“2.5 MW BUNDLED WIND POWER PROJECT IN MAHARASHTRA (INDIA)”

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Summary:

LGAI Technological Center, S.A.(Applus+ Certification) has performed the verification of the project "2.5 MW Bundled Wind Power Project in Maharashtra (India)." VCS ID 482, against VCS Standard Version 4.2. The scope of verification includes confirming the implementation of the monitoring plan of the registered VCS PD (version 03) dated 20/10/2008 and the application of the monitoring methodology "Grid connected renewable electricity generation", AMS I.D., Version 13.

The verification is consisted of three phases: i) desk review of the project; ii) remote visit and interviews with project stakeholders; iii) resolution of outstanding issues and the issuance of the final verification report and opinion. The overall verification, from Contract Review to Verification Report & Opinion, was conducted following Applus+ certification internal quality procedures.

During the verification process 05 CARs, 01CL and 00 FARs were raised. All the findings have been closed satisfactorily and the same has been discussed in Appendix 4.

Applus+ certification confirms that the monitoring system is in place and the emission reductions are calculated without material misstatements. The emission reductions from the project activity "2.5 MW Bundled Wind Power Project in Maharashtra (India)" in India during the period 02-July-2011 to 24-April-2017(including both days) amount to 18,410 tones of CO_2e.

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1 INTRODUCTION

1.1 Objective

M/s Raj Infrastructures Development, (India) Pvt. Ltd.has contracted LGAI Technological Center, S.A. (Applus+ Certification) to perform the periodic verification of the '2.5 MW Bundled Wind Power Project in Maharashtra (India)' in India (hereafter called project). This project has already been registered as a VCS project (VCS ID 0482). The objective of this verification is a thorough and independent assessment of registered project activities against the applicable VCS requirement by the DOE. The verification process shall determine whether the proposed project activity complies with the requirements of latest VCS guidelines, applicability conditions of the selected methodology, relevant host country regulations and guidance issued by the VCS Board.

1.2 Scope and Criteria

The scope of verification is to assess the claims and assumptions made in the VCS monitoring report (MR) against the VCS criteria, including but not limited to, VCS standard, applied methodology and other relevant rules and requirements established for VCS project activities. The verification of this project was based on the registered project description & monitoring report /4/ and supporting documents submitted by the project proponent to the verification team. The documents were reviewed against the following guidance and protocols:

VCS standard Version 4.2, Issued: 19-September-2019; updated: 22-April-2021 /16/

Approved baseline and monitoring methodology AMS I.D., Version 13: "Grid connected renewable electricity generation"/14/

VCS Program Guide, Version 4.1, dated 19-September-2019; updated: 22-April-2021 /17/

The Verification is not meant to provide any consulting towards the project participants. However, stated requests for clarification and/or correction actions request may have provided inputs for improvement of the project design.

1.3 Level of Assurance

The verification team verified the complete monitoring data for all the parameters of the monitoring plan and confirms that the reported emission reductions are free from any type of material errors. Therefore, Applus+ certification confirms that the verification is conducted with reasonable level of assurance.

1.4 Summary Description of the Project

The project activity involves electricity generation by wind electric convertors and supplying the generated electricity to the state Grid. The project being a renewable energy generation activity, it leads to removal of fossil fuel dominated electricity generation. The project activity results in reductions of greenhouse gas (GHG) emissions that are real, measurable, and verifiable and also plays beneficial role in the mitigation of climate change.

During the time of registration the total installed capacity of the project was 2.5MW Wind Power Project comprises of four numbers of Wind Electric Generators (WEG's) that are connected to the Indian (NEWNE) grid. The individual capacity of each WTG is 1200 kW. The details of the project are given below:

Project developer	Rated Power of WTG	Installed capacity(MW)	Project Location	State
M/s Raj Infrastructures Development, (India) Pvt. Ltd..	WTG No. – J 129-- 1200 kW	1.25	Village – Chhadvel Taluka – Sakri District – Dhule	Maharashtra
Raj Promoters & Civil Engineers.Pvt. Ltd.	WTG No. – J 116– 1200kW	1.25	Village – Chhadvel Taluka – Sakri District – Dhule	Maharashtra
-	**Total**	**2.5**		

This information was verified during remote assessment and found to be in line with the details provided in the registered PD /01/.

The WTGs have been commissioned on 13/08/2006 and 30/09/2006. The same was verified against the registered VCS PD/01/ and commissioning certificates/11/.The emission reductions from the project activity during the period 02-July-2011 to 24-April-2017(including both days) amount to 18,410 tonnes of CO_2e.

2 VERIFICATIONPROCESS

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

2.1 Method and Criteria

Verification was conducted using Applus+ Certification procedures in line with the requirements CDM validation and verification standard for project activities, Version 03.0 for the project activity and "VCS standard version 4.1 and program guideline version 4.0" and is conducted using standard auditing techniques to assess the correctness of the information provided by the project participants. Before the assessment begins, members of the team covering the technical scope(s), sectoral scope(s), and relevant host country experience for evaluating the VCS project activity are appointed. The project activity does not fall under category "grouped projects", hence any sampling methods not to be employed by the validation/verification body for the verification of GHG emission reductions or removals generated by the project.

Applus+ certification assessed and determined whether the proposed implementation and operation of the project activity, and the steps taken to report emission reductions comply with the criteria and relevant guidance provided by the VCS Board. The validation/verification process consist of the following three phases;

- A desk review of the VCS PD and VCS MR
- Remote visit and follow up interviews with project stakeholders

The resolution of outstanding issues and issuance of final report and opinion.

2.2 Document Review

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

2.3 Interviews

Due to the current situation with the global COVID-19 pandemic scenario and country wide lock down in most of countries across the globe, an on-site inspection has not been performed by the assessment team. However, the representatives of the PPs and onsite staff of PP were interviewed online via Zoho on 08-February-2022 i.e. personnel responsible for monitoring of the project activity, data collection and management, and QA/QC procedure. The details of the people interviewed are mentioned in the table below:

S N	Name	Organization
1	Mr. Rajendra Hiremath	PP Representative//M/s Raj Infrastructures Development, (India) Pvt. Ltd.
3	Mr. Shubham Pagare	Advisor/Consultant// EKI Energy Services Ltd.
4.	Mr. Pankaj Rajpoot	Advisor/Consultant// EKI Energy Services Ltd.

