



WIND POWER PROJECT IN RAJASTHAN



Document Prepared By

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

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Summary:

Verification purpose: LGAI Technological Center S.A.(Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed by Mytrah Energy (India) Limited (MEIL) (formerly Caparo Energy (India) Limited) to perform the 4th periodic verification of the project activity “Wind power project in Rajasthan”. 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 of 42 MW wind power project consisting total 20 turbines of 2.1 MW each in Jaisalmer District, Rajasthan, India. The project activity is using S-95- 2.1 MW WTG manufactured by Suzlon Energy Ltd. The Project activity feed generated power to the NEWNE regional grid of India (Now INDIAN grid) which helps in reducing the supply demand gap in the state.

Start date of the project activity is 19/06/2011. This is the day on which first WTG was commissioned under the project activity which is as per commissioning certificate, registered VCS PD version 02 dated 08/10/2013 and final validation report version 01 dated 16/07/2013.

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 the 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 and standard version 4.0

This is the 4th monitoring under VCS and covers the activity from 06/12/2019 to 31/03/2020 (inclusive of both dates). The total emission reductions achieved for the project activity during the monitoring period has been 13,086 tCO₂e. The crediting period for VCS began on 19/06/2011 and will end on 18/06/2021. 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, 07 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.

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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 “Mytrah Energy (India) Limited” to perform the 4th periodic verification of the “Wind power project in Rajasthan” under VCS standard and guideline version 4.0. The objective of this verification activity is to have an independent third party for the assessment of the project design, monitoring report and final verification 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 “ACM0002, Version 12.3.0”
- the project's monitoring plan is assessed against “ACM0002, Version 12.3.0”
- 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 guideline and standard version 4.0
- 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 v4.0
- 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 ACM0002 version 12.3.0. 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 and guideline version 4.0, including the approved baseline and monitoring methodology ACM0002 version 12.3.0. 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 4.0

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 42 MW comprises of 20 WTGs, each with capacity of 2.1 MW each. The wind power project is located at Tejwa-Monkal Village in Jaisalmer district, Rajasthan. 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 project activity was commissioned on 19/06/2011. The Project activity feed generated power to the NEWNE regional grid of India (Now INDIAN grid).

The monitoring period this VCS verification covered from 06/12/2019 to 31/03/2020 (inclusive of both dates) and the project activity is achieved 13,086 tCO₂e emission reductions during this monitoring period.

Assessment team checked the Commission of WTG with the commissioning Certificates and found correct. The commissioning dates of the WTGs are provided in Section 4.0 of this report. The project is implemented as per the description in the registered 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 “CDM validation and verification standard for project activities, Version 02.0 and “VCS standard 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/onsite visit 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+ Certification has composed a project assessment team in accordance 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
Mr. 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 1 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

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.	Kotti	Mr. Santosh	PP Representative	16/10/2020	Implementation of the project and monitoring. Baseline emission calculation, achieved emission reduction for the monitoring period, monitoring process followed onsite	Mr. Sukanta Das
2	Kumar	Ajay	Villager	16/10/2020	Local Stakeholder Consultations	

2.4 Site Inspections

Duration of on-site inspection: 16/10/2020				
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	The wind power project is located in Tejwa – Mokal village, Jaisalmer District, Rajasthan State, India	16/10/2020	Mr. Sukanta Das

	improvement measure of PP for the Local villagers.			
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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 2 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	03	00
Description of project activity	00	00	00
Application of selected baseline and monitoring 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	07	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 of the project activity and no FAR was raised from 3rd 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

Project activity has not participated under other GHG program.

3.2 Methodology Deviations

No deviation requested by PP.

3.3 Project Description Deviations

PP has applied two deviation during the current monitoring period:

Deviation 1:

As per the registered CDM PDD, $EG_{PJ,y}$ (Quantity of Net Electricity exported to the grid during the year y) is to be calculated using:

$EG_{PJ,y} = (\text{Export} - \text{Import}) \times (1 + \text{Transmission Loss})$ This formula was not followed currently and in actual the $EG_{PJ,y}$ is calculated based on the difference of export and import using following formula only by State Electricity Board.

