6.5 MW COGENERATION PROJECT IN AKBARPUR, PUNJAB

Document Prepared By

LGAI Technological Center S.A. (Applus+ Certification)

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Summary:

LGAI Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed by "Gillanders Arbuthnot & Co. Ltd. to perform a verification of the project "6.5 MW cogeneration project in Akbarpur, Punjab" for the period from 20-June-2011 to 19-June-2017. The main purpose of this verification activity is to have an independent third party for the assessment of the project design, monitoring report to ensure a thorough assessment of the proposed project activity against the applicable CDM and VCS requirements.

The project activity is involving installation of a cogeneration plant 1 rice husk fired AFBC boiler with steam generation capacity of 34 TPH and 6.5 multistage extraction cum condensing steam generator. Start date of the project activity is 30-March-2009 which is also commissioning date of project. This is as per the registered VCS PD version 04 dated: 22-March-2011 and Final Validation report version 03 dated: 22-March-2011.The commissioning report for the project activity is checked by the assessment team and found correct.

The scope of the verification is the independent and objective review of the monitoring report (MR). The MR is reviewed against the relevant criteria (see above) and decisions by the CDM Executive Board and VCS executive board, including the approved baseline and monitoring methodology. The verification was based on the guidance given in the CDM Validation and Verification Standard for project activities, version 02.0, review against registered PD and Final Validation report, CDM Project Standard for project activities, version 02.0; CDM Project Cycle Procedure for project activities, version 02.0 and VCS program guideline v4.0 and standard version v4.1.

Monitoring report covers period from 20-June-2011 to 19-June-2017 (both days included). The total emission reductions achieved for the project activity during the monitoring period has been 193,456 tCO_2e. The crediting period for VCS began on 30-March-2009 and ended on 29/03/2019. An undertaking from the project participant confirms that project will not claim any other scheme benefits for the concerned monitoring period (Refer Section 3.1 of this FVR for further details).

A risk-based approach has been followed to perform this verification activity. In the course of verification, 09 Corrective Action requests (CAR), 00 Clarification Requests (CLs) and 00 Forward Action Requests (FARs) were raised and successfully closed. The review of the monitoring report and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and PP have provided DOE with sufficient evidence to verify the fulfilment of the stated criteria of VCS.

The assessment team has employed a risk-based approach to assess the completeness and accuracy of the claims and conservativeness of the assumptions in the MR. The main focus of the assessment team is to identify the significant risks for the project implementation and the generation of VERs. The verification is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring report combined.

The only purpose of the verification is its usage during the issuance process as part of the VCS project cycle. Therefore, LGAI Technological Center S.A. (Applus+ Certification) can't be held liable by any party for decisions made or not made based on the verification opinion, which will go beyond that purpose.

The verification has been planned and organized to achieve a Reasonable Level of assurance as per the requirement of VCS. No sampling procedure applied for site visit or document verifications. The entire documents checked/power plant verification conducted to arrive at positive verification conclusions.

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1 INTRODUCTION

1.1 Objective

LGAI Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed by "Gillanders Arbuthnot & Co. Ltd." to perform the 2nd periodic verification of the "6.5 MW cogeneration project in Akbarpur, Punjab" under VCS standard v4.1 and guideline v4.0. The objective of this verification activity is to have an independent third party for the assessment of the project design, monitoring report and final validation report and to ensure a thorough assessment of the proposed project activity against the applicable CDM and VCS requirements. In particular;

- the project's baseline is assessed against "AMS-I.C, Version 18.0"
- the project's monitoring plan is assessed against "AMS-I.C Version 18.0"
- the projects compliance with, the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria along with VCS guidelines and standard version v4.1.
- CDM Validation and Verification Standard for project activities, version 02.0
- CDM Project Standard for project activities, version 02.0
- CDM Project Cycle Procedure for project activities, version 02.0
- VCS standard v4.1
- VCS program guideline v4.0

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of verified emission reductions (VERs).

1.2 Scope and Criteria

The scope is defined as an independent and objective review of the Monitoring report (MR) prepared as per the registered PD and registered approved methodology AMS-I.C version 18.0 The MR is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board and VCS standard v4.1and guideline version 4.0,

including the approved baseline and monitoring methodology AMS.I.C version 18.0. The verification was based on the requirements in the CDM Validation and Verification Standard for project activities version 02.0; CDM project standard for project activities, version 02.0; CDM project cycle procedure for project activities, version 02.0 and VCS program guideline and standard version v4.1.

The verification is not meant to provide any consulting towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the Monitoring report. In line with Guidelines for Application of materiality in verifications, the verification team has conducted a complete verification of all the information presented in the monitoring report and data monitored as presented in the emission reduction calculation spread sheet. Its invoices follow the paper trail back to the raw data such as meter reading records and logbook data sheet. There are no material errors, overestimation of ER, omission or misstatement. No sampling is used as the verification team has visited Co-gen power plant site. The verification team has reviewed all the documents like commissioning certificates, Logbook data sheet etc.

1.3 Level of Assurance

The verification has been planned and organized to achieve a Reasonable Level of assurance as per the requirement of VCS. No sampling procedure applied for site visit or document verifications. The entire documents checked/Power plant verification conducted to arrive at positive verification conclusions.

1.4 Summary Description of the Project

The project activity involves installation of a cogeneration plant comprising of one biomass (rice husk) based AFBC boiler with steam generation capacity of 34 TPH and 6.5 MW extraction cum condensing steam turbine generator. The project activity located at the Village-Akbarpur in Sangrur district of Punjab state, India. The project aims to reduce GHG emission and promoted sustainable development by use of renewable energy for generation of steam and electricity in the cogeneration plant. Assessment team checked the commissioning Certificates and found that project activity was commissioned on 30-March-2009. The project is implemented as per the description in the registered VCS PD. No event observed during the current monitoring period which can alter or deviate from the methodology requirement.

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification Process: The project assessment is based on the "Clean Development Mechanism Validation and Verification Standard" for project activities version 02.0 and "VCS standard v4.1 and program guideline version 4.0" and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the VCS project activity are appointed.

Once the project is received by the assessment team, the members of the assessment team carried out:

1. A desk review of the Monitoring report against the registered PD and final validation report;
2. Follow-up interviews with project participant;
3. The resolution of outstanding issues and the issuance of the final verification report and opinion.