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

2.4 Site Inspections

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

Assessment Criteria	Means of verification/source documents	Assessment opinion
Description of project activity	i. Commissioning certificates /9/ ii. PPA signed with SEB/10/ iii. Latest VCS verification report /2.1/. iv. Interview with PP representatives on 08-February-2022	The information's with reference to project capacity, technology, plant equipment's and commissioning dates as provided in section 1.1 of MR are found consistent with the documents.
Compliance of the project implementation with the registered project designdocument	i. Monthly JMRs signed by MSEDCL /8/ ii. Geographical co-ordinates (Location of Project	Verified documents indicated the following information: • Serial number of energy meters (Main and Check)

Assessment Criteria	Means of verification/source documents	Assessment opinion
	activity) verified through Google Map[1] as well as sharing of live location from PP representative onsite. iii. Latest VCS verification report /2.1/. iv. PPA signed with MSEDCL /10/ v. Interview with PP representatives on 08-February-2022 vi. Latest photographs of major project equipment's installed at site (i.e. Turbine, generators, energy meters, weir intake, penstock, tailrace etc.)/18/	• Capacity of project • Name of project participant (Ownership of the project activity) Location of power house is verified through Google Map. Daily generation records are verified on sample basis to check the operational status of project activity. Grid connectivity of the project is confirmed through the PPA. All the information's regarding the project implementation as discuss above are further verified through previous VCS verification report/2.1/ and found consistent.
Compliance of the registered monitoring plan with applied methodologies andstandardized baselines	i. Interview with PP representatives on 08-February-2022 ii. PPA signed with MSEDCL /10/ iii. Monthly JMRs signed by MSEDCL /8/ iv. Invoices raised by project developer to SEB/7/ v. Photograph of all the WTGs, energy meters installed at site and screen shots of online monitoring system/18/	The organizational structure, responsibilities and competencies of the personnel confirmed through interview with PP representatives. Frequency of monitoring of parameters listed under approved monitoring plan is verified through JMRs /Invoices. The methods used for measuring, recording, storing, aggregating, and reporting the data on monitored parameters are verified though PPA and interactions with site

[1] https://www.gps-coordinates.net/

Assessment Criteria	Means of verification/source documents	Assessment opinion
		personnel. Procedure for data uncertainty, emergency preparedness, roles and responsibility, operational and management structure are mentioned in the MR is confirmed through interview with PP representativesand found satisfactory.
Compliance with the calibration frequency requirements for measuring instruments	i. Calibration certificates of energy meters/6/ ii. Monthly JMRs signed by MSEDCL /8/ iii. PPA signed with MSEDCL /10/	Calibration frequency and energy meter specifications (Sr.No., make, accuracy class) is verified through calibration certificates, photographs of energy meters and further verified through monthly JMRs and found consistent. Responsibility of calibration and maintenance of energy meters is solely under control of SEB; this is verified through the PPA.
Assessment of data and calculation of emission reductions or net removals	i. Monthly JMRs signed by MSEDCL /8/ ii. Invoices raised by project developer to SEB/7/ iii. Latest VCS verification report for last verification/2.1/	Monthly values of monitoring parameters used in ER calculation are verified through JMRs and cross verified with the invoices. Methods, formulae and emission factor for calculating baseline emissions have been followed are in accordance with the applied methodology /14/ and as described in the previous approved VCS verification report/2.1/.

It is noteworthy that no sampling plan for verification is applied as 100% data is verified for the current monitoring period. Most of the reference document referred by the assessment team (above table) are either issued /endorsed by grid utility (SEB) MSEDCL, a government agency, hence is deemed authentic.

The assessment team has also used documents such as validation report/2.2/ and verification reports/2.1/ available publicly. Furthermore, the project activity already verified under VCS previously and currently undergoing periodic VCS verification. Hence, based on the information's available through approved documents (VCS verifications), it can be confirmed that project is implemented and being operated as described in the registered PD/1.1/.

The assessment team has verified sufficient appropriate audit evidences, to reduce audit risk to an acceptably low level as requisite to achieve reasonable level of assurance for the current verification.

2.5 Resolution of Findings

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

CAR (Corrective Action Request) is raised if one of the following occurs:

- Non-compliance with the monitoring plan, the methodology or the standardized baseline are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

Clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met. All CARs and CLs raised by the Applus+ certification during verification shall be resolved prior to submitting a request for issuance.

FAR (Forward Action Request) is raised during verification if the monitoring and reporting require attention and/or adjustment for the next verification period.

All the findings that are raised and communicated to project participant during the verification are included under Appendix 4. The section also includes the response, if provided, by the project participants and an assessment by the verification team if it was closed out or otherwise.

2.5.1 Forward Action Requests

The project activity is undergoing periodic verification under VCS; there were no FARs raised during the validation or previous verification/2.1/.

2.6 Eligibility for Validation Activities

Not applicable, as Applus+ holds the accreditation to perform validation activities in this Sectoral Scope.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project is not applied under any other GHG program like CDM, GS, hence not applicable. This was confirmed through a declaration/14/ submitted by the PP and hence accepted by the assessment team. Audit team checked the REC Mechanism database of India and found that the project activity is not accredited / registered under REC mechanism. Further, declaration for the same is checked and found correct by the assessment team. Also assessment team checked the following registries to confirm the same. The details of the registries checked are as follows:

1. https://www.recregistryindia.nic.in/
2. http://cdm.unfccc.int/
3. http://www.goldstandard.org/

Rejection by other GHG programs

The Project is not rejected by other GHG programs. A declaration/14/ for the same is checked and found correct by the assessment team. Also assessment team checked the following registries to confirm the same. The details of the registries checked are as follows:

1. https://www.recregistryindia.nic.in/
2. http://cdm.unfccc.int/
3. http://www.goldstandard.org/
4. https://verra.org/verra-standards-and-programs/

The Project has no intend to generate any other form of GHG-related environmental credit for GHG emission reductions or removals claimed under the VCS Program. Renewable energy certificates are available for trading in the host country However, the same is not availed by the Project Proponent. The undertaking regarding the same is submitted by the PP which is acceptable to the assessment team and assessment team also checked the REC web site (https://recregistryindia.nic.in/) and found the declaration/14/ to be correct

3.2 Methodology Deviations

There is no methodology deviation identified during the current monitoring period. Also, there were no methodology deviations identified during the previous verification/2.1/.