$$\text{Export} = \left(\frac{E_{Exp,feeder,i}}{E_{Gen,feeder,i}} \times E_{WTG,i} \right) - \left(\left(\sum E_{Exp,feeder,i} \right) - E_{Exp,sub-station} \right) \div \sum E_{Gen,feeder,i} \times E_{WTG,i}$$

$$\text{Import} = \left(\frac{E_{Imp,feeder,i}}{E_{Gen,feeder,i}} \times E_{WTG,i} \right) - \left(\left(\sum E_{Imp,feeder,i} \right) - E_{Imp,sub-station} \right) \div \sum E_{Gen,feeder,i} \times E_{WTG,i}$$

The PP is getting share certificate/JMRs which gives the direct values of quality of net electricity exported by the project proponent. Considering the above, PP has applied deviation from the registered monitoring plan and used the direct values of $EG_{PJ,y}$ (Quality of net electricity exported by the project proponent) from JMRs for calculating Emission Reductions. The deviation request is in line with the Para 3.18.1, sub para (2) of VCS standard version 4.0. The value of $EG_{PJ,y}$ is directly obtained from the JMRs issued by state authority the estimation of emission reduction is thus conservative, correct and accurate.

Deviation 2:

Another deviation is related to crediting period. As per Section 1.5 of VCS PD "The project has begun generating GHG emission reductions from 19/06/2011 and hence the crediting period for VCS begins on 19/06/2011 and ends on 30/12/2012, since the crediting period under CDM starts on 31/12/2012. The project proponent will also not claim GHG emission

under VCS and CDM scheme for same period during the period of 31/12/2012 to 30/12/2022”.

Also, Section 1.7 of VCS PD mentioned 10 years fixed crediting period. Thus, there is inconsistency in VCS crediting period mentioned in VCS PD. Hence requested deviation to confirm that VCS crediting period will be 19/06/2011 to 18/06/2021 i.e. 10 years fixed crediting period is acceptable. Also end date of VCS crediting period is within end date of CDM crediting period which is in line with VCS Standard Version 4.0. Further, the previous verification (VCS MR and Verification Report) confirmed the VCS crediting period from 19/06/2011 to 18/06/2021.

Moreover, 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 deviation is this acceptable to the assessment team.

3.4 Grouped Project

This is not a grouped project.

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 and approved monitoring plan. During the current monitoring period, it was observed via the breakdown log sheets maintained onsite that no unforeseen incident/event evolved which can impact the operation of the project activity. The project underwent continuous operation and only scheduled maintenance as per the manufactures specification which is acceptable to the assessment team. Moreover, there is no unforeseen incident which can affect the applicability of the methodology and thus the same 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 registered PDD is correct. The WTG wise latitudes and longitudes are confirmed below:

Sr. No.	WTG ID	Latitude	Longitude	Date of Commissioning
1	MK014	27.1631	70.6809	04/08/2011
2	MK015	27.1612	70.6858	19/07/2011
3	MK016	27.1594	70.6907	19/07/2011

Sr. No.	WTG ID	Latitude	Longitude	Date of Commissioning
4	MK017	27.1576	70.6956	19/07/2011
5	MK021	27.1466	70.7251	30/09/2011
6	MK039	27.1697	70.6926	12/07/2011
7	MK040	27.1715	70.6877	12/07/2011
8	MK042	27.1752	70.6779	19/07/2011
9	MK043	27.1771	70.673	04/08/2011
10	MK066	27.1837	70.6848	12/07/2011
11	MK067	27.1812	70.6891	30/06/2011
12	MK068	27.1804	70.6949	30/06/2011
13	MK069	27.1782	70.6995	30/06/2011
14	MK092	27.1887	70.7016	19/06/2011
15	MK093	27.1905	70.6966	25/06/2011
16	MK094	27.1924	70.6917	30/06/2011
17	MK161	27.2195	70.6917	25/06/2011
18	MK163	27.2237	70.6833	25/06/2011
19	MK164	27.2255	70.6784	19/06/2011
20	MK165	27.2274	70.6735	19/06/2011

Assessment team checked the commissioning certificate and confirmed that the dates of Commission for the WTGs are correct. Assessment team also conform during the onsite visit that there is no change in project design and the project is implemented as per the description provided in the registered PDD.

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.

