



100 MW GRID CONNECTED WIND POWER PROJECT IN JAMNAGAR GUJARAT, INDIA



Document Prepared By

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

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Summary:

Verification purpose: Applus+ Certification, operating under the name LGA Technological Center S.A., has been designated by Verdant Renewables Pvt Ltd (VRPL)^{2/} to conduct the third verification from 01-April-2022 to 31-March-2023 of the 100 MW grid-connected Wind Power project located in Jamnagar, Gujarat, India (VCS ID 2019)^{1 /4/}. The primary objective of this verification process is to engage an independent third party for the comprehensive evaluation of the project design and monitoring report, ensuring a rigorous assessment of the proposed project activity in alignment with the relevant VCS requirements.

The project's primary objective is to harness wind energy for electricity generation and sell the produced energy to the Indian grid. The electricity generated by the project will be seamlessly integrated into the Indian electricity grid, thereby offsetting an equivalent amount of energy that would have otherwise been produced by fossil fuel-based power plants. M/s Verdant Renewables Pvt Ltd (VRPL) is spearheading the installation of a 105 MW wind power project, comprising 50 Wind Turbine Generators (WTGs) with a capacity of 2.1 MW each. These WTGs are strategically located in various villages across the Jamnagar districts of Gujarat State, India, including Hajamchora, Bhensdad, Mota Garediya, Manekpar, Dudhai, Manamora, Mavapar, Bhadra, Lakhtar, Keshiya, Meghpar, Tarana, and Balambha. The project's commissioning took place in phases, with the initial set of WTGs becoming operational on 21-June-2019. The monitoring period for the VCS verification spans from 01-April-2022 to 31-March-2023, during which the project achieved a noteworthy milestone of reducing 314,731 tCO₂e emissions. Additionally, the project successfully displaced 335,965.35 MWh of electricity from the power generation mix of plants connected to the Indian Grid, primarily composed of thermal and fossil fuel-based power plants.

The scope of the verification is the independent and objective review of the Monitoring Report (MR)^{5/}. 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

¹ <https://registry.terra.org/app/projectDetail/VCS/2019>

verification standard for project activities, version 03.0/^{13/}, review against registered VCS PD/^{4/} and final validation report, CDM validation and verification standard for project activities, version 03.0/^{13/}, VCS program guide version 4.4/^{8/} and VCS Standard Version 4.5/^{8/}

A risk-based approach has been followed to perform this verification activity. In the course of verification, 06 Corrective Action requests (CAR), 02 Clarification Requests (CLs) were raised and successfully closed. One FAR which was raised as a part of earlier verification is still open. 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 LGAI Technological Center S.A. (Applus+ Certification) 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 VCU. 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 document verifications. The entire documents checked/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 “M/s Verdant Renewables Pvt Ltd (VRPL)” to perform the 3rd verification of the “100 MW grid connected Wind Power project in Jamnagar Gujarat, India” under VCS Project guide, version 4.4 and VCS standard, Version 4.5. 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 19.0/^{15/}
- The project's monitoring plan is assessed against “ACM0002, version 19.0/^{15/}
- 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 program guide, version 4.4 and VCS standard, Version 4.5/^{8/}
- CDM validation and verification standard for project activities, version 03.0/^{13/}
- VCS program guide version 4.4/^{8/}
- VCS standard Version 4.5/^{8/}

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 carbon units.

1.2 Scope and Criteria

The scope is defined as an independent and objective review of the Monitoring report (MR)/^{5/} prepared as per the registered VCS PD/^{4/} and registered approved methodology ACM0002, version 19.0/^{15/}. The MR is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board and VCS standard, Version 4.5 and programme guide, version 4.4, including the approved baseline and monitoring methodology ACM0002, version 19. The verification was based on the requirements in the CDM validation and verification standard for project activities, Version 03.0 and VCS program guide version 4.4 and VCS Standard Version 4.5.

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 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. Verification team conducted onsite audit to verify metering/monitoring arrangement. The verification team has reviewed all the documents like commissioning certificates/^{1/}, technical specification/^{16/}, O & M practices/^{7/}, Share Certificates /^{9/}, invoices/^{9/}, grievance register/^{12/} etc.