The prepared verification report and other supporting documents then undergo an internal quality control at the HQ (Accredited office) before being submitted to the VCS executive board.

In order to ensure transparency, assumptions must be clear and stated explicitly and background material must also be referenced. Applus+ Certification has developed a specific checklist customized for the project. The checklist demonstrates, in a transparent manner, the project criteria (requirements), discussion on each criterion by the assessment team, and the results from validating the identified criteria.

Appointment of the assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, Applus+Certificationhas composed a project assessment team in ac cordance with the appointment rules in the internal Quality Management System of Applus + Certification.

The composition of audit team shall be approved by the Applus+ Certification ensuring that the required skills are covered by the team.

The four qualification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA).

- Auditor (A) / Auditor in Training (AiT).
- Technical Expert (TE).
- Technical Reviewer (TR).

The sectoral scope / technical area knowledge linked to the applied methodology/ies shall be covered by the assessment team.

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Dr. Atul Takarkhede	LA/TE	YES	YES	NA	YES
Mr. Simon Shen	TR	YES	YES	NA	NA

The detail regarding the assessment team is provided below in this report as Appendix 3

Document review

The Monitoring report version 01 submitted by the PP was reviewed against the approved methodology, registered PD, final validation report and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in this report below in Appendix 1.

Follow-up interviews

A site visit is conducted by Applus+ Certification. Audit team performed interviews, telephone conferences, and physical site inspection with project stakeholders to confirm selected information and to resolve issues identified in the document review. The detail is provided in this report.

Resolution of Clarification and Corrective Action Request

The objective of this phase of the Verification was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for Applus+ Certification positive conclusion on the Monitoring report. The Corrective Action Requests and Clarification Requests raised by Applus+ Certification were resolved during communications between the Client and Applus+ Certification to guarantee the transparency of the verification process, the concerns raised and responses given are summarized below in the Appendix 2.

The final MR Version 02 submitted by PP serves as the basis for the final assessment presented. Additional changes to the project during the verification process are not considered to be significant with respect to the main CDM/VCS objectives. The two CDM/VCS main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Internal quality control

As final step of a verification of the final documentation including the verification report and the checklist have to undergo an internal quality control by the technical review committee, i.e. each report has to be finally approved either by the head of the technical review committee or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one to avoid any conflict of Interest.

After confirmation of the PP the positive verification opinion and relevant documents are submitted to the VCS board through the VCS web-platform.

2.2 Document Review

The details of the document observed during the verification process are listed below in Appendix 1 of this report

2.3 Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Sodhani	Manoj	PP Representative	15/03/2021 - 16/03/2021	Implementation of the project and monitoring. Baseline emission calculation, achieved emission reduction for the monitoring period, monitoring process followed onsite	Dr. Atul Takarkhede
	Dutta	Bhaskar	Consultant EKI Energy Services	15/03/2021-16/03/2021	Baseline emission calculation, achieved emission reduction for the monitoring period, monitoring process followed onsite	

2.4 Site Inspections

Duration of on-site inspection: 15/03/2021 & 16/03/2021				
S.No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	Assessment team checked the implementation of the project, Baseline emission, Emission reduction calculation, technical description of the project and Monitoring. Assessment team also checked that whether the monitoring plan as	Village-Akbarpur, District-Sangrur, Punjab, India	15/03/2021-16/03/2021	Dr. Atul Takarkhede

Duration of on-site inspection: 15/03/2021 & 16/03/2021				
S.No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
	described in the VCS PD is actually practised onsite. Also assessment team checked any change in host country criteria which may affect the baseline of the project activity. Assessment team also had a discussion with Technical staff, monitoring team and checked grievance register placed onsite as per the continuous improvement measure of PP for the Local villagers.			

2.5 Resolution of Findings

The objective of this phase of the Verification was to resolve the requests for corrective actions and clarification and any other outstanding issues from validation which need to be clarified for Applus+ Certification's positive conclusion on the Monitoring report. The Corrective Action Requests and Clarification Requests raised by Applus+ Certification were resolved during communications between the Client and Applus+ Certification to guarantee the transparency of the verification process, the concerns raised and responses given are summarized below in the appendix 2.

The final MR Version 02 submitted by PP serves as the basis for the final assessment presented. Additional changes to the project during the verification process are not considered to be significant with respect to the main CDM/VCS objectives. The two CDM/VCS main objectives are the reduction of anthropogenic GHG emissions and the contribution of sustainable development to the host country.

Areas of validation and verification findings	No. of CL	No. of CAR	No. of FAR
Project design document and Monitoring report	00	01	00
Description of project activity	00	03	00
Application of selected baseline and monitoring methodology and selected standardized baseline	00	00	00

Applicability of methodology and standardized baseline	00	00	00
Deviation from methodology	00	00	00
Clarification on applicability of methodology, tool and/or standardized baseline	00	00	00
Project boundary	00	00	00
Establishment and description of baseline scenario	00	00	00
Demonstration of additionality	00	00	00
Emission reductions	00	02	00
Calibration details	00	01	
Monitoring plan	00	00	00
No Net harm assessment	00	01	00
Local stakeholder consultation	00	01	00
Others (please specify	00	00	00
Total	**00**	**09**	**00**

The list of findings and their resolution is presented in Appendix 2 of this report.

2.5.1 Forward Action Requests

This is 2nd periodic verification of the project activity and no FAR was raised from validation and previous verification

2.6 Eligibility for Validation Activities

This section is not applicable for present verification.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project activity has not participated in any other GHG programs except CDM. The project activity is registered as CDM project on 20-June-2011 under the UNFCCC Reference Number 4886[1].

This VCS monitoring period 20/06/2011 to 19/06/2017 has been partially covered by a UNFCCC CDM Verification period covering 01/01/2013 to 31/03/2018[2], with FVR issued on 27/01/2020. The CERs have not been yet claimed[3], and thus, if VCUs are issued for the period including UNFCCC CDM FVR covered period, the CERs cannot be claimed. PP has

[1] https://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1307501311.32/view

[2] CDM: Issuance of CERs (unfccc.int)

[3] CDM: Applus1557389260.76 (unfccc.int)

given declaration that the project activity will not claim emission reductions for the monitoring period claimed in VCS and avoid double counting of the emission reductions.

