monitored parameters are verified though validation report/20/ and conversations with site personnel/08/.

Compliance with the calibration frequency requirements for measuring instruments	Calibration certificates of instruments used for monitoring/04/	Calibration frequency and energy meter specifications (Sr. No, make accuracy class) is verified through calibration certificates/04/.
Assessment of data and calculation of emission reductions or net removals	Information on Emission Factors (For CDM projects in India) Electricity Grid/07/ Monthly Electricity generation data /17/. Logbook records for diesel consumption/06/ Logbook records for biomass consumption/06/ VCS validation report/20/. 2006 IPCC Guidelines for National Greenhouse Gas Inventories/23/	Monthly values of monitoring parameter used in ER calculation/03/ are verified through electricity generation data and cross verified with the meter records/17/. Methods, formulae, and emission factor for calculating baseline emissions have been followed are in accordance with the applied methodology and as described in the approved VCS validation report /20/.

It is noteworthy that no sampling plan for verification is applied as 100% data is verified for the current monitoring period. Most of the reference document referred by the assessment team (above table) are either issued by an external government agency or publicly available official data, hence is deemed authentic.

Based on the above assessment it can be concluded that the assessment team has verified sufficient appropriate audit evidence, to reduce audit risk to an acceptably low level as requisite to achieve reasonable level of assurance for the current verification.

2.5 Resolution of Findings

The objective of this step is to identify, discuss and conclude on the issues related to the monitoring, implementation and operations of the registered project activity that could impair the capacity of the registered project activity to achieve emission reductions or influence the monitoring and reporting of emission reductions. This is done based on the desk review and interaction with site personnel over phone. The verification team prepares and/or updates a verification protocol (internal document) that records the conformities and non-conformities, which may be of following types:

- CAR (Corrective Action Request) is raised if one of the following occurs:
  - Non-compliance with the monitoring plan, the methodology or the standardized baseline are found in monitoring and reporting and has not been sufficiently documented by the project proponent, or if the evidence provided to prove conformity is insufficient.
  - Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project proponent.
  - Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions.
- Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project proponents. Clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met. All CARs and CLs raised by the ESPL during verification shall be resolved prior to submitting a request for issuance.
- FAR (Forward Action Request) is raised during verification if the monitoring and reporting require attention and/or adjustment for the next verification period. All the findings that are raised and communicated to project proponent during the verification are included under Appendix 2. The section also includes the response, if provided, by the project proponents and an assessment by the verification team if it was closed out or otherwise.

A total of 7 CLs and 1 CAR were raised and successfully closed for this verification.

2.5.1 Forward Action Requests

The project activity is undergoing second verification; there were no FARs raised during the previous verification/20/.

2.6 Eligibility for Validation Activities

The project activity is undergoing second verification, no validation activity performed as part of verification, hence this section is not applicable.

3 VALIDATION FINDINGS

The project is undergoing second verification. Hence, it is not applicable.

3.1 Participation under Other GHG Programs

The project activity is registered under VCS program only (VCS ID-1744).

The PP has submitted the declaration/13/ which states that the net GHG emission reductions generated by the project activity will not be used for compliance with any other emissions trading program or to meet binding limits on GHG emissions for the same monitoring period.

3.2 Methodology Deviations

There is no methodology deviation identified during the current monitoring period.

3.3 Project Description Deviations

PP has applied the following project description deviations during the monitoring period of the project activity:

For Monitoring Parameter – Quantity of fossil fuel combusted in the project year y, ($FC_{i,j,y}$)

Change	Purpose of data has been corrected in line with respective "Tool to calculate project or leakage CO2 emissions from fossil fuel combustion, Version-02".
Reason	The purpose of the parameter was inconsistently mentioned in the VCS PD. $FC_{i,j,y}$ is used for the calculation of project emission only (as per TOOL 03: Tool to calculate project or leakage CO_2 emissions from fossil fuel combustion), and not the baseline emissions.

There is no replacement of monitoring equipment's involved during the current monitoring period.

The project description deviations applied during the previous monitoring period of the project activity are described under this section. Following are the changes applied after the commissioning of the project:

1. Monitoring Parameter: $EG_{PJ,thermal,y}$ - Net quantity of thermal energy supplied by project

Change	Monitoring Equipment "accuracy class" was corrected in line with the respective equipment calibration certificate.
Reason	a. Steam flow meter/Transmitter: Accuracy class was stated as ±0.5% in the VCS PD, which is corrected as per the equipment calibration certificate i.e. +/- 0.1 of range. b. Pressure gauges/ Transmitter: Accuracy class was stated as ±1% in the VCS PD, which is corrected as per the equipment calibration certificate i.e. +/- 0.1 of range.

2. Monitoring Parameter: $B_{biomass,y}$ - Quantity of biomass residues of type k consumed in the boiler in year y (tonnes on dry-basis)

Change	Monitoring Equipment (weighbridge) accuracy class was corrected.
Reason	Accuracy class was mentioned as +/- 1%, corrected to ±0.01% (i.e. 5 kg) in line with the installed equipment details and calibration certificate.

3. Monitoring Parameter: Pressure - Pressure of flowing exhaust steam at the outlet of steam turbine

Change	Monitoring Equipment Accuracy class is corrected.
Reason	"Pressure gauges/ Transmitter" accuracy class was stated as ±1% in the registered PD, which is corrected as per the equipment calibration certificate i.e. +/- 0.1 of range.

4. Monitoring Parameter: M (Moisture content of the biomass residues) - Moisture content of each biomass residues type k

Change	Revision in the "Frequency of monitoring/recording" of the parameter to once in the first year of crediting period
Reason	It is to be noted that this parameter is not used directly for the emission reduction calculation. Emission reductions are calculated based on the para 38 of the applicable methodology which directly requires, "Net quantity of thermal energy supplied by the project activity during the year y (TJ)" & Amount of electricity supplied by the project activity during the year y; (GWh). These two parameters are calculated based on the direct measurement of steam pressure, temperature & flow and the net electricity supplied. As per the applicable methodology, "This parameter "Moisture content of the biomass residues" applies in the case where emission reductions are calculated based on biomass energy input. For all cases, ex ante estimates should be provided in the PD and used during the crediting period." Therefore, PP wishes to revise the Frequency of monitoring/recording of the moisture content "should be monitored for each type of biomass used, once in the first year of the crediting period."

5. Monitoring Parameter: T - Temperature of steam generated

Change	Correction of typographical error under “Description” as “Temperature of steam extracted”
Reason	Correction of typographical error.

In line with the Para 3.19.2 of the VCS standard version 4.2/11/, The above deviations do not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario, Thus the project remains in compliance with the applied methodology/07/.

3.4 Grouped Project

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

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity involves implementation of a total of 4 MW of biomass-based cogeneration plant. This involves installation of a 4 MW Turbine Generator and a 50 TPH Boiler. Locally available biomass types such as shredded empty bunch fibre, palm fibre, and palm shell are being used for the project activity.

This is the second verification for the project activity. The project activity has been commissioned and is operating satisfactorily. Assessment team checked the commissioning certificate and confirmed that Project Activity was commissioned on 01/10/2018 which is correct/09/. The same has been checked and verified during the remote site visit to the project activity and the generation records submitted through JMR and Invoices. The commissioning of the plant has been verified against previous verification and validation report/02/, where the commissioning details were checked through commissioning certificates.

During the verification remote audit/08/, it was concluded that the project is implemented as per the requirement of the registered PD/01/. During the current monitoring period, it was observed that no unforeseen incident/event evolved which can impact the operation of the project activity. The project undergone continuous operation and only scheduled maintenance is observed as per the manufactures specification which is acceptable to the assessment team/06//17/.

Project location is confirmed by the assessment team during the remote audit/08/. Assessment team also checked with the GPS coordinates, the latitude and longitude of the project site with previous verification report/20/ and confirm that the details as mentioned in the MR/02/ are inline with registered PD/01/. The details are as below:

District	State	Latitude	Longitude
West Godavar	Andhra Pradesh	17° 10’ 38” N	81° 41’ 35” E

Assessment team also checked the technical details of the biomass-based cogeneration plant installed during remote audit with registered VCS PD/01/, previous verification and validation reports/20/.

