13.25 MW WIND POWER GENERATION BY RMTL,IN KUTCH,GUJARAT

Document Prepared By

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

Project Title	13.25 MW Wind Power Generation by RMTL, in Kutch, Gujarat
Version	02
Report ID	Internal project ID: TQC 21220

Report Title	13.25 MW Wind Power Generation by RMTL, in Kutch, Gujarat
Client	Ratnamani Metals and Tubes Ltd
Pages	38
Date of Issue	24/05/2021
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Summary:

Verification purpose: LGAI Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed by Ratnamani Metals and Tubes Ltd (RMTL) to perform verification of the project activity "13.25 MW Wind Power Generation by RMTL, in Kutch, Gujarat".(VCS ID:631) 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 involves installation and Operation of 8 WTGs of 1.5 MW and 1 WTG of 1.25 MW aggregating a total capacity of 13.25 MW. The project activity is located in Kutch district of Gujarat, India. The project activity was commissioned on 31/03/2006. The electricity generated from the project activity is exported to the NEWNE grid (unified as Indian Grid) except the WTG of capacity 1.25 MW and 1 WTG out of 8 WTGs of 1.50 MW, in which 100% of the produce electricity is wheeled to the manufacturing unit owned by the PP.

Start date of the project activity is 31/03/2006 i.e. date on which project activity began generating GHG emission reductions. The start date of the project activity is in line with the VCS Standard version 3.7. Also, this is the earliest date of interconnection with grid as per commissioning certificate issued by the Gujarat Development Agency.

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 VCS PD and CDM PDD, 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 Version 4.0 and VCS standard version 4.1

This is the 4th monitoring (2nd under VCS) and covers the activity from 01/04/2012 to 30/03/2016(inclusive of both dates). The total emission reductions achieved during the monitoring period is 81,011 tCO_2e. The crediting period for VCS began on 01/01/2009 and ended on 31/12/2018. An undertaking from the project participant confirms that project will not claim any other scheme benefits for the concerned monitoring period.

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/WTGs verification conducted to arrive at positive verification conclusions.

1 INTRODUCTION

1.1 Objective

LGAI Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed by "Ratnamani Metals and Tubes Ltd" to perform the verification of the "13.25 MW Wind Power Generation by RMTL, in Kutch, Gujarat" under VCS guideline version 4.0 and VCS standard version 4.1. The objective of this verification activity is to have an independent third party for the assessment of the project design, monitoring report and final verification report and to ensure a thorough assessment of the project activity against the applicable CDM and VCS requirements. In particular;

- the project's baseline is assessed against "AMS-I.D, Version 13"
- the project's monitoring plan is assessed against "AMS-I.D, Version 13"
- 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 guideline version 4.0 and standard version 4.1
- 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 program guideline v4.0
- VCS standard v4.1

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.D version 13. 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 version 4.1 and guideline version 4.0, including the approved baseline and monitoring methodology AMS-I.D version 13. 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 version 4.0 and standard version 4.1

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. It invoices follows the paper trail back to the raw data such as meter reading records and invoices. There are no material errors, overestimation of ER, omission or misstatement. No sampling is used as the verification team has visited the WTGs along with the substations. The verification team has reviewed all the documents like commissioning certificates, JMR, invoices 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 generation of electricity through wind power plant with a capacity of 13.25 MW comprises 8 WTGs of 1.5 MW and 1 WTG of 1.25 MW in Kutch district of Gujarat, India. The project activity is located in Kutch district of Gujarat, India. The electricity generated from the project activity is exported to the NEWNE grid (unified as Indian Grid) except the WTG of capacity 1.25 MW and 1 WTG out of 8 WTGs of 1.50 MW, in which 70% of the produce electricity is wheeled to the manufacturing unit of the PP. The project activity was commissioned in 31/03/2006. The purpose of the project activity is to generate electricity by the utilization of wind energy. In this process there is no consumption of any fossil fuel and hence it does not lead to any greenhouse gas emissions.

The monitoring period this VCS verification covered from 01/04/2012 to 30/03/2016 (inclusive of both dates) and the project activity is achieved 81,011 tCO_2e emission reductions during this monitoring period.

Start date of the project activity is 31/03/2006 i.e date on which project activity began generating GHG emission reductions. The start date of the project activity is in line with the VCS Standard version 3.7. An undertaking has been submitted by PP for double counting would never happen with any other GHG program.

The timeline for Commission of the project activity is also checked by the assessment team. Assessment team checked the Commission of WTG with the commissioning Certificates and found correct. The project is implemented as per the description in the registered PD and CDM PDD. 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 "CDM validation and verification standard for project activities, Version 02.0 and "VCS program guideline version 4.0 and VCS standard version 4.1 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
Sukanta Das	LA/TE	YES	YES	NA	YES
Mr. Denny Xue	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 VCS PD, registered CDM PDD, 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

An onsite audit was conducted by Applus+ Certification. Audit team performed interviews, telephone conferences 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.	Katta	Suparas	PP Representative	18/12/2020	Implementation of the project and monitoring. Baseline emission calculation, achieved emission reduction for the monitoring period, monitoring process followed onsite	Sukanta Das
2.	Soni	Jiten	Site Incharge			
2	Saha	Tapti	Consultant EKI Energy Service	18/12/2020	Baseline emission calculation, achieved emission reduction for the monitoring period, monitoring process followed onsite	