The major technical specifications of the WTG S-95,2.1 MW (Suzlon Machine) are as follows:

Model	S95 - 2.1MW
Operating data	
Rated power	2.1MW
Cut-in wind speed	3.5 m/s
Rated wind speed	11 m/s
Cut-out wind speed	25 m/s
50 years gust wind speed	59.5 m/s
Wind Class	IEC – IIA
Rotational Speed	15 to 17.6 rpm
Rotor	
Pitch system	Pitch regulated, electrical

Diameter	95 m
Swept area	7085 m ²
Blade material type	Epoxy bounded fibre glass
Generator	
Type	Asynchronous 3 phase induction with slip rings operated with rotor circuit inverter system (DFIG)
Frequency	50/60 Hz
Protection	IP 54, IP23 for slip ring unit
Cooling system	Air cooled
Insulation	Class H
Slip control	Unique Flexi-Slip providing slip up to 16.67%
Braking System	
Aerodynamic brake	3 independent systems with blade pitching mechanism
Mechanical brake	Hydraulic fail-safe disc brake system
Gearbox	
Type	3 stages (One planetary & Two helical)
Yaw System	
Type	Driven by 3 electrical driven planetary drives
Bearings	Polyamide slide
Tower	
Type	Tubular Steel Tower (4 sections)

The operation and maintenance (O & M) of the project activity is being done by the Suzlon Energy 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 ACM0002, Version 12.3.0. The organisational role and responsibility as mentioned in the registered VCS- PD is followed onsite. Meters are calibrated as per calibration frequency in registered VCS- PD. All the emergency preparedness as mentioned in the registered VCS- PD is followed onsite and no discrepancies were found regarding the same.

Further, the project activity has not participated under any other GHG program. PP is not claiming any benefits of carbon emission reduction credits achieved through this project activity under any other GHG programme for the monitoring 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, final validation report and approved methodology and thus no clarification/deviation is sought. CAR 01, CAR 03, CAR 04 and CAR 05 were raised related to implementation of project activity during the verification process and closed successfully. Please refer below 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 19/06/2011. which is the date of commissioning of the MK092, MK093, MK094, MK164 and MK165 WTG as per commissioning Certificates.
2. An undertaking letter dated: 05/10/2020 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 the 4th monitoring under VCS and covers the activity from 06/12/2019 to 31/03/2020 (inclusive of both dates). Thus, VCS crediting period should be maximum of 10 years. 19/06/2011 is the start date and 18/06/2021 will be the end date of the crediting period.
The GHG credits from 06/12/2019 to 31/03/2020 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	Mytrah Energy (India) Limited
Contact person	Mr. Santosh Kotti
Title	Assistant Manager
Address	1st Floor, 8001, 8th Floor, Q-City, Nanakramguda, Gachibowli Hyderabad 500032, Telangana, INDIA
Telephone	+91 9655967839
Email	santosh.kotti@mytrah.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	Anjali Rao

Title	Project Manager
Address	Office No. 201, EnKing Embassy, Plot No. 48, Scheme No. 78, Part II, Vijay Nagar INDORE – 452010, India.
Telephone	+91 9109120940
Email	anjali@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 13,086 tCO₂e which is 42.24% lower than the estimated emission reduction 22,655 tCO₂e (70,677 tCO₂e/ 365 days* 117 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.

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 2013¹. 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 notification² 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/complaint 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 communication with stakeholders in line with clause 3.16.17 of VCS Standard, ver. 4.0 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 no grievance was received. Thus,

¹ <https://smartnet.niua.org/sites/default/files/resources/report-on-developmental-impacts-of-RE.pdf>

² http://envfor.nic.in/sites/default/files/Latest_118_Final_Directions.pdf

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
Findings	CAR 06 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: $BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$ Where, BE_y = Baseline Emissions in year y; tCO₂ $EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh) $EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the "Tool to calculate the emission factor for an electricity system" (tCO₂/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 CO₂ emission factor of NEWNE grid ($EF_{grid,CM,y}$) is equal to 0.9075 tCO₂/MWh. The calculation approach was in line with the VCS PD. Values are as follows: $EF_{grid,OM,y} = 0.9842$ tCO₂/MWh $EF_{grid,BM,y} = 0.8588$ tCO₂/MWh $EF_{grid,CM,y} = 0.9529$ tCO₂/MWh Ex-post parameter: As per the registered VCS PD and monitoring plan, $EG_{PJ,y}$ (Quantity of net electricity exported to the grid during the year y) and $E_{WEG,I,y}$ (Quantity of Electricity generated by the individual WEGs of the PP in year y) needs to