3.3 Project Description Deviations

Deviation 1: The following parameters have now been removed as these parameters are not contributing for the calculation of emission reductions:

- Total Electricity Generated from the other wind turbines attached to the common MSEDCL meter at the sub-station
- Electricity supplied to the grid from SEL wind farm from all wind turbines (including project activity) attached to the common MSEDCL meter at the substation and metered jointly by SEL representative and MSEDCL
- Electricity drawn from the grid by SEL wind farm for all wind turbines (including project activity) attached to the common MSEDCL meter at the substation and metered jointly by SEL representative and MSEDCL

During the current monitoring period PP has apply for deviation. The verification team has confirm the there is no impact on the project additionality, and emission reduction calculation. Hence the same has been check and acceptable by the verification and checked with the registered PD and ER sheet calculation/2.1/. Further details can be check in section 4.5 of this report.

Deviation 2: The PP has applied this deviation as for the case the dates of monitoring period do not match with meter reading cycle, an apportioning procedure has now been incorporated in section 4.3 “Monitoring plan” of the monitoring report. Earlier it was not defined in the monitoring plan of registered PD. The verification team check and confirmed that the Deviation doesn’t alter the project design, monitoring approach, and emission reduction calculations. The nature of deviation is permanent. Hence; the same has been accepted by VVB.

Deviation 3: The PP has applied this deviation as the VCS first verification choose the monitoring end date of 31-May-2009,due to the ease of data monitoring and calculation. The second verification (in CDM) started with12-June-2009 i.e. the registration date. There is an unverified period from 1-June-2009 to 11-June-2009, and verification team has discussed with the PP and confirmed that the PP will not verify the 11 days generation as it was left unintentionally. With this deviation, PP declares that mentioned period will not be verified in future. Therefore, there is no negative issuance during the gap period. The Verification team has confirmed that the PP is not claiming the emission reduction for 11 days and opt to left and considered zero emission reduction for this period (i.e. 1-June-2009 to 11-June-2009) , hence accepted.

Furthermore, verification team confirmed that above all deviations don't alter the project design, monitoring approach, and emission reduction calculations. The nature of deviation is permanent, hence accepted.

3.4 Grouped Project

This is not a grouped project. Therefore, this section is Not Applicable.

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/CDM PDD and approved monitoring plan. During the current monitoring period, it was observed through breakdown log sheet records onsite that no unforeseen incident/event evolved which can impact the operation ofthe 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 Google software. Moreover, assessment team confirm that the latitudes and longitudes as mentioned in the registered PD is correct. The WTG wise latitudes and longitudes are confirmed below:

Unique identification of Project Activity		
Sub-Bundles	**I**	**II**
Site/Village	Isharde (1 x 1.25 MW)	Chhadvel (1 x 1.25 MW)

WTG Location No.	J 116	J 129
Gut No.	16	90
Compartment No.	442	141
Sr. No.	64039585	64039789
Latitude	17.6167, (DMS) – 17^{O}37'0" N	17.6167, (DMS) – 17^{O}37'0" N
Longitude	77.9500, (DMS) – 77^{O}57'0" E	77.9500, (DMS) – 77^{O}57'0" E

Starting date of the operation of the project activity is 13- August- 2006 which is the date of commissioning/commercial operation of the 1st WTG/Assessment team checked the commissioning certificate and confirmed that the dates of Commission for the WTGs are correct.

Furthermore, VVB assessment confirm that the previous verification of the crediting period start date is from 25/04/2007 and the start date of project activity i.e 13/08/2006, the first verification is in VCS from 25/04/2007 to 31/05/2009 after that the 2nd verification is done in CDM from 12/06/2009 to 01/07/2011. However, the PP is not willing to confiscate credits from 1 to 11 June 2009. Therefore, the crediting period start date is not matching with the start date of the project. This was confirmed that there is no negative issuance during the gap period from 1 to 11 June 2009.

Assessment team also conform during the remote audit that there is no change in project design except deviation requested and the project is implemented as per the description provided in the registered PD. Commissioning dates of WTGs are given below:

Name of the Project Participant	WTG Location No.	capacity	Commissioning Date
Raj Infrastructure Development (India) Pvt. Ltd.	J-129	1250kW	13/08/2006
Raj Promoters & Civil Engineers Pvt. Ltd.	J-116	1250kW	30-09/2006

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.The major technical specifications of the WTG are as follows:

Salient Features of 1.25 MW (S 70) WTG

Sr. No.	Particulars	Specifications
1.	Rotor diameter	69.1 m

2.	Hub height	74 m
3.	Installed electrical output	1250 kW
4.	Cut-in wind speed	3 m/s
5.	Rated wind speed	12 m/s
6.	Cut-out wind speed	20 m/s
7.	Rotor swept area	3750 m^2
8.	Rotational speed	13.2/19.8
9.	Rotor material	GRP
10.	Regulation	Pitch
11.	Generator	Asynchronous Generator, 4/6 poles
12.	Rated output	250/1250 kW
13.	Rotational speed	1010/1515 rpm
14.	Operating voltage	690 V
15.	Frequency	50 Hz
16.	Protection	IP 56
17.	Insulation class	H
18.	Cooling system	Air cooled
19.	Gear box	3-stage gearbox, 1 planetary & 2 helical.
20.	Gear box manufacturer	Winergy
21.	Gear ratio	77.848
22.	Nominal load	1390 kW
23.	Type of cooling	Oil cooling system
24.	Yaw drive system	4 active electrical yaw motors
25.	Yaw bearing	Polyamide slide bearing
Safety system		
26.	Aerodynamic brake	3 times independent pitch regulation
27.	Mechanical brake	Spring power disc brake, hydraulically released, fail safe. Microprocessor Controlled, indicating.
28.	Control unit	Actual operating conditions, UPS back-up system
39.	Tower	Tubular
31.	Design standards	GL/IEC

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 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.