The technical specifications of boiler and TG are given below:

Table 1: Specification of 50 TPH Boiler

Sr. No.	Specification	Value	Unit
1	Type-Pulsating grate bi-drum air cooled boiler	-	-
2	Design steam generation capacity at MCR	50	Tph
3	Steam pressure at MCR	34.65	Kg/cm² (g)
4	Steam temperature	380±5	°C
5	Make and Model -	Thermax / Powermax - 500/l	-
6	Fuel requirement: Fuel 1: 55% Shredded Empty bunch Fiber Fuel 2: 30% palm fibre Fuel 3: 15% palm shell	9.35 Shredded 9.35 Shredded EFB, 5.1 Palm Fiber, 2.55 Palm Shell	TPH
7	Efficiency of boiler	66.8±5	%
8	Feed water temperature to economiser	126	°C

Table 2: Specification of 4 MW Turbine Generator

Sr. No.	Specification	Value	Unit
1	Type- multistage, impulse, nozzle governed back pressure	-	-
2	Design capacity	4	MW
3	Inlet steam pressure	33.38	kg/cm^2
4	Inlet steam temperature	370	°C
5	Specific steam consumption	11125	kg/kWh
6	Make and Model – Triveni Turbine Limited	Triveni Turbine Limited / TST-2030	-
7	Outlet steam pressure at TG	3.5	kg/cm^2
8	"Electrical output at AC generator terminal	2500 kW (415 V, 50 Hz)	-

The monitoring of the project activity is found to be in accordance with the monitoring methodology described in AMS – I. C, Version 20/07/. The monitoring mechanism is effective and reliable. During the remote audit, personnel involved at various levels of the operation of the project activity have been interviewed to confirm that the plant personnel are conscious of the importance of the monitoring activities.

Since its commissioning, the project activity has been running constantly (with forced and planned downtime). The verifier receives data of monthly operating hours of the boiler and turbine involved in the project activity.

The required monitoring systems have been installed and are operational. The meters comply with appropriate quality standards applicable for the used technology. The accuracy class of the meters installed for the project activity was verified against the registered VCS PD/01/ and VCS MR/02/. During the present monitoring period i.e., 01/07/2020 to 30/09/2021 (Both days included), the project is in normal operation status; there have been no emergencies happened to the monitoring system. There was plant shutdown from November 2020 to March 2021 because of non-availability of biomass and for routine annual maintenance during the current monitoring period and there was no electricity generation for around 5 months, thus the emission reduction for the period was taken as zero. During the monitoring period, no events, or situations occurred that could affect the methodology's applicability/02/.

The monitoring plan of registered VCS PD/01/ includes the parameter:

- CO_2 emission factor of fossil fuels: coal and diesel ($EF_{CO2,i,y}$)
- Net quantity of thermal energy supplied by project ($EG_{PJ,thermal,y}$)
- Net electricity supplied by the project activity ($EG_{PJ,electrical,y}$)
- Quantity of biomass residues of type k consumed in the boiler in year y (tonnes on dry-basis) ($B_{biomass,y}$)
- Net Calorific Value of biomass type k ($NCV_{k,biomass}$)
- Enthalpy of exhaust steam at the outlet of the steam turbine (Extracted steam enthalpy)
- Pressure of flowing exhaust steam at the outlet of steam turbine (Pressure)
- Quantity of fossil fuel combusted in the project in year y ($FC_{i,j,y}$)
- Moisture content of each biomass residues type k (M)
- Temperature of steam extracted (T)
- Net Calorific Value of fossil fuels ($NCV_{fossil\ fuel}$)
- Electricity taken from grid for the cogeneration plant startup/ emergency operations ($EC_{PJ,i,y}$)

Electricity exported and imported by the project activity being measured by energy meters of accuracy class 0.2s. These parameters are measured continuously and follows at least monthly recording. This is in line with methodology and is accepted.

The VCS MR/02/ has been reviewed to check that the procedure for data uncertainty, emergency preparedness, roles and responsibility, operational and management structure are mentioned in the MR. The monitoring plan completely describes all measures to be implemented for monitoring all parameters required. The monitoring plan described the positioning of the equipment. The information relating to the project implementation, provided in the Monitoring Report /02/ is consistent with that stated in the registered PD /01/. The data and variables provided in the monitoring report are the same as stated in the registered PD/01/. These details are also checked with actual implementation and monitoring procedures on site and found appropriate. Total emission reductions achieved under this monitoring period 01/07/2020 to 30/09/2021 (including both days) is 42,407 tCO_{2e}.

The assessment team confirmed that the project design is implemented as per the deviation and the registered PD/01/ and thus the same is acceptable to the assessment team. The accuracy class of the replaced measuring equipment's are improved after the deviation sought during the second monitoring period which is acceptable as per the methodology requirements. Hence all required monitoring equipment's and procedures as mentioned in the registered VCS PD/01/ are available and implemented in line with the methodology and in an appropriate manner/07/. The organisational role and responsibility as mentioned in the registered PD/01/ is followed onsite. All the monitoring equipment was calibrated as per the specified interval in the registered PD/01/. All the emergency preparedness as mentioned in the registered PD/01/ is followed onsite and no discrepancies were found regarding the same/08/.

The assessment team observed that the project is in line with the registered PD/01/, Validation report and previous verification report/20/ and approved methodology/07/ and thus no clarification/deviation is sought.

Assessment team confirms following during the verification site visit:

1. Start date of the project is 01/10/2018 which is the date of commissioning of the Project/09/.

2. Assessment team confirms that project has not received or sought any other form of environmental credit". An undertaking letter has been submitted by PP for double counting with any other GHG program. PP also has given a written declaration that project has not claimed other form of GHG credit for the concerned monitoring/13/.

Further, assessment team confirms that project activity provided contribution in sustainable development to the host country/01//08/.

3. Assessment team confirms that this is the first crediting period under VCS and covers the activity from 01/10/2018 to 30/09/2028 (inclusive of both dates). Thus, VCS crediting period should be maximum of 10 years. After 10 years, the crediting period will be renewed twice considering project life of 25 years.

The GHG credits from 01/07/2020 to 30/09/2021 will be claimed under VCS only. At any point of time during the crediting period, the project proponent will abide by the "Double Counting"/13/.

4. Assessment team checked and found that the Project proponent of the project activity is same as per the registered PD/01/. There is no change in details of the PP and the same is mentioned below:

Organization Name	Godrej Agrovet Limited
Contact person	Mr. MSMS Kumar
Title	Dy. General Manager – Production & Projects
Address	Ch. Pothepalli, Dwaraka, Tirumala Mandal, Andhra Pradesh
Telephone	+91-8829211128
Email	msms.kumar@godrejagrovet.com

5. Assessment team also checked the details of other entity and found that the detail as mentioned in the MR is correct.

Organization Name	Infinite Solutions
Role in the Project	Project Consultant
Contact person	Mr. Jimmy Sah
Title	Head – Sustainability
Address	214-215, Milinda Manor, Opp. Next Treasure Island, 2 RNT Marg, Indore - 452001, India
Telephone	+91-9644130430
Email	jimmy@infisolutions.org

The quantified emission reduction calculation for the monitoring period is correct and conservative/03/. Assessment team also compared actual VER (122,289 tCO2e) with the estimated VER and found that the actual VER (42,407 tCO2e) is 65.32% lower than the estimated emission reduction. This is because there was plant shutdown from November 2020 to March 2021 because of non-availability of biomass and for routine annual maintenance. As no electricity was generated for a period of around 5 months, the emission reduction was found to be lower than the estimated value. This was confirmed through the plant logbooks/06/ as well as during the remote site visit, while interviewing the plant personnel/08/.

The project activity contributes to the sustainable development by generating employments, direct & indirect business opportunities and reducing the fossil fuel consumption & thus reducing GHG emissions/02/ as mentioned in section 1.11 of MR. The verification team has cross-checked with remote site assessment.