	be monitored. EG_{PJ,y} (Quantity of net electricity exported to the grid during the year y): Net electricity supplied is calculated on the basis of the difference between calculated values of “export” and calculated value “import” on the JVVNL energy meter at the common evacuation point and the percentage transmission loss as prescribed in the PPA for metering at 220 kV. The net electricity supplied the grid by the project activity during the monitoring period is 13,733.24 MWh. PP has taken the value of EG_{PJ,y} directly from the JMRs which contains the value of export and import too. E_{WEG,I,Y} (Quantity of electricity generated by the individual WEGs of the PP in year y): Electricity generated by the WEG is continuously monitored by the controller meter installed within the WEG. These reading are recorded online by the technology supplier. The electricity generated by the individual WEGs of the PP during the monitoring period is 14,661.26 MWh (total generation from all 20 WEGs). The verification team has checked the entire monthly JMR reports for the net electricity generated & supplied to the grid and crosschecked the same with the invoices raised by PP to the state Utilities for the monitoring period. 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 combined margin, consisting of a combination of operating margin (OM) and build margin (BM) factors. BE_y baseline emissions, tCO₂e $BE_y = 13,733.243 \text{ MWh} \times 0.9529 \text{ tCO}_2\text{e/MWh}$ $= 13,086 \text{ tCO}_2\text{e (rundown values)}$ As per applied methodology ACM0002, version 12.3.0 and the registered PDD, project emission is considered zero as the project activity involved wind power generation. Leakage: As per applied methodology ACM0002, version 12.3.0 and registered PDD Leakage emissions are not considered for the project activity. Hence, ER_y= BE_y- PE_y= 13,086 tCO₂e- 0= 13,086 tCO₂e (rundown values) Verification team confirms that the monitoring has been carried out in accordance with the monitoring plan contained in the registered VCS PD.
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4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

Means	of	The verification team checked the Calibration details of the monitoring meters with the calibration certificates.
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verification	
Findings	CAR 07 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 0.2s(main & check) which measured both export and import at 220 kV state electricity board substation. This electricity meter is being used by state electricity board for JMR (Joint Meter Reading) electricity generation statement. The meters are 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 is annually. The Calibration details of meters are provided in Appendix 5. 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. Calibration details are provided in Annexure -5 of this report. No unforced error observed and feeder wise WTGs location is also checked and found correct. Assessment team confirms that the energy meters are made of L & T and Secure Meters Limited of accuracy class of 0.2s, 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 Mytrah Energy (India) Limited to perform the 4th periodical verification of the “Wind power project in Rajasthan”

The Wind power project in Rajasthan 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 ACM0002, Version 12.3.0.

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: 06/12/2019 to 31/03/2020(inclusive of both days)

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

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2019	3,012	0	0	3,012
2020	10,074	0	0	10,074
Total	13,086	0	0	13,086

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 VCS PD	https://registry.verra.org/app/projectDetail/VCS/1195	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 06/10/2020	Project participant
7	NA	Emission reduction sheet version 02	ER sheet version 02 dated 22/10/2020	Project participant
8	NA	MR version 01	06/10/2020	Project participant
9	NA	MR version 02	22/10/2020	Project participant
10	NA	Power Purchase Agreement (PPA)	PPA	Project Participant
11	NA	O & M Agreement	O & M Agreement	Project Participant
	NA			
13	NA	3rd Periodic Verification Report	Version 01, dated 06/07/2010	Project participant
14		Final VCS validation report	Version 01, Dated 16/07/2013	Project participant
15	NA	Tools/ guidelines used in the project activity - Glossary of CDM terms version 07 - VCS verification report template version 4.0	UNFCCC CDM/VCS web site	UNFCCC
16	NA	Monthly statement- JMR for the complete monitoring period	Monthly statement of electricity export and Import	Project participant
17	NA	Invoices for the complete monitoring period	Invoice	Project participant

18	NA	Declaration regarding no participation in other GHG program for the concerned monitoring period	Declaration dated 05/10/2020	Project participant
19	NA	Break Sown Details	NA	Project participant

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

Project Implementation Status

CAR ID	01	Date: 16/10/2020
Description of CAR		
During the site visit and subsequent document review it was observed that the details of feeder wise location of the Wind turbines is missing in the MR. Corrective action is sought in the respective section of the MR. The details implementation of the project activity timeline is missing in the MR. Supporting documents are sought for the same.		
Project participant response		Date: 22/10/2020
Details of feeder wise location of the Wind turbines has been updated in the VCS MR in this submission as well as the VCS MR is also being updated with the details of implementation of the project activity.		
Documentation provided by project participant		
VCS MR V02		
DOE assessment		Date: 27/10/2020
Feeder wise locations of WTGs are added in Appendix I of revised monitoring report, Also, supporting documents related to implementation of project activity i.e. commissioning certificates, Technical specifications, break down details have been submitted by PP. Thus, CAR 01 closed.		