2.4 Site Inspections

Duration of on-site inspection: 18/12/2020				
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 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 Local stakeholders and checked grievance register placed onsite as per the continuous improvement measure of PP for the Local villagers.	Kutch, Gujarat	18/12/2020	Sukanta Das

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	00	00
Description of project activity	00	05	00
Application of selected baseline and monitoring			

Areas of validation and verification findings	No. of CL	No. of CAR	No. of FAR
methodology and selected standardized baseline			
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	01	00
Calibration details	00	01	00
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 4th periodic verification (2nd under VCS) 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, as Applus+ Certification holds the accreditation for Validation of projects under this Sectoral Scope.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project activity is also registered under CDM (UNFCCC Reference Number 2247[1]. PP has claimed VERs from 31/03/2006 to 24/03/2009 under VCS, CERs from 25/03/2009 to 31/10/2010 and from 01/11/2010 to 31/03/2012 under CDM. Verification team confirms that there is no any double accounting for same period was found. The current VCS verification is for period from 01/04/2012 to 30/03/2016. The project has neither been applied under any other mechanism except CDM and VCS, nor has been rejected by any mechanism.

[1] https://cdm.unfccc.int/Projects/DB/RWTUV1222760737.24

3.2 Methodology Deviations

This section is not applicable for present verification as no methodology deviation sought during this verification

3.3 Project Description Deviations

PP has applied following project description deviation during this monitoring period:

1. As per registered CDM PDD and VCS PD, the accuracy class of substation meters is 0.5s, however, installed meters is of accuracy 0.2s which is more accurate and conservative hence requested deviation in accuracy class of meters is acceptable to VVB.
2. As per registered VCS PDD, the electricity produced from the wind turbines is exported to the connected state grid barring the entire power generated by the 1.25 MW WTG and 70% of one of the 1.5MW WTG would be wheeled to the project proponent's unit is now 100% wheeling is being done from the same WTGs. Verification team also checked the PA at UNFCCC web site and found that the post registration changes was approved by UNFCCC on 27/11/2011[2] for 100% wheeling from the same WTGs. Hence acceptable to VVB.
3. Further, as per registered CDM PDD, the calibration frequency is once in three years for substation meters. These meters are not in control of PP and same is done by state electricity board. The state electricity board does not follow any fixed calibration frequency; hence PP has applied deviation to change in calibration frequency as once in five years. Verification team confirmed that deviation in calibration frequency is in line with the Central Electricity Board (CEA) regulation[3]. Hence acceptable to VVB.

   The change of the monitoring practice onsite from the registered PDD do not have any impact on methodology, additionality or the appropriateness of the baseline scenario, and the project remains in compliance with the applied methodology and VCS requirements. Hence the above applied deviation is acceptable to VVB.

3.4 Grouped Project

This is not a grouped project.

[2] https://cdm.unfccc.int/Projects/DB/RWTUV1222760737.24

[3] https://cea.nic.in/wp-content/uploads/2020/04/review_regulation.pdf

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During the onsite audit with PP representative, it was concluded that the project is implemented as per the requirement of the registered VCS PD, revised CDM PDD and approved monitoring plan. 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 through the GPS meters during onsite visit and also cross checked the same via Google software. Moreover, assessment team confirm that the latitudes and longitudes as mentioned in the VCS PD and registered revised CDM PDD is correct. The WTG wise latitudes and longitudes are confirmed below:

WTG ID number	Capacity (MW)	Village Location	Latitude	Longitude
SEL/1500/06-07/0358	1.50	Suthri	23 03 N	E68 52
SEL/1500/06-07/0359	1.50	Arikhana	23 00 N	E68 55
SEL/1500/06-07/0360	1.50	Arikhana	23 03 N	E68 52
SEL/1500/06-07/0361	1.50	Kamand	23 03 N	E68 52
SEL/1500/06-07/0382	1.50	Suthri-old	23 02 N	E68 53
SEL/1500/06-07/0383	1.50	Suthri	23 02 N	E68 52
SEL/1500/06-07/0384	1.50	Suthri-old	23 02 N	E68 52
SEL/1500/06-07/0362	1.50	Suthri	23 02 N	E68 54
SEL/1250/05-06/0139	1.25	Vanku	22 51N	E68 32

Assessment team also checked the commissioning certificate and confirmed that all WTGs were commissioned on 31/03/2006. The WTGs wise commissioning dates are given below:

Sl. No.	WTG ID	Commissioning Date
1	SEL/1500/06-07/0358	30/03/2007
2	SEL/1500/06-07/0359	29/03/2007
3	SEL/1500/06-07/0360	22/03/2007
4	SEL/1500/06-07/0361	21/03/2007
5	SEL/1500/06-07/0382	31/03/2007
6	SEL/1500/06-07/0383	22/03/2007
7	SEL/1500/06-07/0384	22/03/2007

8	SEL/1500/06-07/0362	30/06/2007
9	SEL/1250/05-06/0139	31/03/2006

The technical parameters have been verified with the name plates as well as with the technical specifications of WTGs and also cross checked from the technical manual of the Manufactures. Assessment team confirms that the technical parameters are consistent with the registered VCS PD and revised registered CDM PDD.