1.3 Level of Assurance

Applus + Certification has planned and performed the verification by obtaining evidence and other information and explanations that assessment team considers necessary to give reasonable assurance that reported estimated GHG emission reductions are fairly stated. All documentary evidences were checked, a site audit was conducted to verify metering/monitoring arrangement to arrive at a verification conclusion by the assessment team.

In our opinion, the estimated GHG emissions reductions were calculated correctly on the basis of the approved baseline and monitoring methodology ACM0002, version 19.0 and the VCS Standard Version 4.5.

1.4 Summary Description of the Project

The project activity is a wind-based power generation project. The project activity involves installation of 50 number Wind Turbine Generators (WTG's) of 2.1 MW each, which makes total capacity of project activity of 105 MW installed in the Jamnagar of Gujarat State, in India. The Project activity is promoted by M/s Verdant Renewables Pvt Ltd (VRPL). The monitoring period this VCS verification covered from 01-April-2022 to 31-March-2023 (inclusive of both dates) and the project activity achieved 314,731 tCO_{2e} emission reductions during this monitoring period. The start date of the Project Activity is 21-June-2019 as 1st WTG were commissioned on this date. Assessment team checked the commissioning status of the project activity with the commissioning Certificates and during on-site visit and found correct. The project is implemented as per the description in the registered VCS PD/^{4/}. 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 03.0, VCS standard, Version 4.5, VCS program guide version 4.4 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 VCS PD /⁰⁴/ and final validation report;
2. Site Visit and interview with stakeholders;
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
Dr. Atul Takarkhede	LA/TE	YES	YES	NA	YES
Mr. Ishan Shrivastava	A	YES	YES	NA	YES
Ms. Anjali Singh	AiT	NO	NO	NA	YES

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Mr. Adesh Umardand	OBS	NO	NO	NA	YES
Dr. N Premjit Singh	TR	YES	YES	NA	YES

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

Document review

The Monitoring report version 01/05/ submitted by the PP was reviewed against the approved methodology/^{15/}, approved registered VCS PD/^{04/}, final validation report and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information.

Further, 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.

Site Visit

An Onsite Inspection is conducted by Applus+ Certification. Audit team performed physical interview 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 03/05/ 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.	Jamesar	Emanuel	O&M Manager, Vestas	01-November-2023	Project Implementation, JMR & invoicing procedure, calibration, grievance mechanism, Management practices, data storage, QA/QC	Dr. Atul Takarkhede Mr. Ishan Shrivastava Ms. Anjali Singh Mr. Adesh Umardand
2.	Jain	Ankur	O&M Manager, Vestas			
3.	Baj	Ankur	Executive, EDF Renewables India			
4.	Gurjar	Nitesh	Executive, EDF Renewables India			
5.	Goliya	Jagar	Executive, EDF Renewables India			
6.	Patidar	Sajal	Villager			
7.	Pandey	Ms. Bhavini	Consultant (EKI Energy Services Limited)		Preparation of monitoring report, ER sheet and GHG calculations	

2.4 Site Inspections

Duration of on-site inspection: 01-November-2023				
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.	District - Jamnagar Gujrat state of India	01-November-2023	Dr. Atul Takarkhede Mr. Ishan Shrivastava Ms. Anjali Singh Mr. Adesh Umardand

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 verification 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 03/05/ 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	02	01	01
Description of project activity	00	01	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	00	00

Areas of validation and verification findings	No. of CL	No. of CAR	No. of FAR
Local stakeholder consultation	00	01	00
Others (please specify) undertaking	00	01	00
Total	02	06	01

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

2.5.1 Forward Action Requests

This is 3rd verification of the project activity and no FAR from validation. One FAR raised during the first verification of the project and same is still open.

2.6 Eligibility for Validation Activities

This section is not applicable for present verification, as Applus+ Certification holds the accreditation for Validation of projects under this Sectoral Scope.

3. VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project is not applied under any other GHG program like CDM, GS. hence not applicable. Assessment team verified the same with other GHG mechanism's project interface. Moreover, PP has also submitted an officially attested declaration letter ^{/10/} to assessment team regarding no participation in other GHG program for the concerned monitoring period. Found acceptable.