Verification team has also checked REC India registry and confirms that project activity is not availing any REC benefits[4].

3.2 Methodology Deviations

There is no methodology deviation in present verification.

3.3 Project Description Deviations

No deviation is requested by PP during current monitoring period.

3.4 Grouped Project

This is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During the verification site visit it was concluded that the project is implemented as per the requirement of the registered VCD PD. 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.

Project location is confirmed by the assessment team during the site visit. Assessment team also checked with the GPS meter regarding the latitude and longitude of the project site and confirm that the details as mentioned in the registered PD are correct. The detail is as below:

District	State	Latitude	Longitude
Sangrur	Punjab	31.4991 ° N	75.3675 ° E

[4] https://www.recregistryindia.nic.in/index.php/general/publics/registered_regens

Assessment team also checked the technical details of the biomass-based cogeneration plant installed onsite. The technical specifications are given below:

Specification of biomass-based Boiler

Type of Boiler	**Atmospheric Fluidized Bed Combustion[5]**
Make	M/s Thermax Limited
Number of boilers	1
Boiler capacity	34 TPH
Type of fuel	Rice husk
Boiler steam outlet pressure	66 kg/cm²(g)
Boiler steam outlet temp.	495 (+/-5) °C
Feed water temp.	105 °C
Efficiency (Rice Husk)	81 %

Specification of Turbine Generator

Type of Turbine	**Multistage extraction cum condensing.**
Number of turbine	1
Output capacity	6500 KW
Gear box output speed	1500 rpm
Inlet steam pressure	65 kg/cm²(A)
Inlet steam temp	490^0C

In addition to above mentioned equipment, other equipment, following are also part of the power plant.

- Cooling tower and circulating water system
- Fuel and ash handling systems
- RO Water system and Air Compressor Plant
- ESP to remove suspended particles from the flue gas
- Electrical and Instrumentation system

The electricity generated by project activity is being used to meet the captive consumption in cogeneration plant. Thus, there was no feeder as electricity is not being exported to grid.

Assessment team checked the commissioning certificate and confirmed that Project Activity was commissioned on 30-March-2009 is correct.

The assessment team confirmed that there is no proposed or actual change to the project design during this monitoring period. The project design as mentioned in the registered PD

[5] https://www.thermaxglobal.com/wp-content/uploads/2020/03/AFBC_Brochure-2019.pdf

is implemented and thus the same is acceptable to the assessment team. All required monitoring equipment's and procedures as mentioned in the registered VCS PD are available and implemented in an appropriate manner.

The organisational role and responsibility as mentioned in the registered VCD PD is followed onsite. All the monitoring equipment was calibrated as per the specified interval in the registered VCS PD. All the emergency preparedness as mentioned in the registered PD is followed onsite and no discrepancies were found regarding the same.

The assessment team observed that the project is in line with the registered VCS PD, FVR and approved methodology and thus no clarification/deviation is sought. CAR 09 and CL00 were raised during the verification process and closed successfully. Please refer Appendix 2 for the detail closure of the CAR.
Assessment team confirms following during the verification site visit:

1. Start date of the project is 30-March-2009 which is the date of commissioning of the Project.
2. Assessment team confirms that project has not received or sought any other form of environmental credit". An undertaking letter dated:25-March-2021 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. Further, assessment team confirms that project activity provided contribution in sustainable development to the host country
3. Assessment team confirms that this is the 2nd monitoring under VCS and covers the activity from 20-June-2011 to 19-June-2017(inclusive of both dates). Thus, VCS crediting period should be maximum of 10 years. The start date was crediting period was 30-March-2009 and end date was 29-March-2019.
   The GHG credits from 20June-2011 to 19-June-2017 to will be claimed under VCS only. At any point of time during the crediting period, the project proponent will abide by the "Double Counting".
4. Assessment team checked and found that the Project proponent of the project activity is same as per the registered PD. There is no change in details of the PP and the same is mentioned below:

Organization name	Gillanders Arbuthnot & Co. Ltd.
Contact person	Mr. Manoj Sodhani
Title	President Textile
Address	8, N.S. Road, C-4, Gillander House, 4th Floor, Kolkata – 700 001, West Bengal, India
Telephone	+91 33 -22302331, +91 33 30224470

Email	sodhani.manoj@gillandersarbuthnot.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	EKI Energy Services Limited
Role in the project	Verra Account Holder
Contact person	Mr. Bhaskar Dutta
Title	Sr. Manager- Operations
Address	Office No 201, Plot No 48, Scheme 78, Part 2, Vijay Nagar, Indore- 452010, Madhya Pradesh, India
Telephone	+91-9109916710
Email	registry@enikingint.org

6. The quantified emission reduction calculation for the monitoring period is correct and conservative. Assessment team also compared actual VER with the estimated VER and found that the actual VER (193,456 tCO_2e) is 9% lower than the estimated emission reduction 212,667 tCO_2e (35,044 tCO_2e*2124days/365 days=212,667 tCO_2e) for 2124 days which is due to low PLF attained by the co-generation plant due to less requirement of process steam.

4.2 Safeguards

4.2.1 No Net Harm

No potential environment or socio-economic matter was found during the site visit. The project is renewable energy project and thus no negative impact observed onsite.

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.

Project Participant has conducted EIA study as per requirement of the Central Pollution Control Board. The EIA was conducted by third party M/s EST Consultants (P) Ltd. PP had also obtained clearance from the State Level Environment Impact Assessment Authority, Punjab, India on 27-June-2008. 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. Please refer below web link for the same.[6]

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

4.2.2 Local Stakeholder Consultation

The local stake holder consultation was done during the registration of the project activity. There was no change in technical project description form the registered VCS PD. Assessment team confirmed the same during the verification site visit. Also, as best practice method PP also placed a grievance register onsite to record any grievance from the stakeholders as a part of continuous feedback from stakeholders. Assessment team checked the grievance register maintained onsite and no comments were observed for the project activity. Local people are happy as the project generated employment opportunities and thus the living standards in and around the vicinity of the project is increased and thus assessment team confirms that local stakeholders have no issue with this project activity after implementation and continuous operation.