4.2 Safeguards

4.2.1 No Net Harm

VVB interviewed the PP during remote audit and PP confirmed that plant is operating as per the environmental stipulated norms/08/. The project activity promotes environmental and socio-economic well-being as it results in zero GHG emissions due to installation and operation of clean, renewable energy technology for electricity generation/01//02/.

Further the report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013. This report clearly mentioned that biomass power project activity operations do not result in direct air pollution, noise pollution.

Thus, there are no significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity/02/.

4.2.2 Local Stakeholder Consultation

The local stakeholder meeting was carried out for the project activity and the details of the same can be referred from the registered VCS PD/01/.

Ref. web link - https://registry.verra.org/app/projectDetail/VCS/1744

The stakeholders identified for the project were the usual occupants of villages around and the local communities, NGOs, governmental agencies, employees, contractors. Local population is considered to be a major stakeholder with respect to the project activity.

The PP also placed a grievance register onsite in order to ensure ongoing communication with relevant stakeholders where they can put down his/her complain and the same if found genuine will be addressed immediately. During the current monitoring period, no negative comments are received from the local stakeholders. Thus, no mitigation measures have been applied/18/.

4.3 AFOLU-Specific Safeguards

This is a non AFOLU project, hence this section not applicable.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The calculation of the emission reductions is found to be correct. The details of the reported and the verified values for all parameters are listed in section 4.5 of this report.

The PP has provided the complete set of data for all the monitored parameters in the ER spreadsheet/03/. This data has been verified as described in section 4.5 below. The formulae & method used to calculate the baseline emissions, project emissions and leakage are appropriate and in line with the approved methodology AMS-I.C version 20.0/07/.

The following parameters are monitored ex-ante:

Parameter	Parameter	Value	Assessment team remark
1.	$\eta_{BL,cogen/trigen}$	85%	Default value as per SSC methodology guidance is used here.
2.	$EF_{grid,OM,y}$	0.9843	CEA "CO2 baseline database for the Indian Power Sector, Version 12, May 2017 Tool to calculate the emission factor for an electricity system
3.	$EF_{grid,BM,y}$	0.9083	CEA "CO2 baseline database for the Indian Power Sector, Version 12, May 2017
4.	$EF_{grid,CM,y}$	0.9462	CEA "CO_2 baseline database for the Indian Power Sector, Version 12, May 2017
5.	$EF_{CO2,i,y}$	Coal = 95.80 Diesel: 72.6	The value of the parameter is sourced from CEA database version 17/22/published by the Government of India for the purpose of CDM baselines. Thus, the value is taken as country specific emission factor of coal and diesel.

The PP has calculated the grid emission factor as per the combined margin approach described in the 'Tool to calculate the emission factor for an electricity system', version 06.0. The grid emission factor has been calculated as the weighted average of OM & BM; and has been fixed ex-ante for the entire crediting period.

The OM and BM have been obtained from a publicly available source i.e., "CO2 Baseline Database for Indian Power sector", version 12 published by Central Electricity Authority, Ministry of Power, and Government of India/22/. The OM has been determined as the average of the previous 3 years values obtained from the CEA database/22/. The value of BM has been identified directly from the CEA database. The combined margin emission factor was arrived at by applying weights of 75% for OM and 25% for BM, as specified in the tool. The OM and BM have been calculated to be 0.9843 tCO2/MWh and 0.9083 tCO2/MWh respectively. Applying the weights, the grid emission factor has been calculated to be 0.9462 t CO2/MWh.

As per ER excel spreadsheet/03/ submitted by the PP, the net emission reductions for the current monitoring period were verified as 42,407 tCO2e for the current monitoring period.

The assessment team able to confirm that the GHG emission reductions and removals have been quantified correctly in accordance with the project description and applied

methodology.

Emission reductions calculations:

Baseline emission:

The PP has calculated the baseline emissions by using the formula

$$BE_{cogen/trigen,CO2,y} = \left[\left(\frac{EG_{PJ,thermal,y} + EG_{PJ,electrical,y} \times 3.6}{\eta_{BL,cogen/trigen}}\right)\right] \times EF_{FF,CO2}$$

Where,

$BE_{cogen/trigen, CO2, y}$ = Baseline emissions from electricity and thermal energy displaced by the project activity during the year y (t CO2)

$EG_{PJ, electrical, y}$ = Amount of electricity supplied by the project activity during the year y; (GWh)

3.6 = Conversion factor (TJ/GWh)

$EG_{PJ, thermal, y}$ = Net quantity of thermal energy supplied by the project activity during the year y (TJ)

EF_{CO2} = CO2 emission factor of the fossil fuel that would have been used in the baseline cogeneration plant obtained from reliable local or national data if available, alternatively, IPCC default emission factors can be used (t CO2/TJ)

$\eta_{BL,cogen/trigen}$ = Total annual average efficiency of the cogeneration or trigeneration plant using fossil fuel

Now,

$\eta_{BL,Cogen}$ = 85% (Default efficiency of new coal fired boiler as per Appendix of the applied methodology)

$EF_{FF,CO2} = EF_{CO2,i,y}$ =95.8 tCO_2/TJ (CO2 emission factor of the fossil fuel (Coal) - as per Central Electricity Authority (CEA) CO_2 Baseline Database for the Indian Power Sector; Ver. 15)

During this monitoring period:

$EG_{PJ,thermal,y}$ = 347.54 TJ

$EG_{PJ,electrical,y}$ = 9.50 GWh

Thus, $BE_{cogen,CO2,y}$ = 43,023 tCO_2 (Rounded Down Value)

Project Emission:

During the project operation, there are two sources for project emissions:

1. Coal Consumption in Boiler: There was no coal consumption in boiler.
2. Diesel consumption in DG: $PE_{diesel,y}$ = Quantity of diesel consumed (Lit) X Density of diesel X NCV of diesel X EF of diesel

= 26,618 (L) X 0.83 (kg/L) X 9975 (kJ/kg) X 72.6 (tCO2/TJ) / 10^9

= 16 tCO_2e (Rounded Up Value)

3. $PE_{grid,import,y}$ = ($EC_{PJ,j,y}$) Total Electricity Import (MWh)X (1+TDL) X GEF (tCO2/MWh)

= 527 X (1+20%) X 0.9462

= 599 tCO2e (Rounded Up Value)

$EC_{PJ,j,y}$ is measured as electricity taken from grid for the cogeneration plant start-up/ emergency operations. The transmission and distribution losses are calculated using the recent, accurate and reliable data available within the host country.

Total Project Emission:

PE_y = $PE_{fossil\ fuel,y}$ + $PE_{diesel,y}$ + $PE_{grid,import,y}$

= 0 + 16 + 600

= 616 tCO2e (Rounded up Value)

Leakage Emission:

Since the biomass is sourced from the plant itself, thus leakage is zero

The total emission reduction is given as:

ERy = BEy – PEy – LEy

ERy = 43,023 – 616 – 0

= 42,407 tCO_{2e}

As per ER calculation excel spreadsheet/03/ submitted by the PP, the net emission reductions for the current monitoring period were verified as 42,407 tCO2e for the current monitoring period.

The assessment team able to confirm that the GHG emission reductions and removals have been quantified correctly in accordance with the project description/01/ and applied methodology/07/.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

The monitoring of the project activity is found to be in accordance with the monitoring methodology described in AMS-I.C, Version 20/07/. The monitoring mechanism is effective and reliable. During the remote audit, personnel involved at various levels of the operation of the project activity have been interviewed to confirm that the plant personnel are conscious of the importance of the monitoring activities/08/. The verification of the plant records are also substantiating consistency in recording and reporting of monitored data/02/.

The meters comply with appropriate quality standards applicable for the used technology. The accuracy class of the meters installed for the project activity was verified through the registered VCS PD/01/, MR /02/, and calibration certificates/04/ and were found to be consistent.

The supporting records of biomass and diesel consumption /06/ and generation data for the entire monitoring period/17/ were checked and found to be sufficient to enable verification of emission reductions.