Assessment team concludes the following:

a) There is no material discrepancies between project implementation and the project description provided in the registered PD/04/.

b) The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analysing the monitored data and parameters) is appropriate.

c) There is no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology/08/.

d) The GHG emission reductions or removals generated by the project have not included in an emissions trading program or any other mechanism that includes GHG allowance trading/16/.

e) The project has not received or sought any other form of environmental credit, or has become eligible to do so since validation or previous verification.

f) The project is registered under VCS only.

In view of the information's as verified above the assessment team is able to conclude that the project has been implemented as described in the project description.

4.2 Safeguards

4.2.1 No Net Harm

Being bundled renewable wind power generation project there is no negative environmental and socio-economic impacts in fact project activity contributes positively by providing environment friendly power generation leading to sustainable development of the region. Also, the generation of employment supports upliftment of socio-economic status of region. As per the EIA notification dated 14thSeptember 2006, the wind power projects are exempted from environmental clearance. Hence, Environmental impact assessment is not required for this project activity.The report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013 also confirms that wind power project activity operations do not result in direct air pollution, noise pollution. Hence verification team confirms that there are no any significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity.

4.2.2 Local Stakeholder Consultation

The Project is already registered with VCS and registered VCS Project Description; sections 6 describe the Local Stakeholder Consultation Process as in-line with VCS requirement.

As a part of continuous feedback from stakeholders, there were no other major comments or protest raised by the stakeholders and they were totally in support for setting up of these kinds of projects in the region.

For ongoing communication, the PP has also placed a grievance register onsite where in the stakeholder can put down his/her complain and the same if found genuine will be addressed immediately. However, being renewable wind power generation project there is no feedback/grievance has been reported within this monitoring period verified from the photos provided by the Project participant.

4.3 AFOLU-Specific Safeguards

Not applicable for this verification.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The project monitoring has been carried in accordance with the registered VCS PD/01/ and the monitoring report/04/. The monitoring plan laid in the registered PD is being followed at the site/18/. The assessment team has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values) in the MR/04/.The emission reductions are purely based on the net electricity generated and exported from the machines. PP has provided all the sufficient data for current monitoring period. The values of the parameter net electricity generation supplied to the grid by each phase used in deriving the GHG emission reduction could be very well correlated between the data sets and ER spreadsheet/05/ provided by PP. the verification of each monitoring parameter has been discussed later in section 4.5.

The calculation method and formulae used in calculating baseline emission is in compliance to the methodology used i.e. AMS –I.D. Version 13/09/. Since project activity is a wind power project, leakage emission and project emission has been considered as zero.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

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

Parameter	Net electricity supplied to the grid by the Project, EG_y(MWh)
Means of verification	

Criteria/Requirements	Assessment/Observation
Measuring /Reading /Recording frequency	The parameter is calculated and recorded on monthly basis. Quantity of net electricity generation supplied by the project plant/unit to the grid in year y, is calculated as: $EG_{p,j,y} = (\sum EG_{JMR, project, export,y} - \sum EG_{JMR, project, import,y})$ *Where,* $EG_{JMR, project, export,y}$=Quantity of Electricity exported by the Project WTGs connected to the feeder i to the grid during the year y. $EG_{JMR, project, import,y}$= Quantity of Electricity imported by the Project WTGs connected to the feeder i from the grid during the year y.
Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered PD/01/ and monitoring methodology/09/.
Monitoring equipment	No monitoring equipment is used as this parameter is calculated. However the parameter $EG_{JMR,project,export,y}$ *and* $EG_{JMR,project,import,y}$ are calculated using measured values, are continuously monitored, hourly

		measured and monthly recorded[2].
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	The accuracy of the monitoring equipment used to measure the input values used to calculate $EG_{JMR,\ project,\ export,\ y}$ *and* $EG_{JMR,\ project,\ import,\ y}$ is 0.2s, which is as per the registered PD/01/ which is as per the norm defined in the PPA/12/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	Calibration frequency of the meters is yearly.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes. The calibration frequency is annual as outlined in the registered PD/01/ is in accordance with the national standards/15/.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Calibration of the measuring equipment's is carried out by an accredited entity.
	Is(are) calibration(s) valid for the	Calibration of meters is valid for the current monitoring period.

	whole reporting period?	
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out appropriately.
	How were the values in the monitoring report verified?	Cumulative value of $EG_{,y}$ for entire monitoring period is reported in the monitoring report/04/, and monthly values in the ER calculation sheet/05/. The monthly values were verified from the credit notes issued by state utility and found to be consistent. Value of this parameter for the current monitoring period was verified as 20,433 MWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EG_{,y}$ were further cross checked with the monthly invoices raised by the PP /07/ to state utility and found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Remote assessment of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable.

	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	CAR#4 & 5 was raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the WTGs. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Parameter	$\sum_{0}^{n} EG_{n,y}$ () Total Electricity Generated from two wind turbines of Raj group
Means of verification	

Criteria/Requirements	Assessment/Observation
Measuring /Reading /Recording frequency	The parameter is calculated and recorded on monthly basis. Quantity of net electricity generation supplied by the project plant/unit to the grid in year y, is calculated as: $EG_{p,J,y} = (\sum EG_{JMR,\ project,\ export,y} - \sum EG_{JMR,\ project,\ import,y})$ *Where,* $EG_{JMR,\ project,\ export,y}$=Quantity of Electricity exported by the Project WTGs connected to the feeder i to the grid during the

		year y. $EG_{JMR, project, import,y}$= Quantity of Electricity imported by the Project WTGs connected to the feeder i from the grid during the year y.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered PD/01/ and monitoring methodology/09/.
	Monitoring equipment	No monitoring equipment is used as this parameter is calculated. However the parameter $EG_{JMR,project,export,y}$ *and* $EG_{JMR,project,import, y}$ are calculated using measured values, are continuously monitored, hourly measured and monthly recorded[3].
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	The accuracy of the monitoring equipment used to measure the input values used to calculate $EG_{JMR, project, export, y}$ *and* $EG_{JMR, project, import, y}$ is 0.2s, which is as per the registered PD/01/ which is as per the norm defined in the PPA/12/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to	Yes. The accuracy of monitoring equipment's is valid for the entire range.