4.3 AFOLU-Specific Safeguards

This section is not applicable as this project activity is a non-AFOLU project activity.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the VCS PD. The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the monitoring plan of the VCS PD.
Findings	CAR 07 and CAR 08 were raised during the verification process and closed successfully. Please refer Appendix 2 of this report for the detail closure of the CAR.
Conclusion	The baseline Emissions for a given year is calculated in accordance with the para 11 of approved methodology AMS-I.D. version 16 as the project activity claims emission reductions from electricity generation only. Formula used: **Baseline emission**: $BE_y = EG_{BL,y} \times EF_{CO2,grid,y}$ **Where:**

[6] http://164.100.94.214/sites/default/files/uploads/report-on-developmental-impacts-of-RE.pdf

BEy - Baseline emissions in year y (tCO_2)

$EG_{BL,y}$ – Quantity of net electricity supplied to the gird as a result of the Implementation of the CDM Project activity in year y (MWh)

$EF_{CO2,grid,y}$ = CO_2 emission factor of the NEWNE grid in year y = 0.839 tCO_2/MWh (fixed ex-ante)

Ex-ante Parameter:

1. Biomass Surplus Availability: As per registered VCS PD, the surplus biomass (rice husk) determined ex-ante and fixed for the crediting period.
2. Specific energy consumption of the cogeneration unit when fired subbituminous coal (SEC_{ff}): The parameter is fixed ex-ante and the value is 0.00424 TJ/MWh fixed for the crediting period.
3. Specific energy consumption of boiler when fired with biomass (rice husk) ($SEC_{biomass}$): The parameter is fixed ex-ante and the value is 0.00444 TJ/MWh fixed for the crediting period.
4. $EF_{grid,CM,y}$: The parameter is fixed ex-ante and the value 1.004 tCO_2/MWh is used as emission factor which is as per the registered VCS PD,CDM PDD and CEA "CO_2 Baseline database for the Indian Power Sector, Version 05".
5. $EF_{grid,BM,y}$:The parameter is fixed ex-ante and the value 0.675 tCO_2/MWh is used as emission factor which is as per the registered VCS PD,CDM PDD and CEA "CO_2 Baseline database for the Indian Power Sector, Version 05".
6. $EF_{grid,CM,y}$:The parameter is fixed ex-ante and the value 0.839 tCO_2/MWh is used as emission factor which is as per the registered VCS PD,CDM PDD and CEA "CO_2 Baseline database for the Indian Power Sector, Version 05".

Ex-post parameter:

As per the registered VCS PD and requirement of the applied methodology following parameters have been monitored by PP:

Gross electricity generated by the project activity in the year y ($EG_{gross,y}$)-The gross electricity generated is measured by trivector energy meter of accuracy and recorded in plant bot book hourly basis. The collected data is aggregated and reported monthly basis. The details of meter are given below and other calibration compliance are provided in Appendix 5.

Meter Type	Trivector Meter, E3M051,3 Phase 4 Wire
Manufacturer	Secure Meters Ltd
Serial Number	KAU06136

Gross electricity generated by the project activity during the monitoring period is 257,681 MWh. Gross generation vale is cross checked with the plant records by the Verification team and found consistent.

Auxiliary electric consumption during the year y (($EG_{aux,y}$) -The Auxiliary consumption data is also measured by trivector energy meter of accuracy 0.5s and recorded in plant bot book hourly basis. The collected data is aggregated and reported monthly basis. The details of meter are given below and calibration compliance are provided in Appendix 5.

Meter Type	EM6400
Manufacturer	Conzerv
Serial Number	186772/3764-4109

Gross electricity generated by the project activity during the monitoring period is 257,681 MWh. Auxiliary consumption value is cross checked with the plant records by the Verification team and found consistent.

The amount of net electricity supplied by the project activity during the year y ($EG_{BL,y}$)- The parameter $EG_{BL,y}$ is a calculated parameter. As per the requirement of the monitoring plan, this parameter is calculated on monthly bases as the difference of Gross electricity generation and the auxiliary consumption as follows:

$EG_{BL,y}$= as **$EG_{gross,y}$** - **$EG_{aux,y}$**

This parameter is calculated monthly and recorded in plant records**.** The amount of net electricity supplied by the project activity during the monitoring period is 230,580 MWh which is used to calculate the emission reductions. The net electricity supplied by the project activity is cross checked with the plant records by the verification team and found consistent.

Quantity of biomass residue type I consumed (on dry basis) in the project activity during the year y ($FC_{rice\ husk,y}$): The amount of rice husk consumed is calculated as follows:

Quantity of rice husk consumed= Opening stock of rice-closing stock rice husk +Quantity of purchased rice husk

The quantity of rice husk purchased is measured using weigh bridge with accuracy of ±5kg.

Meter	Wipro
Type	Digital
Serial Number	270424

The total biomass consumption during the current monitoring period is 273,280 Tonnes.

The verification team cross checked the reported biomass consumption data reported in MR and ER sheet with the rice husk procurement with the plant logbook and also cross checked with the plant record and found consistent.

Quantity of sub-bituminous coal consumed in the project activity during the year y ($FC_{coal,y}$)– The quantity of coal purchased is measured using weigh

bridge:

Meter	Wipro
Type	Digital
Serial Number	270424

The amount of Sub-bituminous coal consumed during the year is calculated as follows:

Quantity of cola consumed= Opening stock of coal -Closing stock of Coal+ quantity of purchased coal.

Verification team found during the site visit after checking plant log book that coal is not consumed during the current monitoring period.

Net Calorific Value of sub-bituminous coal consumed in the project activity during the year y ($NCV_{coal,y}$): Since coal not consumed in project activity.

Emission factor of sub-bituminous coal consumed in the project activity during the year y ($EF_{CO2,coal,y}$): As per VCD PD, IPCC default values at the upper limit of the uncertainty at a 95% confidence interval as provided in Table 1.2 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories is to be considered. However, coal is not used during this monitoring period. Hence this is not applicable.

Net Calorific Value of biomass type I (on dry basis) **($NCV_{rice\ husk,y}$)**: NCV value of rice husk is obtained through annual test result done by NABBL accredited laboratory Envirochem Testing lab & Research Centre. The annual tested NCV values are given below:

Year	NCV (TJ/tonnes)
2011	0.01228422
2012	0.01239719
2013	0.01218799
2014	0.01218799
2015	0.01177796
2016	0.01239719
2017	0.01228422

Test annual test reports have been checked and verified by the verification team. CAR 08 was raised and successfully closed after satisfactory response provided by PP.