CAR ID	02	Date: 16/10/2020
Description of CAR		
The 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 in this regard.		

Project participant response	Date: 20/10/2020																																																																						
VCS MR V02 has now been updated with the breakdown details of wind turbine during this monitoring period. And, also the supporting document for the same has been attached in this submission.																																																																							
Documentation provided by project participant																																																																							
VCS MR V02, Breakdown details excel sheet.																																																																							
DOE assessment	Date: 27/10/2020																																																																						
PP has now included the breakdown details in Appendix II of the revised MR. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Gen. Date</th> <th>Site</th> <th>Loc. No.</th> <th>Reason</th> <th>Duration (Hrs)</th> </tr> </thead> <tbody> <tr> <td>07-Dec-19</td> <td>Mokal</td> <td>MK42</td> <td>Pitch Emergency Run</td> <td>18.7</td> </tr> <tr> <td>08-Dec-19</td> <td>Mokal</td> <td>MK164</td> <td>Elec Safety Chain Stop</td> <td>24.0</td> </tr> <tr> <td>13-Dec-19</td> <td>Mokal</td> <td>MK40</td> <td>Battery Charger2 Disconnected</td> <td>17.2</td> </tr> <tr> <td>23-Dec-19</td> <td>Mokal</td> <td>MK66</td> <td>Elec FB Generator Fan</td> <td>21.2</td> </tr> <tr> <td>25-Dec-19</td> <td>Mokal</td> <td>MK14</td> <td>DFIG Inverter Fault Shutdown</td> <td>17.2</td> </tr> <tr> <td>31-Jan-20</td> <td>Mokal</td> <td>MK164</td> <td>Pitch Emergency Run</td> <td>21.0</td> </tr> <tr> <td>04-Feb-20</td> <td>Mokal</td> <td>MK164</td> <td>Rep Pitch FreqConvPitch3 Err Stop</td> <td>19.6</td> </tr> <tr> <td>08-Feb-20</td> <td>Mokal</td> <td>MK39</td> <td>DFIG Invrtr CAN Fail</td> <td>24.0</td> </tr> <tr> <td>15-Feb-20</td> <td>Mokal</td> <td>MK164</td> <td>Damper Full Load Osc Stop</td> <td>21.2</td> </tr> <tr> <td>16-Feb-20</td> <td>Mokal</td> <td>MK14</td> <td>Rep Pitch Emergency Run</td> <td>23.0</td> </tr> <tr> <td>12-Mar-20</td> <td>Mokal</td> <td>MK68</td> <td>Rep Pitch FreqConvPitch1 ErrStop</td> <td>24.0</td> </tr> <tr> <td>23-Mar-20</td> <td>Mokal</td> <td>MK66</td> <td>Rep Pitch FreqConvPitch1 ErrStop</td> <td>24.0</td> </tr> <tr> <td>24-Mar-20</td> <td>Mokal</td> <td>MK92</td> <td>Rep Pitch FreqConvPitch1 ErrStop</td> <td>23.9</td> </tr> </tbody> </table> The verification team has checked the break down details from plant logbook and confirms that there was no major breakdown or shut downs during the monitoring period which might affect the applicability of methodology or might cause material errors in emission reductions. Hence OK. CAR 02 Closed.		Gen. Date	Site	Loc. No.	Reason	Duration (Hrs)	07-Dec-19	Mokal	MK42	Pitch Emergency Run	18.7	08-Dec-19	Mokal	MK164	Elec Safety Chain Stop	24.0	13-Dec-19	Mokal	MK40	Battery Charger2 Disconnected	17.2	23-Dec-19	Mokal	MK66	Elec FB Generator Fan	21.2	25-Dec-19	Mokal	MK14	DFIG Inverter Fault Shutdown	17.2	31-Jan-20	Mokal	MK164	Pitch Emergency Run	21.0	04-Feb-20	Mokal	MK164	Rep Pitch FreqConvPitch3 Err Stop	19.6	08-Feb-20	Mokal	MK39	DFIG Invrtr CAN Fail	24.0	15-Feb-20	Mokal	MK164	Damper Full Load Osc Stop	21.2	16-Feb-20	Mokal	MK14	Rep Pitch Emergency Run	23.0	12-Mar-20	Mokal	MK68	Rep Pitch FreqConvPitch1 ErrStop	24.0	23-Mar-20	Mokal	MK66	Rep Pitch FreqConvPitch1 ErrStop	24.0	24-Mar-20	Mokal	MK92	Rep Pitch FreqConvPitch1 ErrStop	23.9
Gen. Date	Site	Loc. No.	Reason	Duration (Hrs)																																																																			
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24-Mar-20	Mokal	MK92	Rep Pitch FreqConvPitch1 ErrStop	23.9																																																																			