	different measuring ranges?	
	Calibration frequency /interval:	Calibration frequency of the meters is once in years.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes. The calibration frequency is annual as outlined in the registered PD/01/ is in accordance with the national standards/15/.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Calibration of the measuring equipment's is carried out by an accredited entity.
	Is(are) calibration(s) valid for the whole reporting period?	Calibration of meters is valid for the current monitoring period.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out appropriately.
	How were the values in the monitoring report verified?	Cumulative value of $EG_{p,j,y}$ for entire monitoring period is reported in the monitoring report/04/, and monthly values in the ER calculation sheet/05/. The monthly values were verified from the credit notes issued by state utility and found to be consistent. Value of this parameter for the current monitoring period was verified as 20,533 MWh.

	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EG_{gen,WTG,j}$ were further cross checked with the monthly invoices raised by the PP /07/ to state utility and found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Remote assessment of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	CAR#4 & 5 was raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the WTGs. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Parameter	**Electricity supplied to the grid from the project activity, $EG_{JMR, Raj, export}$ (MWh)**	
Means of verification	**Criteria/Requirements**	**Assessment/Observation**
	Measuring /Reading /Recording frequency	The parameter is calculated and recorded on monthly basis. Quantity of net electricity

		generation supplied by the project plant/unit to the grid in year y, is calculated as: $EG_{p,j,y} = (\sum EG_{JMR,\ project,\ export,y} - \sum EG_{JMR,\ project,\ import,y})$ *Where,* $EG_{JMR,\ project,\ export,y}$=Quantity of Electricity exported by the Project WTGs connected to the feeder i to the grid during the year y. $EG_{JMR,\ project,\ import,y}$= Quantity of Electricity imported by the Project WTGs connected to the feeder i from the grid during the year y.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered PD/01/ and monitoring methodology/09/.
	Monitoring equipment	No monitoring equipment is used as this parameter is calculated. However the parameter $EG_{JMR,project,export,y}$ *and* $EG_{JMR,project,import,\ y}$ are calculated using measured values, are continuously monitored, hourly measured and monthly recorded[4].
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the	The accuracy of the monitoring equipment used to measure the input values used to

		monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	calculate $EG_{JMR, project, export, y}$ *and* $EG_{JMR, project, import, y}$ is 0.2s, which is as per the registered PD/01/ which is as per the norm defined in the PPA/12/.
		Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
		Calibration frequency /interval:	Calibration frequency of the meters is yearly.
		Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes. The calibration frequency is annual as outlined in the registered PD/01/ is in accordance with the national standards/15/.
		Is the calibration of measuring equipment carried out by an accredited person or institution?	Calibration of the measuring equipment's is carried out by an accredited entity.
		Is(are) calibration(s) valid for the whole reporting period?	Calibration of meters is valid for the current monitoring period.
		Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out appropriately.
		How were the values in the monitoring report verified?	Cumulative value of $EG_{,y}$for entire monitoring period is reported in the monitoring report/04/, and monthly values

		in the ER calculation sheet/05/. The monthly values were verified from the credit notes issued by state utility and found to be consistent. Value of this parameter for the current monitoring period was verified as 20,533 MWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EG_{,y}$ were further cross checked with the monthly invoices raised by the PP /07/ to state utility and found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Remote assessment of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	CAR#4 & 5 was raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the WTGs. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

<table>
<tr><td>Parameter</td><td colspan="2">Electricity drawn from the grid by the project activity, $EG_{JMR, Raj, import}$ (MWh)</td></tr>
<tr><td>Means of verification</td><td colspan="2"><table>
<tr><th>Criteria/Requirements</th><th>Assessment/Observation</th></tr>
<tr><td>Measuring /Reading /Recording frequency</td><td>The parameter is calculated and recorded on monthly basis.

Quantity of net electricity generation supplied by the project plant/unit to the grid in year y, is calculated as:
$EG_{p,j,y} = (\sum EG_{JMR, project, export,y} - \sum EG_{JMR, project, import,y})$

Where,

$EG_{JMR, project, export,y}$=Quantity of Electricity exported by the Project WTGs connected to the feeder i to the grid during the year y.

$EG_{JMR, project, import,y}$= Quantity of Electricity imported by the Project WTGs connected to the feeder i from the grid during the year y.</td></tr>
<tr><td>Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)</td><td>Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered PD/01/ and monitoring methodology/09/.</td></tr>
<tr><td>Monitoring equipment</td><td>No monitoring equipment is used as this parameter is calculated. However the parameter $EG_{JMR,project,export,y}$ and $EG_{JMR,project,import,y}$ are calculated using measured values, are continuously monitored, hourly measured and monthly</td></tr>
</table></td></tr>
</table>

		recorded[5].
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	The accuracy of the monitoring equipment used to measure the input values used to calculate $EG_{JMR,\ project,\ export,\ y}$ *and* $EG_{JMR,\ project,\ import,\ y}$ is 0.2s, which is as per the registered PD/01/ which is as per the norm defined in the PPA/12/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	Calibration frequency of the meters is yearly.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes. The calibration frequency is annual as outlined in the registered PD/01/ is in accordance with the national standards/15/.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Calibration of the measuring equipment's is carried out by an accredited entity.
	Is(are) calibration(s) valid for the whole reporting period?	Calibration of meters is valid for the current monitoring period.

	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out appropriately.
	How were the values in the monitoring report verified?	Cumulative value of $EG_{,y}$ for entire monitoring period is reported in the monitoring report/04/, and monthly values in the ER calculation sheet/05/. The monthly values were verified from the credit notes issued by state utility and found to be consistent. Value of this parameter for the current monitoring period was verified as 100 MWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EG_{,y}$ were further cross checked with the monthly invoices raised by the PP /07/ to state utility and found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Remote assessment of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	CAR#4 & 5 was raised and resolved	

Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the WTGs. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.