The major technical specifications of the WTG are as follows:

Technical specifications of Suzlon 1.5MW WTG

Wind Turbine Generator Type	**1.5 MW**
Make	Suzlon
Rotor	
Rotor Diameter	82.0 m
Cut-in wind speed	4m/s
Rated wind speed	14m/s
Rotor swept area	5281 m^2
Rotational Speed	16.30 rpm
Rotor material	GRP
Regulation	Pitch
Gear Box	
Type	3 Stage gear box, 1 planetary & 2 helical
Manufacturer	Winergy
Nominal load	1650 kW
Type of cooling	Oil cooling system
Gear ratio	95.09
Generator	
Type	Asynchronous generator 4 pole
Rotational Speed	1511 rpm
Rated output	1500 kW
Operational Voltage	690 V
Frequency	50 Hz
Insulation class	Class “H”

Protection	IP 54
Cooling system	Air cooled
Safety system	
Aerodynamic brake	3 times Independent systems pitch regulation
Mechanical brake	Spring powered disc brakes, hydraulically released, fail safe
Control unit	Microprocessor controlled, indicating actual operating conditions, UPS back up system
Yaw Drive System	4 active electrical yaw motors
Yaw bearing	Polyamide slide bearing

Technical specifications of Suzlon 1.25 MW

Wind Turbine Generator Type	**1.25 MW**
Make	Suzlon, S.64
Rotor	
Rotor Diameter	64 m
Cut-in wind speed	3 m/s
Rated wind speed	14 m/s
Rotor blades	3 no.
Rotor swept area	3217 m^2
Rotational Speed	13.9 rpm
Rotor material	GRP
Regulation	Pitch regulated
Gear Box	
Type	3 Stage gear box, 1 planetary & 2 helical
Manufacturer	Winergy
Nominal load	1390 kW
Type of cooling	Oil cooling system
Gear ratio	74.917:1
Generator	
Type	Asynchronous generator 4 pole
Rotational Speed	1006/ 1506 rpm

Rated output	250/1250 kW
Rated Voltage	690 V
Frequency	50 Hz
Insulation class	Class “H”
Protection	IP 56
Cooling system	Air cooled
Safety system	
Aerodynamic brake	3 Independent systems with blade pitch
Mechanical brake	Spring powered disc brakes, hydraulically released, fail safe
Control unit	Microprocessor controlled, indicating actual operating conditions, UPS back up system
Yaw Drive System	4 active electrical yaw motors
Yaw bearing	Polyamide slide bearing

The operation and maintenance (O & M) of the project activity is being done by the Suzlon Global Services Limited. The same has been verified with the O & M Agreement.

The assessment team confirmed through onsite visit with PP representative that there is no proposed or actual change to the project design during this monitoring period. It was observed that the monitoring plan was implemented as per the registered VCS PD and applied methodology AMS-I.D, Version 13. The organisational role and responsibility as mentioned in the registered PD and registered CDM PDD is followed onsite. Meters are calibrated as per calibration frequency in registered VCS PD and registered CDM PDD. Moreover, PP has applied deviations in onsite monitoring (refer Section 3.3 of this report). All the emergency preparedness as mentioned in the registered PD is followed onsite and no discrepancies were found regarding the same.

The project activity is also registered under CDM (UNFCCC Reference Number 2247[4]. PP has claimed VERs from 31/03/2006 to 24/03/2009 under VCS, CERs from 25/03/2009 to 31/10/2010 and from 01/11/2010 to 31/03/2012 under CDM. Verification team confirms that there is no any double accounting for same period was found. The current VCS verification is for period from 01/04/2012 to 30/03/2016. Verification team confirms that there is no any double accounting for same period was found. PP will not claim benefits of carbon emission reduction credits achieved through this project activity under any other GHG

[4] https://cdm.unfccc.int/Projects/DB/RWTUV1222760737.24

programme for the crediting period claimed under VCS. Moreover, the project has not generated any other form of environmental credit and a declaration for the same has been submitted to the assessment team and the same is acceptable.

The assessment team observed that the project is implemented in accordance with the registered VCS PD, revised CDM PDD, final validation report and approved methodology.

Assessment team confirms following during the verification site visit:

1. Start date of the project is 31/03/2006 i.e. date on which project activity began generating GHG emission reductions. Also this is commissioning date of Project activity as 1st WTG of 1.25 MW was commissioned on this date as per registered VCS PD and CDM PDD and commissioning certificate of the WTGs.
2. An undertaking letter dated: 02/02/2021 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 period.
3. Assessment team confirms that this is overall the 4th monitoring and 2nd monitoring under VCS and covers the activity from 01/04/2012 to 30/03/2016(inclusive of both dates). Thus, VCS crediting period should be maximum of 10 years(fixed). 01/01/2009 is the start date and 31/12/2018 is the end date of the crediting period.
   The GHG credits from 01/04/2012 to 30/03/2016 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 as below for the current monitoring period:

Organization name	Ratnamani Metals and Tubes Ltd
Contact person	Mr. Vimal Katta
Title	VP (Finance)
Address	17, Rajmugat Society, Naranpura Char Rasta Ankur Road, Naranpura Ahmedabad - Gujarat
Telephone	+91-79-2741 5501/2/3/4
Email	vkatta@ratnamani.com

5. Assessment team also checked the details of other entity and found that Other entity involved in this project is

Organization name	EKI Energy Services Limited
Contact person	Tapti Saha

Title	Assistant Manager(Operations)
Address	EnKing Embassy, Office No 201, Plot 48, Scheme 78, Part 2, Vijay Nagar, Indore- 452010, Madhya Pradesh, India.
Telephone	+91 731 428 9086
Email	registry@enkingint.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 is 81,011 tCO_2e which is 15.5% lower than the estimated emission reduction 95,840 tCO_2e (23,960 tCO_2e/ 365 days* 1460 days) during this monitoring period which is due to lower wind flow pattern and low PLF attained by the wind power plant during the current monitoring period.