CAR ID	03	Date: 16/10/2020
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. 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. 4. The project is not participated in other GHG program and has not intended to pursue credits from other GHG program for the concerned monitoring period. Supporting documents and details regarding the same is missing in the MR. 5. Also, PP needs to justify whether REC benefits is taken for the present Monitoring period covered under VCS. Corrective action is sought for the same. PP is requested to the provide the above documents to assessment team.		
Project participant response		Date: 22/10/2020
1. Technical specification of the WTGs has been attached in this submission. 2. Power Purchase agreement is being provided with this submission. 3. Undertaking in effect of double counting of VCS mechanism has now been attached. 4. VCS MR V02 has been updated with the information of non-participation of the project activity for the monitoring period of 06-December-2019 to 31-March-2020 and same has been submitted now. Also, declaration regarding no double counting is being attached. 5. REC benefits is not taken from for the present monitoring period which can be verified from registry of REC India (Link given below) and same has been updated in VCS MR V02. https://www.recregistryindia.nic.in/index.php/publics/accredited_regens		
Documentation provided by project participant		
• Technical specifications of WTGs • Power Purchase agreement • Undertaking in effect of no double counting declaration. • VCS MR V02		
DOE assessment		Date: 27/10/2020
PP has now provided the following supporting documents: 1. Technical specification of the WTGs and found consistent with the specification mentioned in MR. Hence OK. 2. Copy of PPA signed with Jodhpur Vidyut Vitran Nigam Limited on 14/06/2011 and subsequently amended on 29/09/2014.Hence Ok. 3. Undertaking in effect of no double counting of VCS emission reductions for the current monitoring period dated 05/10/2020. Hence Ok.		

4. PP has updated the Section 1.10 of MR to include not participation in other GHG program during the current monitoring period. A declaration dated 05/10/2010 regarding the same has been submitted by the PP. Hence Ok.

CAR 03 closed.

Not Net Harm

CAR ID	04	Date: 16/10/2020
Description of CAR		
During the document review it is observed that “No net Harm” is not applicable to the project as per the PP. However, supporting link is missing in the MR. Moreover, supporting documents are not shared with DOE. Corrective action is sought in this regard in the respective section of the MR.		
Project participant response		Date: 22/10/2020
The link has been updated in the VCS MR V02 and same has now been provided to the DOE with supporting documents.		
Documentation provided by project participant		
MNRE report.		
DOE assessment		Date: 27/10/2020
PP has updated the “No net Harm” in Section 2.1 of revised MR and also provided supporting document “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” published by Ministry of New and Renewable Energy (MNRE), 2013. Hence, acceptable to verification team.		
CAR 04 closed.		

Local stakeholder consultation

CAR ID	05	Date: 16/10/2020
Description of CAR		
The Supporting documents concerned to Continuous Local Stakeholder consultation is missing. The Section is reserved till the submission of the concerned documents.		
Project participant response		Date: 22/10/2020
Supporting documents such as photographs and list of attendees has been attached in this submission.		
Documentation provided by project participant		

Attendance sheet, Local stakeholder consultation pics	
DOE assessment	Date: 27/10/2020
PP has provided the supporting document stake holder consultation as a ongoing process, Also, PP has placed grievance/feedback register at the project site to get feedback on the project from stakeholders. In addition to this, PP has provided an email mail@mytrah.com also to receive. grievance/feedback register. The same was checked by the assessment team and confirms that there is no any grievance of stakeholders during the current monitoring period. CAR 05 closed.	