The following parameter has been verified for current monitoring period:

Parameter 1: Net quantity of thermal energy supplied by project ($EG_{PJ,thermal,y}$)

Means of verification		
	Criteria/Requirements	**Assessment/Observation**
	Measuring /Reading /Recording frequency	Monitoring Frequency: Continuous measurement for steam flow and pressure Recording Frequency: Monthly calculation for enthalpy
	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 PD/01/ and monitoring methodology/07/.
	Monitoring equipment	Steam flow transmitter and pressure gauges are the equipment used to monitor the parameter. The calibration frequency for the equipment's is once in three years. Details are given below. Steam flow meter/Transmitter: ±0.1 of range

<table>
<tr><td></td><td></td><td>
<table>
<tr><td colspan="2">Boiler main steam flow transmitter - 1 (TAG.NO:11-FT-211A)</td></tr>
<tr><td>Serial No</td><td>Y1TA17589</td></tr>
<tr><td colspan="2">Boiler main steam flow transmitter - 2 (TAG.NO:11-FT-211B)</td></tr>
<tr><td>Serial No</td><td>Y1TA17590</td></tr>
</table>
Pressure guages/Transmitter: ±0.1 of range
<table>
<tr><td colspan="2">Turbine extraction steam pressure transmitter (TAG.NO:PT-140)</td></tr>
<tr><td>Serial No</td><td>Y1TA16783</td></tr>
</table>
</td></tr>
<tr><td></td><td>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?</td><td>The accuracy of the monitoring equipment used to measure the input values are:
Steam flow meter: ±0.5%
Pressure gauges: ±1%</td></tr>
<tr><td></td><td>Calibration frequency /interval:</td><td>Calibration frequency of the steam temperature and steam mass flow meters is once in three years.</td></tr>
<tr><td></td><td>Is the calibration interval in line with the monitoring plan</td><td>Yes.
Calibration details:</td></tr>
</table>

	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, Pending untill the findings are closed or as per the manufacturer's specifications?	**BOILER MAIN STEAM FLOW TRANSMITTER - 1 (TAG.NO:11-FT-211A)** **Equipment Name** / **STEAM FLOW TRANSMITTER** Make / YOKOGAWA Serial No / Y1TA17589 Accuracy Class / +/- 0.1 of Range Date of Calibration / 25-Feb-2020 Due Date / 24-Feb-2023 **BOILER MAIN STEAM FLOW TRANSMITTER -2 (TAG.NO:11-FT-211B)** **Equipment Name** / **STEAM FLOW TRANSMITTER** Make / YOKOGAWA Serial No / Y1TA17590 Accuracy Class / +/- 0.1 of Range Date of Calibration / 25-Feb-2020 Due Date / 24-Feb-2023 Calibration details are given below. **TURBINE EXTRACTION STEAM PRESSURE TRANSMITTER (TAG.NO: PT-140)** **Equipment Name** / **Flow Transmitter** Make / YOKOGAWA Serial No / Y1TA16783 Accuracy Class / +/- 0.1 of Range Date of Calibration / 27-Feb-2020 Due Date / 26-Feb-2023
	Is the calibration of measuring equipment carried out by an	Yes, the calibration is conducted by state utility which is NABL Accredited entity.

	accredited person or institution?	
	Is(are) calibration(s) valid for the whole reporting period?	Yes, the calibration is valid for entire monitoring period.
	How were the values in the monitoring report verified?	Monthly values of $EG_{PJ,thermal,y}$ for entire monitoring period is reported in the monitoring report/02/, and in the ER calculation sheet/03/. The monthly values were verified from the credit notes issued by state utility and found to be consistent. Value of this parameter for the current monitoring period was verified as 347.54 TJ
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EG_{PJ,thermal,y}$ were further cross checked with the monthly invoices raised by the PP /17/ to state utility and found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data ensure correct transfer of data and reporting of emission reductions management. QA/QC processes are in place.
	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii)	Not Applicable

	has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	
Findings	No findings.	
Conclusion	The parameter has been monitored appropriately in accordance with the registered monitoring plan/01/ and applied methodology/07/. The monitored data was recorded consistently as per the approved frequency in monitoring plan/01/. Since 100% data has been monitored and verified, the verification team can ascertain that the values used for calculation of emission reduction are free from material errors. Implementation of the project is as per the registered monitoring plan/01/.	

Parameter 2: Net electricity supplied by the project activity ($EG_{PJ,electrical,y}$)

Means of verification		
	Criteria/Requirements	**Assessment/Observation**
	Measuring /Reading /Recording frequency	Continuous monitoring with monthly recording The value of the parameter is taken from the electricity meter installed in the control room which measures the net quantity of electricity supplied by the project activity.
	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 PD/01/ and monitoring methodology/07/.
	Monitoring equipment	Electric meter **Equipment Name**: **Gross Gen Meter** S. No.: X0465806 **Equipment Name**: **Cogen Auxiliary Meter** S. No.: 1712057761

<table>
<tr><td></td><td>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?</td><td>The accuracy class of the meter is 0.2s.</td></tr>
<tr><td></td><td>Calibration frequency /interval:</td><td>The calibration frequency for the electric meter is once in 5 years.</td></tr>
<tr><td></td><td>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, Pending untill the findings are closed or as per the</td><td>Yes.
Calibration Details
<table><tr><th colspan="2">(Generation) kWh Meter</th></tr><tr><th>Equipment Name</th><th>Tri vector Meter MWh</th></tr><tr><td>S.No</td><td>X0465806</td></tr><tr><td>Make</td><td>SECURE</td></tr><tr><td>Accuracy Class</td><td>0.2s</td></tr><tr><td>Date of Calibration/Date of Installation</td><td>29-Feb-2020</td></tr><tr><td>Due Date</td><td>28-Feb-2025</td></tr></table></td></tr>
</table>

	manufacturer's specifications?	
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, the turbine operator would be responsible for monitoring and checks for regular calibration of electricity meter and Shift In-charge will be responsible for calibration of the electricity meters.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, the calibration is valid for entire monitoring period.
	How were the values in the monitoring report verified?	Monthly values of $EG_{PJ,electrical,y}$ for entire monitoring period is reported in the monitoring report/02/, and in the ER calculation sheet/03/. The monthly values were verified from the credit notes issued by state utility/17/ and found to be consistent. Value of this parameter for the current monitoring period was verified as 9,500.86746 MWh
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EG_{PJ,thermal,y}$ were further cross checked with the monthly invoices raised by the PP /17/ to state utility and found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data ensure correct transfer of data and reporting of emission reductions management. QA/QC processes are in place.

	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
Findings	No findings.	
Conclusion	The parameter has been monitored appropriately in accordance with the registered monitoring plan/01/ and applied methodology/07/. The monitored data was recorded consistently as per the approved frequency in monitoring plan/01/. Since 100% data has been monitored and verified, the verification team can ascertain that the values used for calculation of emission reduction are free from material errors. Implementation of the project is as per the registered monitoring plan/01/.	

Parameter 3: Quantity of biomass residues of type k consumed in the boiler in year y ($B_{biomass,y}$)

$B_{biomass,y}$ = 61,076.00 Tons

Means of verification

Criteria/Requirements	**Assessment/Observation**
Measuring /Reading /Recording frequency	The parameter is monitored and recorded on continuous basis.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The measuring and reporting frequency is in line with the monitoring plan as outlined in the registered PD/01/ and monitoring methodology/07/.
Monitoring equipment	Weighbridge Accuracy class: ±0.01%

	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 class of the weighbridge is: ±0.01%	
	Calibration frequency /interval:	The weighbridge is calibrated annually.	
	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, pending untill the findings are closed or as per the manufacturer's specifications?	Yes. Calibration Details:	
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes	
	Is(are) calibration(s) valid for the whole reporting period?	Yes.	