Ministry of Environment & Forests, Government of India has stipulated following indicators for sustainable development in the interim approval guidelines for GHG projects.

1. Social well-being
2. Economic well-being
3. Environmental well-being
4. Technological well-being

Social well-being

The project activity provided / provides job opportunity to local people during commissioning and maintenance of the wind power plant. Frequency of visiting villages and nearby areas by skilled, technical and industrialist increase due to installation/site visit/operation and maintenance work related to wind plant. This directly and indirectly positively effects the economy of villages and nearby area.

Environmental well-being

Wind power is one of the cleanest renewable energy powers and does not involve any fossil fuel. There are no GHG emissions. The impact on land, water, air and soil is negligible. Thus the project activity contributes to environmental well-being without causing any negative impact on the surrounding environment.

Economic well-being

The VCS project activity generates permanent and temporary employment opportunity within the vicinity of the project. The electricity supply in the nearby area improves which directly and indirectly improves the economy and life style of the area.

Technological well-being

The project activity is step forward in harnessing the untapped wind energy and further diffusion of the wind technology in the region. The project activity leads to the promotion and demonstrates the success of wind projects in the region which further motivate more investors to invest in wind power projects. Hence, the project activity leads to technological well-being.

In view of the above, the PP has considered that the project activity profoundly contributes to the sustainable development

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. Also, wind power projects are not included in the Schedule I of the EIA notification S.O.1533 (E) dated 14th September 2006 and thus an EIA is not required. Ministry of Environment & forests vide their OM J-11013/41/2006 - IA II (I) dated 13th May 2011, has re-affirmed this and exempted wind power plants from EIA and Environmental Consent requirement

Further, 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. The report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013[5]. This report clearly mentioned that solar/Wind power project activity operations do not result in direct air pollution, noise pollution. Moreover, also as per the Central Pollution Control Board of India notification[6] solar/wind project falls under White Category and are practically non-polluting.

4.2.2 Local Stakeholder Consultation

Local stakeholder consultation has been conducted at the time of project registration. For on-going stakeholder's communication, PP have maintained feedback register at the site office. All the stakeholders are happy with the implementation and operation of the project activity and no negative comments envisaged for the project activity. Complaint/suggestion/feedback register is maintained at site as a part of ongoing

[5] https://smartnet.niua.org/sites/default/files/resources/report-on-developmental-impacts-of-RE.pdf

[6] http://envfor.nic.in/sites/default/files/Latest_118_Final_Directions.pdf

communication with stakeholders in line with clause 3.16.17 of VCS Standard, ver. 4.1 and appropriate actions taken time to time by PP.

Assessment team checked the grievance register provided by PP and found that local stakeholders can anytime lodge their grievances if any in the register over the operational life time of the project. During current monitoring period two grievance were received related to repair of street light and RO systems and the same were addressed by the PP. Thus, assessment team is of the opinion that the ongoing stakeholder mechanism is adequate and appropriate

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 and CDM PDD.
Findings	CAR 08 was 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 by multiplying the energy baseline (EB) with the regional grid emission factor. Formula Used:- Baseline emission: BE = GEN * CM/1000 Where; BE = Baseline emissions in year y (tCO_2e/yr) GEN = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the VCS project activity in year y(kWh/yr) CM = Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO_2/MWh) Ex-ante parameters: The baseline emission factors are taken ex-ante in line with the registered VCS PD as well as cross checked with section validation report and found correct. Combined margin CO_2 emission factor ($EF_{grid,CM,y}$)for WR is equal to 0.898 tCO_2/MWh. The calculation approach was in line with the VCS PD. Values are as follows: $EF_{grid,OM,y}$ = 1.0 tCO_2/MWh $EF_{grid,BM,y}$ = 0.59 tCO_2/MWh $EF_{grid,CM,y}$ = 0.898 tCO_2/MWh