Moisture content of the biomass residues by type i in year y ($M_{rice\ husk,y}$) % : Moisture content of rice husk is monitored on weekly basis through annual test results done The moisture content of biomass is monitored at least on a monthly basis. The yearly weighted average value is used in the calculations which is line with the registered VCS PD. The

same is given below:

Year	Moisture %
2011	7%
2012	8%
2013	7%
2014	8%
2015	8%
2016	8%
2017	7%

Verification team cross checked the reported data in the ER sheet and found consistent,

Baseline Emissions Calculation

$BE_y = EG_{BL,y} \times EF_{Co2,grid,y}$

Where:
BEy - Baseline emissions in year y (tCO_2)
$EG_{BL,y}$ – Quantity of net electricity supplied to the gird as a result of the Implementation of the CDM Project activity in year y (MWh)
$EF_{CO2,grid,y}$ = CO_2 emission factor of the NEWNE grid in year y = 0.839 tCO_2/MWh (fixed ex-ante)
Thus,
BEy = 230,580 MWh *0.839 tCO2/MWh
= 193,456 tCO_2e/year (roundown value)

Project Emission:

Verification team found through review of log sheet that there was no coal consumption during current monitoring period, thus project emission from coal consumption is considered zero.

Leakage Emission: There is no leakage associated with the project activity was observed during the onsite visit. Also, verification team has cross checked sample biomass transportation challans giving distance of places where biomass was procured to confirms that availability of rice husk within 200 km radius of the project activity. Thus, no leakage are applicable for the current monitoring period.

Therefore, emission reductions by the project activity is,

$ER_y = BE_y - PE_y - LE_y$

$= 193,456 - 0 - 0$

$= 193,456\ tCO_2e$ (Rundown value)

Therefore;

$ER_y = 193,456\ tCO_2e$

Total emission reductions by the project activity during the monitoring period are 193,456 tCO_2e.

VVB confirms that GHG emission reductions and removals have been

	quantified correctly in accordance with the project description and applied methodology."

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

<table>
<tr><td>Means of verification</td><td>The verification team checked the Calibration details of the monitoring meters with the calibration certificates.</td></tr>
<tr><td>Findings</td><td>CAR 09 was raised during the verification process. The description of the CAR and its closure is described below in Appendix 2 of this report</td></tr>
<tr><td>Conclusion</td><td>The metering facilities are installed within the plant premises. Verification team checked the calibration certificates of the monitoring requirement and found that energy meters are calibrated as per calibration frequency mentioned in the VCS PD. However, delayed calibration observed for the 20/06/2011 to 15/03/2012 for the weigh bridge and weigh scale. Weighbridge & weighing scale is used to measure the quantity of biomass/coal. The emission reductions are calculated on the basis of net electricity generated inline with the methodology. There is no direct use of quantity of biomass in emission reduction calculations. Thus, delayed calibration do not have impact on emission reductions achieved. Further, the calibration of weighbridge/weigh-scale is under the purview of the state government's "Department of Weights & Measures" and PP do not have control n it. Thus accepted by the assessment team. The calibration details of monitoring equipment are given below and also provided in Appendix 5 of this report.
<table>
<tr><th>Meter Details</th><th>Sl Number</th><th>Date of Calibration</th><th>Due date of calibration</th></tr>
<tr><td rowspan="3">Gross Energy Meter Accuracy-0.5s Calibration Frequency= Once in three year</td><td rowspan="3">KAU06136</td><td>23-November-2010</td><td>22-November-2013</td></tr>
<tr><td>23-November -2013</td><td>22-November-2016</td></tr>
<tr><td>23-October-2014</td><td>22-October-2017</td></tr>
<tr><td rowspan="3">Auxiliary Energy Meter Accuracy-0.5s Calibration Frequency= Once in three year</td><td rowspan="3">186772/3764-4109</td><td>24-November-2010</td><td>23-November-2013</td></tr>
<tr><td>24-November-2013</td><td>23-November-2016</td></tr>
<tr><td>23-October-2014</td><td>22-October-2017</td></tr>
<tr><td rowspan="5">Weighbridge Accuracy: ±5kg. Calibration frequency:</td><td rowspan="5">270424</td><td>16-March-2012</td><td>15-March-2013</td></tr>
<tr><td>16-March-2013</td><td>15-March-2014</td></tr>
<tr><td>16-March-2014</td><td>15-March-2015</td></tr>
<tr><td>16-March-2015</td><td>15-March-2016</td></tr>
<tr><td>16-March-2016</td><td>15-March-2017</td></tr>
</table>
</td></tr>
</table>

	Annually		16-March-2017	15-March-2018
	Weight Scale Accuracy: ±5kg. Calibration frequency: Annually	84750059	16-March-2012	15-March-2013
			16-March-2013	15-March-2014
			16-March-2014	15-March-2015
			16-March-2015	15-March-2016
			16-March-2016	15-March-2017
			16-March-2017	15-March-2018
	Assessment team has checked the calibration certificates of all meters and confirms that meters are calibrated by NABL accredited laboratories. The calibration details of monitoring equipment are provided in Appendix 5 of this report. Verification team confirms the sufficiency of quantity and appropriate quality of the evidences used to determine the GHG reductions and removals."			

4.6 Non-Permanence Risk Analysis

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
NA	NA	NA	NA	NA

5 VERIFICATION CONCLUSION

Applus+ Certification has been engaged by Godrej Agrovet Limited to perform the 1st periodical verification of the "6.5 MW cogeneration project in Akbarpur, Punjab".

The management of Gillanders Arbuthnot & Co. Ltd.is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project's Monitoring Plan in the registered VCS PD and the applied methodology AMS-I.C version 18.

Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. Further, the verification has been planned and organized to achieve a Reasonable Level of assurance as per the requirement of VCS. No sampling procedure applied for site visit or document verifications. The entire documents checked/Power plant verification conducted to arrive at positive verification conclusions. The verification team can confirm that:

- the project is operated as planned and described in the project document;
- the monitoring plan is as per the applied methodology;
- the monitoring process in Monitoring Report is as per the PD
- the development and maintenance of records and reporting procedures are in accordance with the monitoring plan;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.
- A Reasonable Level of assurance was achieved as planned during verification process.