3.2 Methodology Deviations

This section is not applicable for present verification as no methodology deviation sought during this verification and also in the earlier verifications by project participant. Further no deviation obtains by PP during previous verification too.

3.3 Project Description Deviations

During current monitoring no deviation has been applied. PP had applied for below deviations which was requested and accepted during earlier.

The calibration frequency of the energy meter is once in 5 years as per Central Electricity Authority (CEA). Govt. of India requirement and same is now transparently clarified in the monitoring plan of the project activity. As per the VCS PD "Annual calibration of all the meters will be undertaken at required intervals (Once in 5 years)". The calibration frequency is thus explicitly mentioned as once in five years. During review, Assessment team observed

changed/corrected meter calibration frequency doesn't affect the project design & monitoring of the project activity. Same is also as per the CEA regulations. Also same is verified from calibration certificate^{11/}.

During second verification period, there is a change in contact person name from project proponent side. As per the registered PD, Ms. Sweta Singh was the contact person from the PP side and now Mr. Chandresh Ohri is the authorized person from the project proponent side. Hence there is a change in PP contact person name and his contact details and the same has been mentioned in table 1.3. Thus, change/correction of calibration frequency of monitoring meters have been accepted by VVB.

During the current verification period, there is a change in contact person name from project proponent side. During the 2nd verification period Mr. Chandresh Ohri was the contact person from the PP side and now Mr. Rohan Kale is the authorized person from the project proponent side. Hence there is a change in PP contact person name and his contact details and the same has been mentioned in table 1.3. VVB team confirms that the deviation does not impact the applicability of the methodology, additionality or the appropriateness of the baseline scenario.

Above are the deviation approved during previous verification.

3.4 Grouped Project

This is not a grouped project. Thus, this section is not applicable.

4. VERIFICATION FINDINGS

4.1 Project Implementation Status

During the Onsite Inspection with PP representatives & plants in-charge and subsequent document verification; commissioning certificates, PPA, JMR and invoices, 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 that no unforeseen incident/event evolved which can impact the operation of the project activity which was verified from breakdown records. The project undergone continuous operation and only scheduled maintenance is observed as per the manufactures specification which is acceptable to the assessment team and evident from JMRs. The project activity entails installations of wind turbines having a total capacity of 105 MW Fifty wind turbines installed in this project activity.

The commissioning details of the WTGs are provided in the table below:

Sl. No.	WTG ID	Commissioning Date	Feeder Detail
1	GUVNL-I/VERDANT/19-20/5573	21-June-2019	33 KV Feeder No. 2
2	GUVNL-I/VERDANT/19-20/5574	21-June-2019	33 KV Feeder No. 2