	Ex-post parameter: As per the registered VCS PD, registered CDM PDD and monitoring plan the following parameter needs to be monitored: **Net electricity supplied by WTGs per annum in the project activity (GEN):** The generated electricity by project activity is measured by ABT meter installed at two places. Individual meters are installed at 33 kV transformer yard of each WTG whereas common meters are installed at the substation to measure the electricity exported/imported to/from to entire wind farm. State Electricity board prepared monthly share of electricity certificate based on reading recorded from meter installed at substation jointly by respective SEB and O&M service provider. The values of the monitoring parameter are sourced from the monthly share of electricity certificates and same are used for calculation of emission reductions which is in accordance with the registered monitoring plan. During this monitoring period 90,214,770 kWh (90,214.77 MWh) of electricity supplied in the project. The calibration dates and details of the meters are given in Appendix-5 of the monitoring report. The values considered for the emission reduction calculation are checked from the monthly share of certificates and found correct. The and crosschecked with daily generation report (DGR) found to be correct. The verification team has checked the entire monthly share of certificates of electricity for the net electricity supplied by the WTGs in the project. Electricity supplied is cross checked with daily generation report (DGR) as generated electricity wheeled to the project proponent's unit though the approved monitoring plan in VCD PD and CDM PDD is silent on cross check process. All relevant monitoring parameters have been verified with regard to the appropriateness of the applied measurement/determination method, the correctness of the values applied for ER calculation, the accuracy, and applied QA/QC measures. Baseline emission factor is calculated as for following formula: BE = Gen * CM/1000 BE_y baseline emissions, tCO_2e BE_y = 90,214,770 kWh x 0.898 /1000 = 81,011 tCO_2e (rundown values) As per applied methodology AMSI.D, Version 13, project emission is considered zero as the project activity involved wind power generation. Leakage: As per applied methodology AMS-I.D, version 13 Leakage emissions are not considered for the project activity. Hence, $ER_y = BE_y - PE_y - L_y$=81,011 tCO_2e Verification team confirms that the monitoring has been carried out in accordance with the monitoring plan contained in the registered VCS PD and registered CDM PDD

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

Means of verification	The verification team checked the Calibration details of the monitoring meters with the calibration certificates.
Findings	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.
Conclusion	The metering is being carried out by electronic tri-vector bi-directional energy meter of accuracy class 0.5s at 33 kV yard site and 0.2s at substation which measured both export and import. The meter is installed at the state electricity board substation is being used for share of electricity certificates (JMRs) of electricity generation statement. As per the registered VCS PD, registered CDM PDD and monitoring plan only ". The same is Net electricity supplied by WTGs per annum in the project activity (GEN) need to be monitored by ABT meter installed at two places. Individual meters are installed at 33 kV transformer yard of each WTG whereas common meters are installed at the substation to measure the electricity exported/imported to/from to entire wind farm. The value of Net electricity supplied by WTGs in the project activity is directly sourced from the monthly share of electricity certificate and the same is cross checked with daily generation report. The parameter is monitored continuously and cumulative readings are taken at the end of the month by joint meter reading procedures. All the energy meters are under the control of state utility These are sealed by the state Unitalities. The calibration frequency of meters was once in 3 year; however, PP has applied deviation in calibration frequency once in 5 year (refer Section 3.3 of this report). No delay in Calibration is observed by the assessment team for the current monitoring period. The meters are calibrated by the NABL accredited lab. Assessment team checked the calibration details of the monitoring meters with calibration certificates submitted by PP and confirms that meters are calibrated as per calibration frequency mentioned in the registered VCS PD and CDM PDD. The Calibration details of meters are provided in Appendix 5 of this report. No unforced error observed and feeder wise WTGs location is also checked and found correct. Assessment team confirms that all the energy meters are Secure Meters Ltd except GJB00128 which is PGVCL make and of accuracy class of 0.2s at 33 kV yard site and 0.2s at substation, are calibrated as per the national standards followed by the electricity board.

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 Ratnamani Metals and Tubes Ltd to perform the verification of the "13.25 MW Wind Power Generation by RMTL, in Kutch, Gujarat".

The Ratnamani Metals and Tubes 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.D - Version 13.0

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: 01/04/2012 to 30/03/2016 (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)
2012(01/04/2012 to 31/12/2012	18,723	0	0	18,723
2013 (01/01/2013 to 31/12/2013	19,188	0	0	19,188
2014(01/01/2014 to 31/12/2014)	21,265	0	0	21,265
2015(01/01/2015 to 31/12/2015	19,946	0	0	19,946
2016(01/01/2016 to 30/03/2016	1,889	0	0	1,889
Total	**81,011**	**0**	**0**	**81,011**

APPENDIX 1: DOCUMENTS REVIEWED OR REFERENCED (VERIFICATION)

No.	Author	Title	References to the document	Provider
1	NA	Commissioning certificates of the WTGs	Commissioning certificates	Project participant
2	NA	Contract of the project participant with the DOE	Contract document signed between PP and DOE	Project participant
3	NA	The operational lifetime of the project activity from the manufacturer = (Technical specefications)	Manufacturer technical specifications	Project participant
4	NA	Registered PD *https://registry.verra.org/app/projectDetail/VCS/631*	NA	Project participant
5	NA	Calibration Certificates of energy meters	Calibration Certificates	Project participant
6	NA	Emission reduction sheet version 01	ER sheet version 01 dated 16/10/2020	Project participant
7		Emission reduction sheet version 02	ER sheet version 02 dated 30/04/2021	Project Participant
9	NA	MR version 01	16/10/2020	Project participant
10	NA	MR version 02	30/04/2021	Project participant
12	NA	Wheeling Agreement for 1.15 MW Wheeling Agreement for 1.5 MW	19/06/2006 04/12/2007	Project Participant
13	NA	O & M Agreement	O & M Agreement	Project Participant
15	NA	1st Periodic Verification Report under VCS: Monitoring Peroiod: 31/03/2006 24/03/2009	Dated 30/06/2009	Project participant
16	NA	CDM registered PDD, Version 1.2	Dated 26/03/2009	UNFCCC
17	NA	CDM registered PDD, Version 1.3	Dated:14/06/2011	
18	NA	CDM Verification Report for the monitoring period: 25/03/2009 to 31/10/2010 & 01/11/2010 31/03/2012	Version 03, Dated 05/03/2013	UNFCCC
19	NA	Tools/ guidelines used in the project activity	UNFCCC CDM/VCS web site	UNFCCC