Biomass quantity		
Weighbridge	**2717131579**	**2717131579**
Equipment Name	2019	2020
Make	METLER	METLER
Accuracy Class	5 kg	5 kg
Date of Calibration	08-Nov-2019	03-Nov-2020
Due Date	07-Nov-2020	02-Nov-2021

	How were the values in the monitoring report verified?	The verified value of total biomass consumption are: July-2020 to Dec-2020: 28,459 tonnes Jan-2021 to Sept-2021: 32,617 tonnes Total – 61,076 tonnes The measurement of each biomass truck is recorded in the daily logbooks. The logbook entries /06/ were checked to verify the figure and found acceptable.	
	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, the data ensure correct transfer of data and reporting of emission reductions management. QA/QC processes are in place.	
	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable	
Findings	No findings.		
Conclusion	The parameter has been monitored appropriately in accordance with the registered monitoring plan/01/ and applied methodology/07/. The monitored data was recorded consistently as per the approved frequency in monitoring plan/01/. Since 100% data has been monitored and verified, the verification team can ascertain that the values used for calculation of emission reduction are free from material errors. Implementation of the project is as per the registered monitoring plan/01/.		

Parameter 4: Net Calorific Value of biomass type k ($NCV_{k,biomass}$)

Means of verification	

Criteria/Requirements	Assessment/Observation
Measuring /Reading /Recording frequency	The NCV (Net Calorific Value) of biomass will be measured once in the first year of the crediting period (3 samples in each quarter) by third party laboratory/in-house as per national/ international standard
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 PD/01/ and monitoring methodology/07/.
Monitoring equipment	Calorimetry - third party lab analysis
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?	No Calibration Required.
Calibration frequency /interval:	No Calibration Required.
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, pending untill the findings are closed or as	No Calibration Required.

	per the manufacturer's specifications?	
	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
	How were the values in the monitoring report verified?	The third party NCV reports /16/ were reviewed to verify the reported values and were found to be consistent $NCV_{k,biomass}$ = 2107 kCal/Kg (Avg. NCV of Biomass fuel mix- 43% SEFB+43% Fibre+14% shell)
	If applicable, has the reported data been cross-checked with other available data?	Yes
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes
	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
Findings	No findings	

Conclusion	The parameter has been monitored appropriately in accordance with the registered monitoring plan/01/ and applied methodology/07/. The monitored data was recorded consistently as per the approved frequency in monitoring plan/01/. Since 100% data has been monitored and verified, the verification team can ascertain that the values used for calculation of emission reduction are free from material errors. Implementation of the project is as per the registered monitoring plan/01/.

Parameter 5: Extracted steam Enthalpy

Means of verification

Criteria/Requirements	**Assessment/Observation**
Measuring /Reading /Recording frequency	Continuous monitoring with monthly recording Enthalpy of steam from turbine is calculated from steam tables based on the corresponding values of quantity of steam and pressure. It is monitored continuous with monthly recording using steam pressure transmitter with Tag no. PT 140 and TT 141.
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 PD/01/ and monitoring methodology/07/.
Monitoring equipment	Pressure of steam will be measured by pressure gauge and temperature by temperature transducer Turbine extraction Steam Pressure transmitter (Tag.no:pt-140) Serial No | Y1TA16783 Turbine extraction steam temperature transmitter (Tag.no:TT-141) Serial No | C2T502618 Boiler operator would be responsible for monitoring and checks for regular calibration of temperature meter and pressure gauge. The Shift In-charge will be responsible for calibration of the temperature meter and pressure gauge.

<table>
<tr><td></td><td>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?</td><td>The calibration frequency is once in three years.</td></tr>
<tr><td></td><td>Calibration frequency /interval:</td><td>Calibration details
<table>
<tr><th colspan="2">TURBINE EXTRACTION STEAM TEMPARATURE TRANSMITTER (TAG.NO:TT-141)</th></tr>
<tr><th>Equipment Name</th><th>STEAM TEMP.INDICATOR</th></tr>
<tr><td>Make</td><td>YOKOGAWA</td></tr>
<tr><td>Serial No</td><td>C2T502618</td></tr>
<tr><td>Accuracy Class</td><td>+/- 0.1 of Range</td></tr>
<tr><td>Date of Calibration</td><td>27-Feb-2020</td></tr>
<tr><td>Due Date</td><td>26-Feb-2023</td></tr>
</table>
<table>
<tr><th colspan="2">TURBINE EXTRACTION STEAM PRESSURE TRANSMITTER (TAG.NO: PT-140)</th></tr>
<tr><th>Equipment Name</th><th>Flow Transmitter</th></tr>
<tr><td>Make</td><td>YOKOGAWA</td></tr>
<tr><td>Serial No</td><td>Y1TA16783</td></tr>
<tr><td>Accuracy Class</td><td>+/- 0.1 of Range</td></tr>
<tr><td>Date of Calibration</td><td>27-Feb-2020</td></tr>
<tr><td>Due Date</td><td>26-Feb-2023</td></tr>
</table></td></tr>
<tr><td></td><td>Is the calibration interval in line with the monitoring plan and/or methodology? If the</td><td>Yes</td></tr>
</table>

		monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, pending untill the findings are closed or as per the manufacturer's specifications?	
		Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, the calibration is conducted by state utility which is NABL Accredited entity.
		Is(are) calibration(s) valid for the whole reporting period?	Yes
		How were the values in the monitoring report verified?	Extracted steam Enthalpy = 2,737.88 KJ/Kg
		If applicable, has the reported data been cross-checked with other available data?	Yes
		Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes
		In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM	Not Applicable

	EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	
Findings	No findings	
Conclusion	The parameter has been monitored appropriately in accordance with the registered monitoring plan/01/ and applied methodology/07/. The monitored data was recorded consistently as per the approved frequency in monitoring plan/01/. Since 100% data has been monitored and verified, the verification team can ascertain that the values used for calculation of emission reduction are free from material errors. Implementation of the project is as per the registered monitoring plan/01/.	

Parameter 6: Pressure of flowing exhaust steam at the outlet of steam turbine = 3.03 kg/cm^2

Means of verification		
	Criteria/Requirements	**Assessment/Observation**
	Measuring /Reading /Recording frequency	Monitoring: Pressure gauge will measure the pressure of the steam at the turbine outlet Recording Frequency: Hourly Responsibility: Turbine operator would be responsible for monitoring and checks for regular calibration of pressure gauge and Shift In-charge will be responsible for calibration of the pressure gauge.
	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 PD/01/ and monitoring methodology/07/.
	Monitoring equipment	Turbine extraction Steam Pressure transmitter (Tag.no:pt-140) Serial No: Y1TA16783

<table>
<tr><td></td><td>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?</td><td>The value of the parameter is measured using pressure gauge of accuracy class +/-0.1% of range.</td></tr>
<tr><td></td><td>Calibration frequency /interval:</td><td>The calibration of the equipment will be carried out once in 3 years. For the current monitoring period it is calibrated as per the monitoring plan in the VCS PD/01/.</td></tr>
<tr><td></td><td>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, pending untill the findings are closed or as per the manufacturer's specifications?</td><td>Calibration details
<table>
<tr><th colspan="2">TURBINE EXTRACTION STEAM PRESSURE TRANSMITTER (TAG.NO: PT-140)</th></tr>
<tr><th>Equipment Name</th><th>Flow Transmitter</th></tr>
<tr><td>Make</td><td>YOKOGAWA</td></tr>
<tr><td>Serial No</td><td>Y1TA16783</td></tr>
<tr><td>Accuracy Class</td><td>+/- 0.1 of Range</td></tr>
<tr><td>Date of Calibration</td><td>27-Feb-2020</td></tr>
<tr><td>Due Date</td><td>26-Feb-2023</td></tr>
</table></td></tr>
<tr><td></td><td>Is the calibration of measuring equipment carried out by an accredited person or institution?</td><td>Yes, the calibration is conducted by state utility which is NABL Accredited entity.</td></tr>
</table>

	Is(are) calibration(s) valid for the whole reporting period?	Yes
	How were the values in the monitoring report verified?	Pressure gauge will measure the pressure of the steam at the turbine outlet
	If applicable, has the reported data been cross-checked with other available data?	The reported data has been cross-checked with the invoices issued to the PP/17/.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Not Applicable.
	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
Findings	No findings	
Conclusion	The parameter has been monitored appropriately in accordance with the registered monitoring plan/01/ and applied methodology/07/. The monitored data was recorded consistently as per the approved frequency in monitoring plan/01/. Since 100% data has been monitored and verified, the verification team can ascertain that the values used for calculation of emission reduction are free from material errors. Implementation of the project is as per the registered monitoring plan/01/.	