Verification period: 20-June-2011 to 19-June-2017(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)
2011(20-June-2011 to 31-Decemeber-2011)	10,179	0	0	10,179
2012(01-Janaury-2012 to 31-Decemeber-2012)	32,217	0	0	32,217
2013(01-Janaury-2013 to 31-Decemeber-2013	33,624	0	0	33,624
2014(01-Janaury-2014 to 31-Decemeber-2014	35,126	0	0	35,126
2015(01-Janaury-2015 to 31-Decemeber-2015	35,900	0	0	35,900
2016(01-Janaury-2016 to 31-Decemeber-2016	31,122	0	0	31,122
2017(01-Janaury-	15,288	0	0	15,288

2017 to 19-June2017)				
Total	**193,456**	**0**	**0**	**193,456**

APPENDIX 1: DOCUMENTS REVIEWED OR REFERENCED (VERIFICATION)

No.	Author	Title	References to the document	Provider
1.	NA	Commissioning certificates of the boiler and turbine	Commissioning certificate	Project participant
2.	NA	Contract of the project participant with the DOE	Contract document signed between PP and DOE	Project participant
3.	NA	Calibration Certificates	Calibration Certificates	Project participant
4.	NA	Registered PD https://registry.verra.org/app/projectDetail/VCS/1160	NA	Project participant
5.	NA	Validation report	Version 03, 22-March-2011	Project participant
6.	NA	MR version 01 MR version 02	Dated 27-February-2021 Dated 25-April-2021	PP
7.	NA	Emission reduction sheet version 01 Emission reduction sheet version 02	ER sheet version 01 dated **27-February-2021** ER sheet version 02 dated **25-April-2021**	Project participant
8.	NA	No Double Counting declaration	25-March-2021	Project participant
9.	NA	Fuel Analysis	Fuel Analysis	Independent Search
10.	NA	Tools/ guidelines used in the project activity • Tool to determine the remaining lifetime of the project activity in line with Annex 15 EB 50 • Tool for the demonstration and assessment of additionality (Version 04.0.0) • Glossary of CDM terms version 07 • VCS verification report template version 4.0	UNFCCC CDM/VCS web site	UNFCCC
11.	NA	Log Sheets	Share reports/Monthly statement for the complete monitoring	PP

			period	
12.	NA	Plant logbook data	NA	PP
13.	NA	Break down details of the complete monitoring period	Log sheet	PP
14.	NA	Technical Specification of Boiler and Turbine	NA	PP
15.	NA	Biomass Purchase Records	-	PP
16.	NA	Lab Test Reports	-	PP

APPENDIX 2: CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS (CAR/CL/FAR)

Monitoring Report Template

CAR ID	01	**Section no.**	-	**Date:** 16-March-2021
Description of CAR				
Font size of MR is not in line with the guidance provided in MR template. Corrective action sought.				
Project participant response				**Date:** 25-March-2021
Font size has been corrected in MR Version 02.				
Documentation provided by project participant				
Monitoring Report				
DOE assessment				**Date:** 03-April-2021
Font size now corrected by PP in revised monitoring report. CAR closed.				

Project Implementation Status

CAR ID	02	**Section no.**	4.1	**Date:** 16-March-2021
Description of CAR				
During the desk review of documents submitted by the PP assessment team found that the following supporting evidence are missing: 1. *Commissioning Certificate of the project activity* 2. *Technical specifications of project activity* *PP requested to submit the above supporting evidence to assessment team for verification.*				
Project participant response				**Date:** 25-March-2021
1. *Commissioning certificate attached* 2. *User manual for the boiler attached*				
Documentation provided by project participant				
Commissioning Certificate				

User Manual
DOE assessment **Date:** 03-April-2021
1. PP has submitted the commissioning certificate of project activity. Verification team checked the same and confirms that commissioning date of plant i.e.30/03/2009 mentioned in monitoring report is correct. 2. PP has submitted the user manual of the plant and same is checked by the verification team and found that the technical specification of Boiler and Steam generator is same as mentioned in the registered VCS PD. CAR closed.

CAR ID	03	**Section no.**	4.1	**Date:** 16-March-2021
Description of CAR				
The breakdown details of the power plant are missing in the MR. Further, the supporting document regarding the breakdown details are not provided to the assessment team. Corrective action is sought.				
Project participant response				**Date:** 25-March-2021
The breakdown details are added in Annexure 1 and the supporting document is attached.				
Documentation provided by project participant				
The shutdown sheet duly signed by the PP.				
DOE assessment				**Date:** 03-April-2021
Breakdowns are now included in Annexure 1 of revised monitoring report. PP has also submitted the plant logbook books to VVB. Plant was shut down from 20/06/2011 to 26/08/2011 for maintenance and therefore, there was no generation recorded during this period. After this period, that there is no major breakdown observed during the current monitoring period which might affect the applicability of methodology or might cause material errors in emission reductions. Thus CAR closed.				

CAR ID	04	**Section no.**	4.1	**Date:** 16-March-2021
Description of CAR				
PP is requested to submit an undertaking for no any double accounting for current monitoring period and project activity is not participated any other GHG program other than VCS.				
Project participant response				**Date:** 25-March-2021

Declaration is submitted by the company
Documentation provided by project participant
Declaration by PP
DOE assessment **Date:** 03-April-2021
PP has submitted the declaration dated 25/03/2021 regarding avoidance of double counting of emission reductions in the other GHG trading programmes. CAR closed.

No Net Harm

CAR ID	05	**Section no.**	4.2.1	**Date:** 16-March-2021
Description of CAR				
During the review of MR, it is observed that PP has described the "No Net Harm" however, supporting document is not submitted to assessment team. *Corrective action is sought.*				
Project participant response				**Date:** 25-March-2021
Reference is added and the supporting document is attached.				
Documentation provided by project participant				
No net harm certificate				
DOE assessment				**Date:** 03-April-2021
PP has provided the supporting document i.e. Environmental Impact Assessment (SEIAA/2008/24976) obtained on 27/06/th June, 2008 from State Level Environment Impact Assessment Authority, Punjab, India. Thus CAR closed.				