		• Glossary of CDM terms version 07 • VCS verification report template version 4.0		
19	NA	Monthly statement- Share Certificate of Electricity(JMR)for the complete monitoring period	Monthly statement of electricity export and Import	Project participant
20	NA	Daily Generation Reports	DGR	Project participant
21	NA	Declaration regarding no participation in other GHG program for the concerned monitoring period	Declaration dated 02/02/2021	Project participant
22	NA	Break Sown Details	NA	Project participant
23		Manufactures Technical specification of WTs	NA	Project Participant

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

Project Implementation Status

CAR ID	01	**Date:** 18/12/2020
Description of CAR		
During the site visit and subsequent document review it was observed that the feeder wise location of the Wind turbines is missing in the MR. Corrective action is sought in the respective section of the MR.		
Project participant response		**Date:** 30/04/2021
There are two substation Line (Line 1 & Line 2). These lines are connected to Suthri and Vanku SS. Hence this SS wise locations are provided in the revised MR.		
Documentation provided by project participant		
Revised MR		
DOE assessment		**Date:** 20/05/2021
PP has now included the feeder wise location of WTG as per WTG ID in revised MR. CAR closed.		

CAR ID	02	**Date:** 18/12/2020
Description of CAR		
During review of the MR assessment team observed the following: 1. Section 1.9 of MR is not filled as per requirement of MR template, PP to Indicate whether the project is registered under any other GHG programs and, where this is the case, provide the registration number and details. Also Provide details of any GHG credits claimed under such programs. 2. Section 1.10 of MR is not filled as per requirement of MR template, PP to include the details information related to Emission Trading Programs and Other Binding Limits and Other Forms of Environmental Credit as per guidance provided in MR template Corrective action is sought.		
Project participant response		**Date:** 30/04/2021
1. The section 1.9 of the MR is now revised with the required information as per the VCS MR template requirements. This project activity has been registered in CDM as UN2247 and total credit amount is 23,960 metric tonnes of CO_{2e}/annum. 2. The section 1.10 of the MR is now revised as per the VCS MR template requirements.		
Documentation provided by project participant		

Revised MR	
DOE assessment	**Date:** 20/05/2021
1. PP has revised the Section 1.9 of monitoring report in line with the instruction provided in VCS MR template. The project is registered under the CDM mechanism (UNFCCC Ref.2247) and CERs have been issued for the monitoring period from 25/03/2009 –31/10/2010 and 01/11/2010 – 31/03/2012(https://cdm.unfccc.int/Projects/DB/RWTUV1222760737.24/view). PP has submitted undertaking that they will not claim same GHG emission reductions of the project from CDM and VCS. 2. PP has also revised the Section 1.10 of the MR in line with the instruction provided in VCS MR template. Comment. Project Proponent has submitted undertaking that they will not claim same GHG emission reductions of the project from CDM and VCS. Hence, CAR closed.	

CAR ID	03	**Date:** 18/12/2020
Description of CAR		
During review of Monitoring Report assessment team found that the following information is not mentioned in monitoring report; 1. Technical specifications of WTGS 2. Breakdown details of the Wind turbines are missing in the MR. Moreover, the supporting document regarding the breakdown details are not provided to the assessment team. Corrective action is sought.		
Project participant response		**Date:** 30/04/2021
1. The technical specification of the WTGs are now provided in the section 1.9 of the revised VCS MR. 2. Breakdown details are now provided in the annex-1 of the MR.		
Documentation provided by project participant		
1. Revised MR 2. Break down details		
DOE assessment		**Date:** 20/05/2021
1. PP has now included the technical specifications of WTGs in revised monitoring report. Verification has checked the same and confirms that technical specifications are correct with the VCS PD and CDM PDD. The same was also verified during the onsite visit. 2. Break Down/Plant log book submitted by PP and also included the same in Appendix 1of revised MR. Verification team confirms that No major breakdown was found. Scheduled & preventive maintenance were carried out as per manufacturer specification for the power plant. No unforeseen activity observed during the present verification that can alter the applicability or additionality of the applied methodology. CAR closed.		

CAR ID	04	**Date:** 18/12/2020

Description of CAR

During the review of documents submitted by PP, it was found that the following documents are missing;

1. Technical specification of the WTGs
2. Power Purchase agreement for the project activity
3. O & M Agreement
4. Commissioning Certificates of WTGs
5. Undertaking in effect of no double counting of VCS emission reductions achieved will take place in other GHG Programs/Other forms credits for the concerned Monitoring period.

PP is requested to the provide the above documents to assessment team.

Project participant response **Date:** 30/04/2021

1. The weblink of the WTG specification brochure is provided in the VCS MR.
2. PPA & Wheeling agreement is provided to the DOE assessment team.
3. O&M Agreement is provided to the DOE assessment team.
4. Commissioning certificates are provided to the DOE assessment team.
5. Undertaking of no double counting is now provided to DOE assessment team.