Parameters fixed ex ante:

$EF_{grid,OM,simple,}$; tCo_{2e}/MWh: it is the operating margin emission factor of NEWNE grid fixed at the time of project registration the mentioned value of 1003tCO_{2e}/GWh is consistent with the registered PD/01/.

$EF_{grid,BM,y}$; tCO_{2e}/MWh: it is build margin emission factor of NEWNE grid fixed at the time of project registration the mentioned value of 594tCO_{2e}/GWh is consistent with the registered PD/01/.

$EF_{grid,CM,y}$; tCO_{2e}/MWh: it is the combined margin emission factor of NEWNE grid fixed at the time of project registration the mentioned value of 901tCO_{2e}/GWh is consistent with the registered PD/01/.

Calibration of meters:

During the verification assessment of the project activity, accuracy of all the metering have been checked and found appropriate. The installation and working conditions of the meters were checked during the remote inspection and were found to be satisfactory. Details of meters are provided in below table:

The current meter details for M/s Raj Infrastructures Development, (India) Pvt.Ltd.is as follows:

Meter Serial No.		**Date of Calibration**	**Due Date of Calibration**	**Accuracy Class**	**Calibration Frequency**
WTG J129	WTG J116				
04725791 (Main Meter) 04763795 (Check Meter)	04890562 (Main Meter) 04863441 (Check Meter)	26/04/2011	25/04/2012	0.2%	Yearly
		24/04/2012	23/04/2013	0.2%	Yearly
		28/03/2013	27/03/2014	0.2%	Yearly
		05/03/2014	04/03/2015	0.2%	Yearly

02814591 (Main Meter) 02814592 (Check Meter)	04890562 (Main Meter) 04863441 (Check Meter)	16/02/2015	15/02/2016	0.2%	Yearly
		13/02/2016	12/02/2017	0.2%	Yearly
		09/02/2017	08/02/2018	0.2%	Yearly
02814591 (Main Meter) 02814592 (Check Meter)	02831466(Main Meter) 02831467 (Check Meter)	23/01/2018	22/01/2019	0.2%	Yearly
		20/01/2019	19/01/2020	0.2%	Yearly

The assessment team has verified the monthly credit notes issued by the state utility and confirmed that only the data recorded through main meters is used to calculate net electricity supplied to the grid consequently for ER calculations.

Assessment on delay in calibration:

There is no delay found in meter calibration as the meter calibration frequency is annual and as the meter calibration during the current monitoring period has happened in 2011 and 2017 as provided above.

The verification team has remotely checked all the meters and confirmed that the meters were working satisfactorily. Also the calibration of meters is completely under preview of state utility and PP has no control over the same as confirmed through interviews of site personnel and PPA signed by the PP with state utility/12/.

The registered VCS PD/01/ & MR /04/ and remote audit observations confirm that the metering equipment are sealed and maintained by the state utility.

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

As per section 4.3 of the monitoring report, the apportioning approach has been defined for the parameters EGJMR,Raj ,export - EGJMR,Raj ,import. In the project scenario, breakup sheets have been provided which clearly states the Export and import values of the WTGs involved in the project activity and thus the following parameters have been removed:

- Total Electricity Generated from the other wind turbines attached to the common MSEDCL meter at the sub-station
- Electricity supplied to the grid from SEL wind farm from all wind turbines (including project activity) attached to the common MSEDCL meter at the substation and metered jointly by SEL representative and MSEDCL
- Electricity drawn from the grid by SEL wind farm for all wind turbines (including project activity) attached to the common MSEDCL meter at the substation and metered jointly by SEL representative and MSEDCL

Also the apportioning procedure has been updated in section 4.3 of the monitoring report.

The same has been mentioned in section 3.2.2 of the monitoring report.

The apportioning in this monitoring period has been done due to mismatch of the JMR billing cycle and the monitoring period. The apportioning procedure has now been mentioned in section 4.3 "monitoring plan" and the same has now been mentioned in section 3.2.2 of the monitoring report. The apportioning has been done in the first month and last month of the monitoring period for both the WTGs.

GHG Calculations

The emission reduction as per the applied methodology equals the baseline emissions (project emissions and leakage emissions for such project activities is considered zero). The formula provided for the calculation of baseline emissions is:

$$BE_y = EG_y * EF_{grid, CM, y}$$

Where:

BE_y : Baseline emissions in year y (tCO_2/yr)

EG_y : Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the project activity in year *y* (MWh/yr)

$EF_{grid, CM, y}$: Combined Margin (CM) Emission Factor of NEWNE (tCO_2/MWh)

Since the project activity is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity, hence:

$$EG_{PJ, y} = EG_{facility, y}$$

Where,

$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year *y* (MWh/yr)

Thus, $BE_y = EG_{facility, y} * EF_{grid, CM, y}$

Thus, BE_y =20,433*0.901 tCO_2/MWh

= 18,410 tCO_2e (rounded down value)

The verification team confirms that appropriate methods and formulae for calculating baseline emissions have been followed. The assumptions, emission factors and default values that were applied in the calculations are justified. The verification team confirms that appropriate methods and formulae for calculating baseline emissions have been followed. The assumptions, emission factors and default values that were applied in the calculations are justified. The actual emission reduction achieved during the current monitoring period are 20% lower than the estimated amount of emission reductions at the time of validation, which is due to the high PLF achieved by the project activity during the monitoring period. It is to be noted that PLF is completely governed by the availability of wind, which is natural phenomenon and same is beyond the control of PP. Hence the assessment team has concluded the decrease in emission reduction of the project activity is justified and acceptable.

All the data were made available and have monitored as per required monitoring frequency. The means of verification for the values of parameters, used for baseline emission calculation, is described above. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the TG sets installed at site. Monthly values of electricity generated inserted in the ER sheet was verified with the Joint Meter Reading Report and Invoices provided by the project proponent. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors. Therefore, the assessment team confirms that the emission reductions are free from any omissions, misstatement and material errors.

4.6 Non-Permanence Risk Analysis

Not applicable for the project activity. This section is not applicable for non-AFOLU projects.