Parameter 7: Quantity of fossil fuel combusted in the project in year y ($FC_{i,j,y}$)

Means of verification	

Criteria/Requirements	Assessment/Observation
Measuring /Reading /Recording frequency	Monitoring: Type and quantity of fossil fuel combusted in the project activity will be measured using electronic weigh bridge (or recorded in challans provided by the supplier and handed over to the plant people by the truck driver). Data Type: Continuously Measured and archived Responsibility: Plant head with Officer (stores) would be responsible for monitoring and checks for regular calibration of weigh bridge
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 PD/01/ and monitoring methodology/07/.
Monitoring equipment	Measured using weigh bridge for coal and level gauge for diesel
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?	Weigh bridge for coal and level gauge for diesel Accuracy class: ±1%
Calibration frequency /interval:	The calibration frequency is once in a year.
Is the calibration interval in line with the monitoring plan and/or	Yes

		methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, pending untill the findings are closed or as per the manufacturer's specifications?		
		Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, the calibration is conducted by state utility which is NABL Accredited entity.	
		Is(are) calibration(s) valid for the whole reporting period?	Yes	
		How were the values in the monitoring report verified?	The consistency of metered fuel consumption quantities will be crosschecked by an annual energy balance that is based on purchased quantities and stock changes.	
		If applicable, has the reported data been cross-checked with other available data?	The consistency of metered fuel consumption quantities will be cross-checked by an annual energy balance that is based on purchased quantities and stock changes. Coal = 0, Diesel = 26,618 Lit	
		Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Not applicable	

	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
Findings	No findings	
Conclusion	The parameter has been monitored appropriately in accordance with the registered monitoring plan/01/ and applied methodology/07/. The monitored data was recorded consistently as per the approved frequency in monitoring plan/01/. Since 100% data has been monitored and verified, the verification team can ascertain that the values used for calculation of emission reduction are free from material errors. Implementation of the project is as per the registered monitoring plan/01/.	

Parameter 8: Moisture content of each biomass residues type k (M)

Means of verification		
	Criteria/Requirements	**Assessment/Observation**
	Measuring /Reading /Recording frequency	The value of the parameter should be monitored for each type of biomass used, once in the first year of the crediting period.
	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 PD/01/ and monitoring methodology/07/.
	Monitoring equipment	Not applicable. Moisture content will be measured locally, in reputed laboratories

		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?	No Calibration Required.	
		Calibration frequency /interval:	No Calibration Required.	
		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, pending untill the findings are closed or as per the manufacturer's specifications?	No Calibration Required.	
		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	

<table>
<tr><td></td><td>
<table>
<tr><td>How were the values in the monitoring report verified?</td><td>Not applicable</td></tr>
<tr><td>If applicable, has the reported data been cross-checked with other available data?</td><td>Yes
<table>
<tr><th>Palm Fiber (MT)</th><th>Shell (MT)</th><th>Shredded fiber (MT)</th></tr>
<tr><td>30.00%</td><td>15.00%</td><td>50.00%</td></tr>
</table></td></tr>
<tr><td>Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?</td><td>Not applicable</td></tr>
<tr><td>In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?</td><td>Not Applicable</td></tr>
</table>
</td></tr>
<tr><td>Findings</td><td>No findings</td></tr>
<tr><td>Conclusion</td><td>The parameter has been monitored appropriately in accordance with the registered monitoring plan/01/ and applied methodology/07/. The monitored data was recorded consistently as per the approved frequency in monitoring plan/01/. Since 100% data has been monitored and verified, the verification team can ascertain that the values used for calculation of emission reduction are free from material errors. Implementation of the project is as per the registered monitoring plan/01/.</td></tr>
</table>

Parameter 9: Temperature of the steam extracted (T) = 192.21 ^{0}C

<table>
<tr><td>Means of verification</td><td>
<table>
<tr><th>Criteria/Requirements</th><th>Assessment/Observation</th></tr>
<tr><td>Measuring /Reading /Recording frequency</td><td>The value of the parameter is measured using temperature gauge on hourly basis and the monthly average value is applied to calculate enthalpy of steam.</td></tr>
<tr><td>Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)</td><td>Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered PD/01/ and monitoring methodology/07/.</td></tr>
<tr><td>Monitoring equipment</td><td>Temperature gauge/ Turbine extraction steam temperature transmitter (TAG.NO:TT-141)

<table><tr><td>Serial No</td><td>C2T502618</td></tr></table></td></tr>
<tr><td>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?</td><td>Calibration of the temperature transducer is done once in three years which was calibrated for the current monitoring period.</td></tr>
<tr><td>Calibration frequency /interval:</td><td>Calibration details

<table><tr><th colspan="2">TURBINE EXTRACTION STEAM TEMPARATURE TRANSMITTER (TAG.NO:TT-141)</th></tr><tr><td>Equipment Name</td><td>STEAM TEMP.INDICATOR</td></tr><tr><td>Make</td><td>YOKOGAWA</td></tr><tr><td>Serial No</td><td>C2T502618</td></tr><tr><td>Accuracy Class</td><td>+/- 0.1 of Range</td></tr></table></td></tr>
</table>
</td></tr>
</table>

		Date of Calibration	27-Feb-2020
		Due Date	26-Feb-2023
	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, pending untill the findings are closed or as per the manufacturer's specifications?	Yes	
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, the calibration is conducted by state utility which is NABL Accredited entity.	
	Is(are) calibration(s) valid for the whole reporting period?	Yes	
	How were the values in the monitoring report verified?	Plant logbook/06/	
	If applicable, has the reported data been cross-checked with other available data?	Plant logbook/06/	
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary	Not applicable	

	QA/QC processes in place?	
	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable
Findings	No findings	
Conclusion	The parameter has been monitored appropriately in accordance with the registered monitoring plan/01/ and applied methodology/07/. The monitored data was recorded consistently as per the approved frequency in monitoring plan/01/. Since 100% data has been monitored and verified, the verification team can ascertain that the values used for calculation of emission reduction are free from material errors. Implementation of the project is as per the registered monitoring plan/01/.	

Parameter 10: Net Calorific Value of fossil fuels ($NCV_{fossil\ fuels}$)

Since no fossil fuel was used thus the value for the parameter is considered zero.

Means of verification

Criteria/Requirements	Assessment/Observation
Measuring /Reading /Recording frequency	Monitoring: The NCV of fossil fuel type if used is measured once in the year by third party laboratory/ in-house as per national/ international standard. Recording frequency: once in the first year of the crediting period
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 PD/01/ and monitoring methodology/07/.

	methodology? (Yes / No)		
	Monitoring equipment	Calorimetry - third party lab analysis	
	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?	No Calibration Required.	
	Calibration frequency /interval:	No Calibration Required.	
	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, pending untill the findings are closed or as per the manufacturer's specifications?	No Calibration Required.	
	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	

	How were the values in the monitoring report verified?	The third party NCV reports /16/ were reviewed to verify the reported values and were found to be consistent $NCV_{k,biomass}$ = 0 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	
	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	Not Applicable	
Findings	No findings		
Conclusion	The parameter has been monitored appropriately in accordance with the registered monitoring plan/01/ and applied methodology/07/. The monitored data was recorded consistently as per the approved frequency in monitoring plan/01/. Since 100% data has been monitored and verified, the verification team can ascertain that the values used for calculation of emission reduction are free from material errors. Implementation of the project is as per the registered monitoring plan/01/.		