Documentation provided by project participant

1. Revised MR
2. PPA & Wheeling agreement
3. O&M Agreement
4. Commissioning Certificate
5. PP Undertaking

DOE assessment **Date:** 20/05/2021

1. PP has submitted the manufactures technical specifications to verification team. Verification has checked the same and confirms that technical specifications are correct with the VCS PD and CDM PDD.
2. PP has submitted the copy of PPA and wheeling agreement to verification team
3. O & M agreement of WTGs is also submitted by PP. The O & M agreement is signed on 13/01/2017 with Suzlon Infrastructure Ltd. For complete maintenance work.
4. PP has provided the commission certificates Verification team has checked the same and found correct. The WTG wise commissioning dates are as follows:

Sl. No.	WTG ID	Commissioning Date
1	SEL/1500/06-07/0358	30/03/2007
2	SEL/1500/06-07/0359	29/03/2007
3	SEL/1500/06-07/0360	22/03/2007
4	SEL/1500/06-07/0361	21/03/2007
5	SEL/1500/06-07/0382	31/03/2007
6	SEL/1500/06-07/0383	22/03/2007
7	SEL/1500/06-07/0384	22/03/2007

8	SEL/1500/06-07/0362	30/06/2007
9	SEL/1250/05-06/0139	31/03/2006

5. PP has also submitted undertaking in effect of no double counting of VCS emission reductions achieved will take place in other GHG Programs/Other forms credits for the concerned Monitoring period.

CAR closed

CAR ID	05	**Date:** 18/12/2020
Description of CAR		
Description of the implementation status of the project activity include operation of the project activity during this monitoring period is not provided in Section 3,1 of MR. Refer guidance in provided in MR template. Corrective action is sought.		
Project participant response		**Date:** 30/04/2021
During the current monitoring period, all the WTGs were operational. The same is now mentioned in the section 3.1 of the MR.		
Documentation provided by project participant		
1. Revised MR		
DOE assessment		**Date:** 20/05/2021
PP has now included the implementation status of the project activity in Section 3,1 of revised MR in line with the instructions provided in VCS MR template. Thus, CAR is closed.		

No Net Harm

CAR ID	06	**Date:** 18/12/2020
Description of CAR		
Supporting documents are not shared with DOE related to claim made under No Net Harm in MR against the requirement of sub para 3.16.1 of VCS standard.		
Project participant response		**Date:** 30/04/2021
The supporting weblink regarding no net harm is now provided in the section 2.1 of the MR.		
Documentation provided by project participant		
Revised MR		
DOE assessment		**Date:** 20/05/2021
PP has submitted the supporting document “EIA notification S.O.1533 (E) dated 14th September 2006” (http://envfor.nic.in/legis/eia/so1533.pdf) related to claim made under No Net Harm. CAR closed.		

Local Stakeholder Consultation

CAR ID	07	**Date:** 18/12/2020
Description of CAR		

The Supporting documents concerned to the mechanism for ongoing communication with Local Stakeholder as per requirement of Para 3.16.3 and 3.16.4 of the VCS standard V.4.0. Corrective action is sought.
Project participant response **Date:** 30/04/2021
PP has placed a grievance register onsite where-in, the stakeholders can put down their complaint and the same if found genuine are addressed immediately. Grievance Register as local stakeholder consultation document has been provided to DOE.
Documentation provided by project participant
Grievance Register Revised MR
DOE assessment **Date:** 20/05/2021
PP has provided the supporting documents of ongoing stakeholder process. PP has placed grievance register at the project site to get feedback on the project from stakeholders. The same was checked by the assessment team and confirms that there is no any grievance of stakeholders during the current monitoring period. CAR closed.

Accuracy of GHG Emission Reduction and Removal Calculations

CAR ID	08	**Date:** 18/12/2020
Description of CAR		
During the document review assessment team has observed following: 1. Energy export and import data as per credit notes/JMRs and invoices are missing in many cells 2. Emission reduction values are not consistent in ER comparison sheet 3. Formula used to calculate baseline emissions are not consistent with the formula mentioned in registered CDM PDD 4. PP has not provided the copies of the JMRs and Invoices to the assessment team for verification of net energy exported to grid for the complete monitoring period. Corrective action is sought.		
Project participant response		**Date:** 30/04/2021
1. Energy export and import data as per credit notes/JMRs and invoices have been entered in the ER Sheet. 2. Emission reduction values are revised now. 3. Baseline emissions formula has been revised as per registered PDD. 4. Copies of JMRs and invoices are provided to DOE.		
Documentation provided by project participant		
1. ER Sheet 2. Revised MR 3. Copies of JMR and Invoices		
DOE assessment		**Date:** 20/05/2021

1. PP has now filled the electricity export and import data in missing cells in ER sheet. 2. PP has corrected the Emission reduction value in comparison sheet are not consistent in ER comparison sheet. 3. PP has corrected the formula in revised MR in line with registered CDM PDD and VCS PD. 4. PP has now submitted the Electricity Share Certificated issued by the Load Dispatch Centre, Verification team checked the electricity export data to grid with the Share Certificate of Electricity and observed that generation data of Vanku 1.25 MW is not consistent in ER sheet. CAR Open.
Project participant response **Date:** 21/05/2021
4. Generation data of Vanku 1.25 MW is consistent with SLDC share certificates**.**
Documentation provided by project participant
ER Sheet
DOE assessment **Date: 22/05/2021**
Verification team has checked the Share Certificate and found that the generation data of 1.25 MW provided in ER sheet is correct. There was mistake in checking the data. Further, electricity generated from the WTGs in wheeled in project proponent's unit so no invoice issued hence the verification team cross checked the electricity supplied with daily generation data though approved monitoring plant silent on cross check process and found correct. CAR closed.