5 VERIFICATION CONCLUSION

Applus+ certification, contracted by M/s Raj Infrastructures Development, (India) Pvt. Ltd., has performed the independent verification of the emission reductions for the VCS project activity (VCS ID- 482) “2.5 MW Bundled Wind Power Project in Maharashtra (India)” in India for the monitoring period 02-July-2011 to 24-April-2017as reported in the Monitoring Report Version 03 dated 19-07-2022. The M/s Raj Infrastructures Development, (India) Pvt. Ltd. is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity.

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

Applus+ certification commenced the verification on the basis of the baseline and monitoring methodology AMS –I.D. / Version 13, the monitoring plan contained in the registered VCS PD Version 03, dated 20/10/2008 and VCS guidelines version 4, Monitoring Report Version 03 dated 19-07-2022 as per the process described under Section 2 of this report.

Applus+ certification verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. Applus+ certification planned and performed the verification by obtaining evidence and other information and explanations that Applus+ certification considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In our opinion the GHG emissions reductions reported for the project activity for the period 02-July-2011 to 24-April-2017 are fairly stated in the Monitoring Report Version 03 dated 19-07-2022. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology AMS –I.D. / Version 13, and the VCS standard 4.2.

Verification period: From 02-July-2011 to 24-April-2017 (including both days)

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

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)
2011 **(02-July-2011 to 31-december-2011)**	1,328	0	0	1,328
2012 **(01-January-2012 to 31-December-2012)**	3,712	0	0	3,712
2013 **(01-January-2013 to 31-December-2013)**	3,570	0	0	3,570
2014 **(01-January-2014 to 31-December-2014)**	3,223	0	0	3,223
2015 **(01-January-2015 to 31-**	2,946	0	0	2,946

December-2015)				
2016 (01-January-2016 to 31-December-2016)	3,040	0	0	3,040
2017 (01-January-2017 to 24-April-2017)	588	0	0	588
Total	18,410	0	0	18,410

APPENDIX 1: < REFERENCES >

S.No	Title of Document	Version	Date
1.	Registered VCS PD/CDM PDD	03	20/10/2008
2.	VCS Validation Report	1.0	02/06/2009
3.	VCS Monitoring Report	1	03/02/2022
4.	VCS Monitoring Report (Final)	03	19/07/2022
5.	ER spread sheet (corresponding to the final monitoring report)	02	21/02/2022
6	Certificates of Calibration for all the meters belongs to project activity	-	02/07/20011 to 24/04/2017
7.	Invoice issued by PP to state DISCOM	-	For the period 02/07/20011 to 24/04/2017
8.	Monthly JMR and Credit notes issued by MSEDCL for the current verification period.	-	For the period 02/07/20011 to 24/04/2017
9.	"Grid connected renewable electricity generation", AMS –I.D.	15.0	-
10.	CEA Database	Version 05	-
11.	Commissioning certificate for all the WTGs of the project activity issued by state electricity authority	-	
12.	Power Purchase Agreements signed between respective Project developer and state electricity authority	-	-
13.	VCS webpage for the project, VCS ID 482; https://www.vcsprojectdatabase.org/#/project_details/482	-	Last accessed on 23/02/2022
14.	Letter of declaration dated from PP regarding not having created	-	16/02/2022

S.No	Title of Document	Version	Date
	or sought any other form of environmental credit for the same period		
15.	Central Electricity Authority (Installation and Operation of Meters) Regulations Notified on 17/03/2006 No. 502/70/CEA/DP&D Amendments Notified on 26/06/2010 No. 502/6/2009/DP&D/D-I	-	Dated 17/03/2006
16.	VCS Standard	Version 4.2	Issued:19-09-2019 Updated: 22-04-2021
17.	VCS Program Guide	Version 4.1	19/09/2019 Updated: 22-04-2021
18.	Remote assessment –interviews of staff personnel, physical inspection of monitoring system	-	31/08/2021
19.	Monthly generation reports issued by O&M contractor	-	For the period 01/01/2021 to 31/06/2021
20.	Clean Development Mechanism Validation and Verification Standard for Project Activity (CDM-VVS for PA),	3.0	

APPENDIX 2: <COMPETENCY STATEMENT>

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	Qualification	Coverage of scope	Coverage of technical Area	Financial aspect	Host country Experience	Attendance to the Remote-Site Assessment
Vivek Kumar Ahirwar	Lead Auditor (LA) & Technical Expert (TE)	Yes (1)	Yes (1.2)	N/A	Yes	Yes
Simon Shen	Technical Reviewer (TR)	Yes (1)	Yes (1.2)	N/A	N/A	N/A

The curriculum vitae of the DOE's team members are provided below:

Vivek Kumar Ahirwar is a BEE-Certified Energy Auditor by Govt of India with over eight years of relevant experience in energy efficiency, energy audit, thermal and electrical energy generation technology from renewable source and energy conservation in energy intensive industries, designated consumers and commercial buildings, implementation of energy conservation building codes, research, process and green building projects. He is a certified lead auditor for ISO 14001 EMS and 14064. He has experience under various categories of projects stating from renewable to waste to supercritical projects and WCD. He has successfully audited more than 100 GHG (CDM/VCS/GS) projects in different states across the India. He has done Mater in Technology (Energy Management) from a premier institute, School of Energy& Environmental Studies, DAVV, Indore (M.P.), India and Bachelor of Engineering (Mechanical Engineering) from Govt. Engineering college, Rewa, RGPV, India.

Simon Shen (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by Applus+ LGAI for the GHG project assessment. He is based

in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ LGAI, he had been worked for TÜV SÜD as a GHG Validator/Verifier and ISO 9001/14001 Lead Auditor for 3.5 Years.