Accuracy of GHG Emission Reduction and Removal Calculations

CAR ID	06	Date: 16/10/2020
Description of CAR		
During the document review it was observed that the JMR and Invoice value for complete monitoring period is missing in the ER sheet. Assessment team also provided comment in the ER sheet. The JMR and invoice for those months is also not submitted to the assessment team. The value of EGPJ,y and E,WEG,I,Y is reserved till submission of supporting document. The ER value in the registered PDD for 365 days is 70,677 tCO₂e and considered value for pro rate estimation emission reduction is 70,678 tCO₂e which is not correct. Hence, Estimated ER calculation for the monitoring period is not correct. As per the registered PDD: Net electricity exported by the project proponent is calculated as mentioned below: $EGPJ,y = (Export - Import) \times (1 + Transmission\ Loss)$. Where, Export-Import = will be sourced from monthly energy breakup report issued by Suzlon energy limited (O & C contractor for the project). Transmission losses= will be sourced from power purchase agreement signed with Jodhpur Vidyut Vitran Nigam limited. . Kindly please explain whether the same is adopted in verification.		
Project participant response		Date: 22/10/2020
- JMRs and Invoices covering the whole monitoring period has now been attached. - The value of estimated annual ER has now been rectified as 70,677 as per the registered PDD and accordingly ER calculation has been done. - The monitoring practice has been changed now and PP is able to provide only the export and Import parameters. So deviation has been taken in the section project deviations in the current monitoring period to justify the inconsistency.		

The correct formula used for export and import values of project activity WTGs are mentioned in VCS MR now. The transmission losses between suzlon pooling substation (feeder) and sub-station are accounted in above formula, hence separate consideration of transmission losses is not required. The use of above apportioning formula and calculation of export and import values for project activity WTGs is under control of state electricity board and PP do not have any control on it. The PP is getting share certificate/break up certificate which gives the direct values of Net electricity exported by the project proponent and same is considered for ER calculations. Also net electricity exported to grid is cross checked with invoices.

Documentation provided by project participant

JMRs, Invoices, ER calculation sheet & VCS MR V02

DOE assessment

Date: 27/10/2020

PP has provided the copies of JMRs and Invoices for the monitoring period. Assessment team has checked the JMRs and confirms that the energy export and imports are consistent in MR and ER sheet. The values if export and imports have also been cross checked with the invoices,

PP as corrected the estimated annual ER i.e 70,677 tCO₂e in revised MR in accordance with the registered PDD.

PP has updated the formula used to calculate the net electricity exported by the project proponent in sub Section 2.3.2 of revised MR i.e. $EG_{PJ,y} = (\text{Export}-\text{Import}) \times (1+\text{Transmission Loss})$. However, this formula was not followed currently and in actual, transmission losses are calculated separately for export and import and below formulas are considered for export and import values of project activity WTGs

$$\text{Export} = \left(\frac{E_{\text{Exp.feeder},i}}{E_{\text{Gen.feeder},i}} \times E_{\text{WTG},i} \right) - \left(\left(\sum E_{\text{Exp.feeder},i} \right) - E_{\text{Exp.sub-station}} \right) \div \sum E_{\text{Gen.feeder},i} \times E_{\text{WTG},i}$$

$$\text{Import} = \left(\frac{E_{\text{Imp.feeder},i}}{E_{\text{Gen.feeder},i}} \times E_{\text{WTG},i} \right) - \left(\left(\sum E_{\text{Imp.feeder},i} \right) - E_{\text{Imp.sub-station}} \right) \div \sum E_{\text{Gen.feeder},i} \times E_{\text{WTG},i}$$

The use of above apportioning formula and calculation of export and import values for project activity WTGs is under control of state electricity board and PP do not have any control on it. Further, the transmission losses between suzlon pooling substation (feeder) and sub-station are accounted in above formula, hence separate consideration of transmission losses is not required. Further, JMRs/monthly generation record contains the breakup of export and import and same is used for ER calculations.

Considering the above, PP has applied deviation from the registered monitoring plan and used D direct values of $EG_{PJ,y}$ (Net net electricity exported by the project proponent) JMRs for calculating Emission Reductions. The deviation request is in line with the Para 3.18.1, sub para (2) of VCS standard version 4.0. The value of $EG_{pj,y}$ is directly obtained from the JMRs issued by state authority the estimation of emission reduction is thus conservative, correct and accurate.

Another deviation is related to crediting period. As per Section 1.5 of VCS PD "The project has begun generating GHG emission reductions from 19/06/2011 and and hence the crediting period for VCS

begins on 19/06/2011 and ends on 30/12/2012, since the crediting period under CDM starts on 31/12/2012. The project proponent will also not claim GHG emission under VCS and CDM scheme for same period during the period of 31st December 2012 to 30th December 2022”.