CAR ID	06	**Section no.**	4.2.2	**Date:** 16-March-2021
Description of CAR				
As per requirement of sub para 3.16 of VCS standard, the mechanism for on-going communication with local stakeholders is missing in Section 2.2 of MR. Further, PP has not submitted the evidence of on-going stakeholder consultation during this monitoring period. *Corrective action is sought.*				
Project participant response				**Date:** 25-March-2021

A grievance register has been put at the grievance site to address the comments of the stakeholders. Also the relevant information has been mentioned in section 2.2 of the MR
Documentation provided by project participant
Grievance register
DOE assessment | **Date:** 03-April-2021
PP has kept grievance register at the project site for ongoing communication which is accessible to stakeholders to provide their feedback on the project. Verification team confirms that during the current monitoring period, no any grievances have been received. PP has also submitted the copy of grievance register to Verification team. CAR closed.

Accuracy of GHG Emission Reduction and Removal Calculations

CAR ID	07	**Section no.**	4.4	**Date**: 16-March-2021
Description of CAR				
Following inconsistencies observed during review of the MR and Emission reduction calculation sheet: 1. *Plant data's from the period 20/06/2011 to 26/08/2011 in Emission Reduction calculation sheet are considered zero. Moreover, the log sheets records of the monitored parameters are not submitted to the assessment team. PP is requested to submit the supporting documents.* 2. *The relevant information of monitoring equipment's like Serial number, make, calibration date, validity of calibration etc. are missing in Section.4.2 of MR. Corrective action is sought.* 3. *The Monitoring Report does not provide the comparison of actual vs estimated VERs for the monitoring period. Corrective action is sought.* 4. *In Section 5.3 of MR, it is mentioned that rice-husk is being transported from a distance of maximum 90 kms which is much lower that the distance of 200 kms suggested by the methodology for calculating emissions from transportation of biomass. PP is requested to submit the supporting evidence for the same.*				
Project participant response				**Date:** 25-March-2021
1. *The plant was shut down for the following period.* 2. *The relevant information has been added* 3. *The relevant statement is added for the comparison of actual vs estimated VER* 4. *Biomass purchase invoice has been submitted to support biomass procurement within 90 Km of Project activity*				
Documentation provided by project participant				
1. *The shutdown sheet duly signed by the PP* 2. *Monitoring Report* 3. *ER-Sheet* 4. *Biomass purchase records*				

DOE assessment	**Date:** 03-April-2021
1. PP confirmed through a letter that the Plant was shut down from 20-June-2011 to 26-August-2011 and due to this plant generation data's are zero. PP has also submitted the log sheets of the Plant. However, PP has calculated estimated Emission reduction for current Monitoring period based on entire monitoring period i.e. for 2192 days for comparison of Actual Vs Estimated ER. PP requested to clarify the same. Finding remains open. 2. Information of monitoring equipment's i.e. Serial number, Accuracy class, make, calibration date, validity of calibration now included in Annexure 1 and Section 4.2 of revised monitoring report. Hence Ok. CAR Open	
Project participant response	**Date:** 08-April-2021
1. The estimated emission reductions has been calculated after excluding the major breakdown days as per the comment raised and the relevant changes has been done in the MR and ER Sheet **2.** Same as above, MR/ER Sheet revised after removing number of breakdown days	
Documentation provided by project participant	
MR **ER Sheet**	
DOE assessment	**Date:** 09-April-2021
1.PP has not corrected the estimated emissison reductions for current monitoring period in ER Sheets after dedcuting 68 day continuos shutdown of plan. Hence Ok. **2.**PP has now included the comparison of actual vs estimated VERs for the monitoring period. Estimated emission reductions for current monitoring period is estimated after excluding 68 days continuous shutdown of plant. Hence OK. **CAR closed.**	

CAR ID	08	**Section no.**	4.4	**Date:** 16-March-2021
Description of CAR				
Following are the observation of the assessment team regarding Monitoring parameter: 1. *Notation of data/para meter $FC_{biomas,y}$, NCV $_{biomass,y}$ and $M_{biomass,y}$ is not consistent with the VCS PD* 2. *For Parameter $EG_{gross,y}$ (generated by the project activity), plant log book/DSC record is not submitted to the assessment team for verification* 3. *For Parameter $EG_{aux,y}$ (Auxiliary electricity consumption), plant records (log book) is not submitted for verification.* 4. *For Parameter $EG_{BL,y}$ (the amount of net electricity supplied by the project activity), Plant*				

records is not submitted to the assessment team for the verification. 5. *Supporting of "quantity of biomass consumed (on dry basis) in the project activity is not submitted to the assessment team for the complete monitoring period. Further, In Section 4.2 of MR, it not clear which type of biomass is used.* 6. *For the parameter $NCV_{rice\ husk,y}$ (net calorific value of rice husk), Annual laboratory test report is not submitted to the assessment team for verification.* 7. *For the parameter $M_{rice\ husk,y}$ (Moisture content of the biomass residue), on site lab test report is not submitted to assessment team for verification.*
Project participant response **Date:** 25-March-2021
1. *The nomenclature of the above parameters has been made consistent as per the registered VCS PD* 2. *Plant Log sheet is submitted for the mentioned parameter* 3. *Plant Log sheet is submitted for the mentioned parameter* 4. *Plant Log sheet is submitted for the mentioned parameter* 5. The type of biomass used is clarified in the section, further biomass purchase records has been submitted. 6. For the parameter NCV Biomass, annual lab test reports are being submitted. 7. For the parameter Moisture Biomass, annual lab test reports are being submitted.
Documentation provided by project participant
1. *Monitoring Report V02* 2. Log sheets for the complete monitoring period 3. Biomass Purchase Invoice 4. Annual lab test reports for NCV of biomass 5. Annual lab test reports for Moisture of biomass
DOE assessment **Date:** 03-April-2021
1. PP has corrected Notation of data/para meter of in revised MR and now it is consistent with the VCS PD. Hence Ok. 2. PP has now submitted the Plant Log Book for the parameter $EG_{gross,y}$ (generated by the project activity). However, Gross generation data from 01/01/2012 to 31/01/2012 in ER sheet is not consistent with the plant log book. Corrective action is sought. 3. PP has submitted the logbook data for the parameter $EG_{aux,y}$ (Auxiliary electricity consumption) and same is found correct in Emission Reductions Sheet. Hence Ok. 4. PP has submitted the plant logbook data of the Parameter $EG_{BL,y}$ (the amount of net electricity supplied by the project activity) which is calculated as Calculated as $EG_{gross,y}$ - $EG_{aux,y}$). However, this finding will be closed after closure at point 2. 5. PP has now submitted the biomass purchase records. Rice Husk is used as biomass in the boiler for steam/power generation. PP has also corrected the type of biomass in Section 4.2 of revised MR. Hence Ok. 6. PP has provided the Annual Laboratory Test for the parameter $NCV_{rice\ husk,y}$ (net calorific