APPENDIX 3: <ABBREVIATIONS>

ABT	Availability Based Tariff
BEF	Baseline Emission Factor
BM	Build Margin
CAR	Corrective Action Request
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CL	Clarification Request
CMS	Central Monitoring System
CMP	Conference of Parties Serving as Meeting of Parties
CO2	Carbon dioxide
DISCOM	Distribution Company
EB	Executive Board
EPC	Engineering, Procurement and Construction
FAR	Forward Action Request
GHG	Green House Gas
ISO	International Standards Organization
JMR	Joint Meter Reading
kW	Kilowatt
kWh	Kilowatt hour
MEDA	Maharashtra Energy Development Agency

MFR	Multi-Function Relay
MR	Monitoring Report
MSEDCL	Maharashtra State Electricity Distribution Company Limited
MW	Megawatt
MWh	Megawatt-hour
NEWNE	Northern Eastern Western Northern-Eastern
O&M	Operation and Maintenance
PD	Project Description
PLF	Plant Load Factor
PP	Project Proponent
PPA	Power Purchase Agreement
QA/QC	Quality Assurance and Quality Control
TOD	Time of the Day
UNFCCC	United Nations Framework Convention on Climate Change
WEC	Wind Energy Convertor
WEG	Wind Energy Generator
WTG	Wind Turbine Generator
VCS	Voluntary Carbon Standard
VCSA	Voluntary Carbon Standard Association
VCS PD	VCS Project Description
VCUs	Voluntary Carbon Units

APPENDIX 4: <FINDINGS OVERVIEW>

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

~~FAR ID~~		~~Section no.~~	~~NA~~	~~Date :DD/MM/YYYY~~
~~Description of FAR~~				
~~N/A~~				
~~Project participant response~~				~~Date :DD/MM/YYYY~~
~~NA~~				
~~Documentation provided by project participant~~				
~~NA~~				
~~VVBassessment~~				~~Date: DD/MM/YYYY~~
~~NA~~				

Table 2. CL from this verification

CL ID	01	Section no.	1.9 & 1.10	Date : 10/02/2022
Description of CL				
PP has not submitted the undertaking letter to support the requirement of section 1.9 and 1.10 of the MR.				
Project participant response				Date : 22/02/2022
The undertaking letter to support the requirement of section 1.9 and 1.10 of the MR has been submitted to the assessment team.				
Documentation provided by project participant				
• Undertaking letter				
VVB assessment				Date: 23/02/2022
PP has submitted the undertaking letter dated 16/02/2022 and same are inline with the requirement. Hence CL#1 is closed.				

Table 3. CAR from this verification

CAR ID	01	Section no.	1.5, B.1	Date 10/02/2022
Description of CAR				
Project participant mentioned the details regarding the technologies used in the project activity but to verify the same, no such document has been provided by the PP (i.e., technical equipment's details, Commissioning certificates, power purchase agreements, O&M agreement etc.) is provided to VVB team. Corrective action is sought for the same. PP is requested to provide the above documents to assessment team.				

Project participant response	Date : 22/02/2022
The Document required for the verification of the technologies used in the project activity has been provided to the assessment team.	
Documentation provided by project participant	
• Technical Brochure for the WTGs • Commissioning Certificates • Power Purchase Agreement	
VVB assessment	**Date: 23/02/2022**
PP has provided the required document and found correct and same has been check with the register PD. Hence CAR#1 is closed.	

CAR ID	02	Section no.	E.3	Date : 10/02/2022
Description of CAR				
The breakdown details of the power plant are provided in the MR. Further, supporting document regarding the breakdown details are not provided to the assessment team. PP is requested to provide the above documents to assessment team.				
Project participant response				**Date : 22/02/2022**
The supporting document regarding the breakdown details are submitted to the assessment team. The breakdown details have also been incorporated in appendix 2 the Monitoring Report Version 02.				
Documentation provided by project participant				
• Breakdown details • Monitoring Report Version 02.				
VVB assessment				**Date: 23/02/2022**
PP has provided the breakdown details in updated MR and provided evidence is correct and inline. Hence CAR#2 is closed.				

CAR ID	03	Section no.	ER sheet	Date 10/02/2022
Description of CAR				
PP has not provided the JMR & Invoices to cross check the values provided in the MR and ER sheet. Corrective action is raised for the same.				
Project participant response				**Date : 22/02/2022**
The JMR's & Invoices to cross check the values provided in the MR and ER sheet has been submitted to the assessment team.				

Documentation provided by project participant	
• JMR's and Invoices	
VVB assessment	**Date: 23/02/2022**
PP has provided the updated MR & ER sheet along with the supporting evidence and found correct. Hence CAR#3 is closed.	

CAR ID	04	Section no.	ER sheet	Date 10/02/2022
Description of CAR				
PP has not provided the complete ER sheet, few information is not filled and it's blank. And also apportioning has been shown in the ER sheet. Justification required on the same.				
Project participant response				**Date : 22/02/2022**
The complete Emission reduction sheet has been submitted to the assessment team and DGR (Daily generation report) has also been submitted to the assessment team for the justification of the apportioning that has been shown in the ER sheet.				
Documentation provided by project participant				
• DGR (Daily generation report) • Emission Reduction sheet				
VVB assessment				**Date: 23/02/2022**
PP has provided the justification along with the updated MR and ER. Hence CAR#4 is closed.				

CAR ID	05	Section no.	4.2	Date : 10/02/2022
Description of CAR				
The details of monitoring meters and its calibration are provided in the MR. Moreover, Calibration certificates for the monitoring period and error factor has been used for missing period. However, PP has not provided the calibration certificate. Corrective action is raised for the same.				
Project participant response				**Date : 22/02/2022**
The Details of the monitoring meters and its calibrations has been incorporated the appendix 1 of MR. Calibration certificate has been submitted to the assessment team. There has been no delay in the calibration frequency therefore error factor has not been used.				
Documentation provided by project participant				
• Calibration certificates				
VVB assessment				**Date: 23/02/2022**

PP has submitted the calibration report along with the updated MR and ER sheet and it's covering the complete monitoring period. Hence CAR#5 is closed.

Table 4. FAR from this verification

~~FAR ID~~	~~XX~~	~~Section No.~~	~~XX~~	~~Date :~~
~~Description of FAR~~				
~~NA~~				
~~Project participant response~~				~~Date :~~ ~~DD/MM/YYYY~~
~~NA~~				
~~Documentation provided by project participant~~				
~~NA~~				
~~VVB assessment~~				~~Date:~~ ~~DD/MM/YYYY~~
~~NA~~				