Quality of Evidence to Determine GHG Emission Reductions and Removals

CAR ID	09	**Date:** 18/12/2020
Description of CAR		
The details information of monitoring equipment's such as serial number of meters, make, calibration date dates, due date of calibration are not provided in MR. Further, Calibration certificates are also not submitted to the assessment team. Corrective action is sought for the same.		
Project participant response		**Date:** 30/04/2021
Calibration Detail has been included in Appendix-II in the revised MR.		
Documentation provided by project participant		
Revised MR		
DOE assessment		**Date:** 20/05/2021
PP has now added the details information of monitoring equipment's in Appendix II of revised MR. Verification team checked the calibration certificates and found that calibration dates for few meters are not correct. CAR open		
Project participant response		**Date:** 21/05/2021
Calibration dates have been revised as per calibration reports.		
Documentation provided by project participant		

Revised MR and Calibration Certificates	
DOE assessment	**Date:** 22/05/2021
PP has now corrected the calibration dates in Appendix II of revised MR. Verification team checked the calibration certificates and found that calibration dates are now correct. 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	Das	Sukanta	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	Xue	Denny	Applus+ Certification
2.	Approver	IR	Calle de Miguel	Agustín	Applus+ Certification

Short CVs of the Team:

1. Mr. Sukanta DAS, has done M. Sc. in (Electronics and Photonics) and M. Tech in (Energy technology) from Tezpur Central University/ Indian Institute of technology Bombay in India. He is a certified lead auditor for ISO 14001 EMS LA and ISO 9001 QMS LA from International registry for Certified Auditors (IRCA) and Certified Lean Management practitioner from Quality Council of India (QCI). He has more than Nine (9) years of working experience at TUV NoRD/ Re-consult/CRA/APPLUS certifications under various categories of projects stating from Renewable to waste to supercritical projects. He was JI/ CDM Lead Assessor in TUV NoRD and was involved in more than 100 CDM validation and verifications activities in Gold Standard, VCS, CDM projects as a team leader/technical reviewer / validator / verifier covering the sectoral scope 1, 13 technical areas 1.2/1.1/13.1. Currently he is associated with

True Quality Certifications Private Limited and is empanelled with APPLUS certification to carry out GHG audit.

2. Mr. Denny Xue, Master Degree in Environmental Engineering, Bachelor Degree in Thermal Engineering) is an Auditor appointed by Applus+ LGAI for the GHG project assessment. He is based on Shanghai. He has 1.5 years of work experiences in CDM project development. Before he joined Applus+ LGAI, he has been worked for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development

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

33 kV yard meter:

Accuracy class: 0.2s

Calibration frequency: Once in three year

WTG ID number	**Meter Serial no**	**Date of Calibration**	Validity of calibration	Calibration date	Validity of calibration	Make
SEL/1500/06-07/0358	GJU04461	14/02/2012	13/02/2015	10/01/2015	09/01/2018	Secure
SEL/1500/06-07/0359	GJB00659	14/02/2012	13/02/2015	10/01/2015	09/01/2018	Secure
SEL/1500/06-07/0360	GJU03912	14/02/2012	13/02/2015	10/01/2015	09/01/2018	Secure
SEL/1500/06-07/0361	RJU00250	14/02/2012	13/02/2015	10/01/2015	09/01/2018	Secure
SEL/1500/06-07/0382	GJB01697	14/02/2012	13/02/2015	10/01/2015	09/01/2018	Secure
SEL/1500/06-07/0383	GJB01071	14/02/2012	13/02/2015	10/01/2015	09/01/2018	Secure
SEL/1500/06-07/0384	GJB00128	10/02/2012	09/02/2015	10/01/2015	09/01/2018	Secure
SEL/1500/06-07/0362	GJB01294	10/02/2012	09/02/2015	10/01/2015	09/01/2018	Secure
SEL/1250/05-06/0139	GJB00796	10/02/2012	09/02/2015	10/01/2015	09/01/2018	Secure

Substation Meter Detail

Accuracy class: 0.2s

Calibration frequency: Once in five year

Meter location	**Serial No**	**Calibration date**	**Validity of calibration**	**Calibration date**	**Validity**	**Make**
Vanku substation – Line 1	GJ-2123-A	22/10/2008	21/10/2013	16/10/2013	15/10/2018	Secure
Vanku substation – Line 2	GJ-2150-A	22/10/2008	21/10/2013	16/10/2013	15/10/2018	Secure
Suthri substation - Line 1	GJ-2104-A	01/01/2009	31/12/2013	27/12/2013	26/12/2018	Secure
Suthri substation - Line 2	GJ-2110-A	08/03/2010	07/03/2015	06/03/2015	05/03/2020	Secure