Also, Section 1.7 of VCS PD mentioned 10 years fixed crediting period. Thus, there is inconsistency in VCS crediting period mentioned in VCS PD. Hence requested deviation to confirm that VCS crediting period will be 19/06/2011 to 18/06/2021 i.e. 10 years fixed crediting period is acceptable. Also end date of VCS crediting period in within end date of CDM crediting period which is in line with VCS Standard Version 4.0.

Further, the previous verification (VCS MR and Verification Report) confirmed the VCS crediting period from 19/06/2011 to 18/06/2021

Moreover, 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 acceptable to VVB,

CAR 06 closed.

Quality of Evidence to Determine GHG Emission Reductions and Removals

CAR ID	07	Date: 16/10/2020
Description of CAR		
The Calibration dates are provided however the Calibration certificates are missing/not submitted to the assessment team. Moreover, the calibration details as mentioned in last verification report are not matching with present verification details. Corrective action is sought for the same. The crediting period duration as mentioned in the MR is not as per the registered VCS PD. Corrective action is sought for the same.		
Project participant response		Date: 22/10/2020
The calibration certificates are being submitted now and the inconsistency has been revised now. Typo-error duration of crediting period mentioned in the VCS PD is being regretted. The crediting period of in the registered VCS PD is mis-typed as 19-June-2011 to 30-December-2012. This was first VCS monitoring period. Since project activity applied for fixed crediting period and start date VCS crediting period is 19-June-2011, the end date of crediting period will be 18-June-2021. This typo-error of crediting period has been rectified during previous VCS MR and also for current monitoring period.		
Documentation provided by project participant		
Calibration certificates & VCS MR V02		

DOE assessment	Date: 27/10/2020
PP has provided the calibration certificates of meters and also added the meters details including cerebration dates of feeder meters in Appendix 1 of revised MR. Assessment team has checked the calibration dates with the calibration certificates and found consistent. Further, PP has corrected the crediting period i.e. start of crediting period is 19/06/2011 and end date is 18/06/2021. CAR 07 is 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	Sendin	Juan	Applus+ Certification B.U. Managing Director

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 ₂ e	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

Feeder number	Meter number	Meter make	Calibration date	Calibration due date
SEL-73	13195548	L&T	23/03/2019	23/03/2020
			23/01/2020	23/01/2021
	13195549	L&T	23/03/2019	23/03/2020
			23/01/2020	23/01/2021
SEL-112	RJB90206	L&T	23/03/2019	23/03/2020
			23/01/2020	23/01/2021
	RJB90207	L&T	23/03/2019	23/03/2020
			23/01/2020	23/01/2021

Feeder meters details

WEG	Feeder Number	Meter Number	Meter Make	Calibration Date	Next Calibration due date
MK 66	Fed No. 10	RJB 72831	Secure Meters Limited	10/05/2019	10/05/2020
		RJB 72832	Secure Meters Limited	10/05/2019	10/05/2020
MK 164 MK 165	Fed No. 11	RJB 73524	Secure Meters Limited	10/05/2019	10/05/2020
		RJB 73525	Secure Meters Limited	10/05/2019	10/05/2020
MK67 MK68 MK69 MK92	Fed No. 12	RJB 73521	Secure Meters Limited	10/05/2019	10/05/2020
		RJB 73522	Secure Meters Limited	10/05/2019	10/05/2020

MK93 MK94					
MK14 MK15 MK16 MK 17	Fed No. 14	RJB 73571	Secure Meters Limited	10/05/2019	10/05/2020
		RJB 73572	Secure Meters Limited	10/05/2019	10/05/2020
MK39 MK40 MK42 MK43	Fed No. 13	RJB 73569	Secure Meters Limited	10/05/2019	10/05/2020
		RJB 73570	Secure Meters Limited	10/05/2019	10/05/2020
MK 21	Fed No. 17	RJB 74434	Secure Meters Limited	10/05/2019	10/05/2020
		RJB74435	Secure Meters Limited	10/05/2019	10/05/2020
MK 161 MK 163	Fed No. 16	RJB 74432	Secure Meters Limited	10/05/2019	10/05/2020
		RJB 74433	Secure Meters Limited	10/05/2019	10/05/2020