value of rice husk). As per VCS PDD, the measurement method is "Annual measurement in laboratories according to relevant national/international standards. NCV will be measured based on dry biomass" However, NCV values in ER sheet is given on daily basis. PP to clarify the same. 7. PP has submitted annual lab test reports for the parameter $M_{rice\ husk,y}$ (Moisture content of the biomass residue). As per VCS PD, the moisture content of biomass shall be monitored at least on a monthly basis. The weighted average would be calculated for each monitoring period and to be used in the calculations. But, in ER sheet the same is provided in daily basis. PP requested to clarify the same. CAR Open.

Project participant response	**Date:** 08-April-2021
1. The correct log sheet is submitted for reference to justify the generation details for Jan 2012 2. NCV Values has been represented on annual basis as per the registered VCS PD	
Documentation provided by project participant	
ER Sheet **MR** **Plant log sheets**	
DOE assessment	**Date:** 09-April-2021
2. PP has now corrected $EG_{gross,y}$ (generated by the project activity) and now it is consistent with the plant logbook. 4. PP has submitted the plant logbook data of the Parameter $EG_{BL,y}$ (the amount of net electricity supplied by the project activity) which is calculated as Calculated as $EG_{gross,y}$ - $EG_{aux,y}$). Hence OK. 6. PP has provided the Annual Laboratory Test for the parameter $NCV_{rice\ husk,y}$ (net calorific value of rice husk). PP has also rectified the NCV value in ER sheet as per VCS PD.	

Quality of Evidence to Determine GHG Emission Reductions and Removals

CAR ID	09	**Section no.**	4.5	**Date:** 16-March-2021
Description of CAR				
The calibration details of monitoring equipment like date of Calibration, validation of calibrations due date of the Calibrations are missing in the MR. Further, PP has not provided the calibration supporting documents of the monitoring equipment's for the complete monitoring period. The details are as below: *1. Energy meter to monitor $EG_{gross,y}$* *2. Energy meter used to monitor $EG_{aux,y}$* *3. Weigh Bridge used to monitor $B_{rice\ husk,y}$*				

4. Weigh Bridge used to monitor $B_{coal,y}$	
Project participant response	**Date:** 25-March-2021
The calibration Schedule of Gross Energy Meter, Auxiliary energy meter, weigh bridge and weigh scale used during the current monitoring period has been included in the MR Version 02 and relevant supporting documents are also submitted	
Documentation provided by project participant	
MR Version 02 *Calibration Reports*	
DOE assessment	**Date:** 03-April-2021
PP has submitted the calibration certificates of all monitoring equipment's. Verification team checked the same and confirms that meters are calibrated as per calibration frequency mentioned in registered VCS PD. There is no delayed in calibration found. CAR closed.	

APPENDIX 3: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Verification team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Verification findings
1.	Lead Auditor/Technical Expert	OR	Takarkhede	Dr. Atul	TQC-Outsourced entity	Yes	Yes	Yes	Yes

Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer (TR)	EI	Shen	Simon	Applus+ Certification
2.	Approver	IR	Calle de Miguel	Agustín	Applus+ Certification

Short CVs of the Team:

1. **Dr. Atul Takarkhede** is Ph.D. (Environmental Sciences) from Institute of Science, RTM Nagpur University, Nagpur, and he has already published different technical papers related to environmental sciences. He counts with more than 11 years of experience in field of Environmental Auditing, consulting and accreditation. He is an expert in ISO 9001-14001, CO2/GHG Reporting, Carbon Foot Print, Energy, Water and Waste Management reporting for organizations' environmental performance. His professional portfolio is mainly related

with carrying out EIA, conducting QA/QC of EIA Reports; conducting environmental/water audits; NABET requirements appliance, functional area expert in Water Pollution & Solid & Hazardous Waste management among others. Furthermore, he counts with solid experience on CDM-VCS-GS consultancy and auditing. Currently he is associated with True Quality Certifications Private Limited and empanelled with Applus+ Certification to carry out GHG audits in the aforementioned schemes.

2. **Simon Shen** (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by Applus+ LGAI for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ LGAI, he had been worked for TÜV SÜD as a GHG Validator/Assessment team and ISO 9001/14001 Lead Auditor for 3.5 years.

APPENDIX 4: 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
RBI	Reserve Bank Of India
PP	Project Participant

APPENDIX 5: CALIBRATION DETAILS OF THE METERS

Meter Details	SI Number	Date of Calibration	Due date of calibration
Gross Energy Meter Accuracy- 0.5s Calibration Frequency= Once in three year	KAU06136	23-November-2010	22-November-2013
		23-November -2013	22-November-2016
		23-October-2014	22-October-2017
Auxiliary Energy Meter Accuracy- 0.5s Calibration Frequency= Once in three year	186772/3764-4109	24-November-2010	23-November-2013
		24-November-2013	23-November-2016
		23-October-2014	22-October-2017
Weighbridge Accuracy: ±5kg. Calibration frequency: Annually	270424	16-March-2012	15-March-2013
		16-March-2013	15-March-2014
		16-March-2014	15-March-2015
		16-March-2015	15-March-2016
		16-March-2016	15-March-2017
		16-March-2017	15-March-2018
Weight Scale Accuracy: ±5kg. Calibration frequency: Annually	84750059	16-March-2012	15-March-2013
		16-March-2013	15-March-2014
		16-March-2014	15-March-2015
		16-March-2015	15-March-2016
		16-March-2016	15-March-2017
		16-March-2017	15-March-2018