Parameter 11: Electricity taken from grid for the cogeneration plant startup/ emergency operations. ($EC_{PJ,j,y}$)

<table>
<tr><td>Means of verification</td><td>
<table>
<tr><th>Criteria/Requirements</th><th>Assessment/Observation</th></tr>
<tr><td>Measuring /Reading /Recording frequency</td><td>Monitoring: Electricity meter in control room

Responsibility: Turbine operator is responsible for monitoring and checks for regular calibration of electricity meter and Shift In charge is responsible for calibration of the electricity meters.</td></tr>
<tr><td>Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)</td><td>Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered PD/01/ and monitoring methodology/07/.</td></tr>
<tr><td>Monitoring equipment</td><td>Electric meter
<table>
<tr><th>Equipment Name</th><th>Import Meter</th></tr>
<tr><td>S.No</td><td>17230314</td></tr>
</table></td></tr>
<tr><td>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?</td><td>The accuracy class of the meter is 0.2s.</td></tr>
</table>
</td></tr>
</table>

	Calibration frequency /interval:	The calibration frequency for the electric meter is once in 5 years. **Import Meter Details** **Equipment Name** / **Import Meter** Serial No / 17230314 Make / L&T Accuracy Class / 0.2s Date of Calibration / 25-Nov-2017 Due Date / 24-Nov-2022
	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, Pending untill the findings are closed or as per the manufacturer's specifications?	Not applicable
	Is the calibration of measuring equipment carried out by an accredited person or institution?	The Electric meters are under the control of state utility and PP has no control over it.
	Is(are) calibration(s)	Yes, the calibration is valid for entire monitoring period.

	valid for the whole reporting period?	
	How were the values in the monitoring report verified?	Monthly values of $EC_{PJ,j,y}$ for entire monitoring period is reported in the monitoring report/02/, and in the ER calculation sheet/03/. The monthly values were verified from the credit notes issued by state utility and found to be consistent. Value of this parameter for the current monitoring period was verified as 5*27* MWh
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EC_{PJ,j,y}$ were further cross checked with the monthly invoices raised by the PP /17/ to state utility and found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, the data ensure correct transfer of data and reporting of emission reductions management. QA/QC processes are in place.
	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to	Not Applicable

	the CDM Project Standard?	
Findings	No findings.	
Conclusion	The parameter has been monitored appropriately in accordance with the registered monitoring plan/01/ and applied methodology/07/. The monitored data was recorded consistently as per the approved frequency in monitoring plan/01/. Since 100% data has been monitored and verified, the verification team can ascertain that the values used for calculation of emission reduction are free from material errors. Implementation of the project is as per the registered monitoring plan/01/.	

4.6 Non-Permanence Risk Analysis

Not Applicable for the project activity

5 VERIFICATION CONCLUSION

Earthood Services Private Limited (ESPL), contracted by Infinite Solutions, to perform the independent second verification of the emission reductions for the VCS project activity reference number 1744 “4 MW Biomass based Cogeneration Plant by Godrej Agrovet Ltd.” in India for the monitoring period 01/07/2020 to 30/09/2021 (inclusive both days) reported in the Monitoring Report Version 04/02/ dated 05/04/2022.

It is our responsibility to express an independent verification statement on the reported GHG emission reductions from the project activity.

ESPL commenced the verification on the basis of the baseline and monitoring methodology “AMS-I.C, Version 20.0”, the monitoring plan contained in the registered VCS PD/01/ and VCS guidelines version 4.1/12/, Monitoring Report/02/ as per the process described under Section 2 of this report.

The quantified emission reduction calculation for the monitoring period is correct and conservative/03/. Assessment team also compared actual VER (122,289 tCO2e) with the estimated VER and found that the actual VER (42,407 tCO2e) is 65.32% lower than the estimated emission reduction. This is because there was plant shutdown from November 2020 to March 2021 because of non-availability of biomass and for routine annual maintenance. As no electricity was generated for a period of around 5 months, the emission reduction was found to be lower than the estimated value. This was confirmed through the plant logbooks/06 as well as during the remote site visit, while interviewing the plant personnel/08/.

ESPL’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. ESPL planned and performed the verification by obtaining evidence and other information and explanations that ESPL considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In our opinion the GHG emissions reductions reported for the project activity for the period 01/07/2020 to 30/09/2021 are fairly stated in the Monitoring Report/02/. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology AMS-I.C, Version 20.0/07/ and the VCS standard version 4.2/11/.

Verification period: 01/07/2020 to 30/09/2021 (inclusive of both days).

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

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
2020 (01/07/2020 - 31/12/2020)	20,239	307.00	0	19,932
2021 (01/01/2021 - 30/09/2021)	22,784	309.00	0	22,475
Total	43,023.00	616.00	0	**42,407**

Approved by

Dr. Kaviraj Singh

Managing Director **Date: 12-August-2022**

Earthood Services Privated Limited **Place: Gurugram, Haryana**

APPENDIX 1: DOCUMENT REFERENCE

S.No	Title of Document	Version	Date
1	Registered PD	03	28/07/2018
	Initial VCS Monitoring Report	03	19/07/2021
2	Final VCS Monitoring Report	05	04/08/2022
3	ER spreadsheet (corresponding to the final monitoring report)	04	05/04/2022
4	Certificates of calibration for energy meters and weighbridges (01-July-2020 to 30-September-2021)	-	-
5	Biomass Purchase Records	-	-
6	Plant Records/Logbooks/DCS record for the duration of monitoring period (01-July-2020 to 30-September-2021)	-	-
7	AMS I.C.: Thermal energy production with or without electricity	20	-
8	Remote Audit through Skype video call/Telephonic discussions	-	18/01/2022
9	Commissioning certificate	-	01/10/2018
10	VCS webpage for the project, https://registry.verra.org/app/projectDetail/VCS/1744	-	Last accessed on 23/03/2022
11	VCS Standard	4.2	Last accessed on 23/03/2022
12	VCS Program Guide	4.1	Last accessed on 23/03/2022
13	Letter of declaration dated from PP regarding not having created or sought any other form of environmental credit for the same period and double counting	-	29/01/2022
14	Google Earth desktop/Mobile application	-	Last accessed on 23/03/2022
15	Technical specifications by technology supplier		
16	NCV Reports	-	-
17	JMR & Invoices	-	-
18	Copies of the grievance registers maintained at sites	-	
	Photographs of the monitoring systems	-	-
19	Fuel Analysis reports	-	31/01/2018
	Validation Report	02	28/07/2018
20	Previous Verification Report	02	02/10/2020
21	MNRE Report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects”		01/09/2013
22	CEA Database: CO_2 Baseline Database for Indian Power sector	17	October 2021
23	2006 IPCC Guidelines for National Greenhouse Gas Inventories	-	-

APPENDIX 2: FINDINGS OVERVIEW

Table 1. Remaining FAR from validation and/or previous verification

FAR ID	NA	**Section no.**	NA	**Date :**DD/MM/YYYY
Description of FAR				
No FAR from validation or verification				
Project proponent response				**Date :**DD/MM/YYYY
NA				
Documentation provided by project proponent				
NA				
DOE assessment				**Date:** DD/MM/YYYY
NA				

Table 2. CL from this verification

CL ID	01	**Section no.**	4.2	**Date : 09/12/2021**
Description of CL				
Under section 4.2 “Data and Parameters to be monitored “of the MR version 1.0, for the parameter NCV fossil fuels the value monitored has been written as “No fossil fuel is used” while as per the ER sheet, diesel was used under this monitoring period. PP is requested to clarify why the usage and NCV of diesel are not mentioned.				
Project proponent response				**Date :** 14/02/2022
PP has revised the section 4.2 “Data and Parameters to be monitored” of the revised MR and made consistent inline with ER sheet. Hence, revised MR version 2.0.				
Documentation provided by project proponent				
MR v3.0 ER v2.0				
DOE assessment				**Date:** 28/02/2022
Under Section 4.2 of the Monitoring Report version3.0, the value of the parameter NCV fossil fuels has been updated and is in line with the ER sheet v2.0. Thus, CL01 is closed.				

CL ID	02	**Section no.**	5.4	**Date : 09/12/2021**
Description of CL				
PP is requested to clarify whether the deviation was requested for the period (Nov 2020-Mar 2021) during which the plant was completely shut down in between the monitoring period.				
Project proponent response				**Date :** 14/02/2022
As per Verra’s guidelines, no deviation is required. In the project activity, working of plant is based on the availability of fuel. In the current monitoring period, plant was shut down (Nov 2020-Mar 2021) due to the non-availability of fuel.				
Documentation provided by project proponent				
MR v3.0 ER v2.0				
DOE assessment				**Date:** 28/02/2022
As per the VCS guidelines no deviation is required for the plant shutdown during the monitoring period, also, the justification provided by the PP for the plant shutdown has been found reliable as it is due to non-availability of duel and the same was confirmed during the remote site visit. Thus, CL02 is closed.				

CL ID	03	**Section no.**	1.9	**Date : 09/12/2021**
Description of CL				
PP is requested to submit declaration in effect of avoiding double counting with regard to participation under other GHG Programs/other forms credits, rejection under other GHG program, renewable energy certificate schemes etc. Kindly submit.				
Project proponent response				**Date :** 14/02/2022

PP is hereby submitting the declaration of no double accounting along with this submission to the assessment team.
Documentation provided by project proponent
Undertaking No double accounting
DOE assessment **Date:** 28/02/2022
PP has submitted a declaration dated 29/01/2022 in effect of avoiding double counting with regard to participation under other GHG Programs/other forms credits, rejection under other GHG program, renewable energy certificate schemes. Thus, CL03 is closed.

CL ID	04	**Section no.**	-	**Date : 09/12/2021**
Description of CL				
PP is requested to submit the following documents: 1. Electricity purchase invoices. 2. Photographs of the electricity meters installed. 3. Calibration certificates for all the equipment used.				
Project proponent response				**Date :** 12/10/2021
PP is hereby submitting the abovementioned documents along with this submission.				
Documentation provided by project proponent				
1. Electricity purchase invoices 2. Photographs of the electricity meters installed *3.* Calibration certificates for all the equipment used				
DOE assessment				**Date:** 03/03/2022
PP has submitted all the required documents which confirm the regular operation and monitoring of the parameters for 4MW Co-generation project. Thus, CL04 is closed.				

CL ID	05	**Section no.**	4.5	**Date : 09/12/2021**
Description of CL				
1. PP is requested to provide the document supporting the consumption of biomass for the monitoring period. 2. PP is requested to provide the supporting document for the quantity of diesel consumption during the monitoring period.				
Project proponent response				**Date :** 12/10/2021
PP is hereby submitting the abovementioned documents along with this submission.				
Documentation provided by project proponent				
Biomass logbook Diesel logbook				
DOE assessment				**Date:** 03/03/2022
PP has submitted Biomass and diesel consumption data for the monitoring period which is found sufficient and reliable for the assessment of the project. Thus, CL05 is closed.				

CL ID	06	**Section no.**	4.4	**Date : 09/12/2021**
Description of CL				
As per the ER sheet version 01 dated 18/11/2021 Under “Project emissions” Cell no. I13, The PP is requested to clarify why the electricity import for the month of July 2020 is Zero?				
Project proponent response				**Date :** 12/10/2021
The production at the plant was at its peak in the month of July. As a result, the plant didn’t need to import electricity from the grid and the plant used its own generated electricity.				
Documentation provided by project proponent				
Electricity purchase invoices				
DOE assessment				**Date:** 03/03/2022

As per the electricity invoices shared by the PP for the month of July 2020, the electricity import is zero. Thus, CL06 is closed.

CL ID	07	**Section no.**	4.4	**Date : 09/12/2021**
Description of CL				
As per the ER sheet version 01 dated 18/11/2021, PP is requested to clarify why the project emission is shown for the period November 2020 to March 2021, when the plant was temporarily shut down.				
Project proponent response				**Date :** 14/02/2022
There is a 5 months shutdown in the current monitoring period and the generation for those months are reported to be zero. But during this shutdown period some project emission is shown as the plant uses electricity & diesel for maintenance work.				
Documentation provided by project proponent				
Maintenance Register				
DOE assessment				**Date:** 03/03/2022
As per the documents shared by the PP the project emission shown for the period of 5 months (Nov 2020-March 2021) was due the consumption of Diesel and Electricity for running the auxiliaries of the plant. The justification is found acceptable in the opinion of the VVB. Thus, CL07 is closed.				

Table 9. CAR from this verification

CAR ID	01	**Section no.**	2.3.2	**Date : 09/12/2021**
Description of CAR				
1. There is an alteration in the template of the MR v1.0. The PP is requested to review the CONTENT page of the MR and also please mention the page number throughout the monitoring report. 2. Under section 2.3.2 “Project description deviations” of the MR v1.0, It has been written as first monitoring period while this is the second monitoring period. Please review.				
Project proponent response				**Date :** 14/02/2022
1. The CONTENT page of the MR v1.0 has been reviewed and all the page numbers are mentioned throughout the monitoring report in MR v2.0 2. Under section 2.3.2 “Project description deviations” of the MR v1.0, the typing error has been corrected in MR v2.0.				
Documentation provided by project proponent				
MR v3.0 ER v2.0				
DOE assessment				**Date:** 03/03/2022
The revised MR is checked and found that 1. Content page of the MR is corrected. 2. Section 2.3.2 is now revised to second monitoring period. CAR01 is closed.				

Table 10. FAR from this verification

FAR ID	NA	**Section No.**	NA	**Date :**DD/MM/YYYY
Description of FAR				
No FAR was raised during the current verification.				
Project proponent response				**Date :**DD/MM/YYYY
NA				
Documentation provided by project proponent				
NA				
DOE assessment				**Date:** DD/MM/YYYY
NA				

APPENDIX 3: ABBREVIATIONS

Abbreviations	Full texts
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction(s)
CEA	Central Electricity Authority
CL	Clarification request
CM	Combined Margin
CMS	Central Monitoring system
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reductions
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming potential
PP	Project Proponent

APPENDIX 4: COMPETENCE STATEMENTS

Competence Statement			
Name	N Premjit Singh		
Education	B.Tech in Mechanical Engineering M.Tech in Energy Technology		
Experience	9+ Years		
Field	Climate Change, Energy		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS I.D		
Local expert	YES		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	YES (TA 1.2)		
Reviewed by	Deepika Mahala (Quality Manager)	**Date**	19/08/2021
Approved by	Ashok Gautam (Technical Manager)	**Date**	25/08/2021

Competence Statement			
Name	Shifali Guleria		
Country	India		
Education	M.Sc. (Environmental Studies and Resource Management), TERI University		
Experience	3+ Year		
Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	YES (AMS-I.A., AMS-II.G.,AMS-II.E., AMS-III.A.V., AMS-I.D, ACM0002)		
Local expert	YES		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (1.2, 3.1)		
Reviewed by	Deepika Mahala	**Date**	16/02/2022
Approved by	Ashok Gautam	**Date**	18/02/2022

Competence Statement			
Name	Shreya Kunj		
Education	M. Tech (Energy Management) B. Tech (Electrical Engineering)		
Experience	02/2021-Present		
Field	Climate Change & Environment		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Trainee	YES		
Reviewed by	Deepika Mahala (Quality Manager)	**Date**	19/08/2021
Approved by	Ashok Kumar Gautam (Technical Manager)	**Date**	25/08/2021

Competence Statement			
Name	Mihika Saxena		
Education	B. Tech Civil Engineering		
Experience	NA		
Field	Environmental Engineering		
Approved Roles			
Team Leader	NO		
Validator	NO		
Verifier	NO		
Methodology Expert	NO		
Local expert	NO		
Financial Expert	NO		
Technical Reviewer	NO		
TA Expert (X.X)	NO		
Trainee	YES		
Reviewed by	Deepika Mahala	**Date**	09/03/2022
Approved by	Ashok Gautam	**Date**	09/03/2022