3	GUVNL-I/VERDANT/19-20/5575	21-June-2019	33 KV Feeder No. 2
4	GUVNL-I/VERDANT/19-20/5576	21-June-2019	33 KV Feeder No. 2
5	GUVNL-I/VERDANT/19-20/5577	21-June-2019	33 KV Feeder No. 2
6	GUVNL-I/VERDANT/19-20/5578	21-June-2019	33 KV Feeder No. 2
7	GUVNL-I/VERDANT/19-20/5579	21-June-2019	33 KV Feeder No. 2
8	GUVNL-I/VERDANT/19-20/5580	21-June-2019	33 KV Feeder No. 2
9	GUVNL-I/VERDANT/19-20/5581	21-June-2019	33 KV Feeder No. 2
10	GUVNL-I/VERDANT/19-20/5582	21-June-2019	33 KV Feeder No. 2
11	GUVNL-I/VERDANT/19-20/5583	21-June-2019	33 KV Feeder No. 2
12	GUVNL-I/VERDANT/19-20/5585	29-June-2019	33 KV Feeder No. 1
13	GUVNL-I/VERDANT/19-20/5587	26-July-2019	33 KV Feeder No. 1
14	GUVNL-I/VERDANT/19-20/5589	26-July-2019	33 KV Feeder No. 1
15	GUVNL-I/VERDANT/19-20/5590	26-July-2019	33 KV Feeder No. 1
16	GUVNL-I/VERDANT/19-20/5591	26-July-2019	33 KV Feeder No. 1
17	GUVNL-I/VERDANT/19-20/5592	26-July-2019	33 KV Feeder No. 1
18	GUVNL-I/VERDANT/19-20/5680	27-September-2019	33 KV Feeder No. 1
19	GUVNL-I/VERDANT/19-20/5682	27-September-2019	33 KV Feeder No. 1
20	GUVNL-I/VERDANT/19-20/5683	27-September-2019	33 KV Feeder No. 1
21	GUVNL-I/VERDANT/19-20/5684	21-September-2019	33 KV Feeder No. 1
22	GUVNL-I/VERDANT/19-20/5685	21-September-2019	33 KV Feeder No. 1
23	GUVNL-I/VERDANT/19-20/5686	13-September-2019	33 KV Feeder No. 1
24	GUVNL-I/VERDANT/19-20/5681	21-September-2019	33 KV Feeder No. 1
25	GUVNL-I/VERDANT/19-20/5688	28-September-2019	33 KV Feeder No. 1
26	GUVNL-I/VERDANT/19-20/5809	25-October-2019	33 KV Feeder No. 1
27	GUVNL-I/VERDANT/19-20/5808	25-October-2019	33 KV Feeder No. 1
28	GUVNL-I/VERDANT/19-20/5811	06-November-2019	33 KV Feeder No. 1
29	GUVNL-I/VERDANT/19-20/5817	22-November-2019	33 KV Feeder No. 2 (Tarana)
30	GUVNL-I/VERDANT/19-20/5818	22-November-2019	33 KV Feeder No. 2 (Tarana)
31	GUVNL-I/VERDANT/19-20/5819	27-November-2019	33 KV Feeder No. 2 (Tarana)
32	GUVNL-I/VERDANT/19-20/5820	27-November-2019	33 KV Feeder No. 2 (Tarana)
33	GUVNL-I/VERDANT/19-20/5608	26-July-2019	33 KV Feeder No. 2 (Tarana)
34	GUVNL-I/VERDANT/19-20/5609	05-July-2019	33 KV Feeder No. 1
35	GUVNL-I/VERDANT/19-20/5610	05-July-2019	33 KV Feeder No. 1
36	GUVNL-I/VERDANT/19-20/5611	05-July-2019	33 KV Feeder No. 1
37	GUVNL-I/VERDANT/19-20/5612	05-July-2019	33 KV Feeder No. 1
38	GUVNL-I/VERDANT/19-20/5613	05-July-2019	33 KV Feeder No. 1
39	GUVNL-I/VERDANT/19-20/5614	26-July-2019	33 KV Feeder No. 2 (Tarana)
40	GUVNL-I/VERDANT/19-20/5615	05-July-2019	33 KV Feeder No. 1

41	GUVNL-I/VERDANT/19-20/5810	18-November-2019	33 KV Feeder No. 2 (Tarana)
42	GUVNL-I/VERDANT/19-20/5821	27-November-2019	33 KV Feeder No. 2 (Tarana)
43	GUVNL-I/VERDANT/19-20/5848	07-December-2019	33 KV Feeder No. 2 (Tarana)
44	GUVNL-I/VERDANT/19-20/5849	07-December-2019	33 KV Feeder No. 2 (Tarana)
45	GUVNL-I/VERDANT/19-20/5850	07-December-2019	33 KV Feeder No. 2 (Tarana)
46	GUVNL-I/VERDANT/19-20/5851	07-December-2019	33 KV Feeder No. 2 (Tarana)
47	GUVNL-I/VERDANT/19-20/5853	18-December-2019	33 KV Feeder No. 2 (Tarana)
48	GUVNL-I/VERDANT/19-20/5854	18-December-2019	33 KV Feeder No. 2 (Tarana)
49	GUVNL-I/VERDANT/19-20/5855	18-December-2019	33 KV Feeder No. 2 (Tarana)
50	GUVNL-I/VERDANT/19-20/5856	18-December-2019	33 KV Feeder No. 2 (Tarana)

The WTGs were commissioned in phased manner on 21-June-2019, 29-June-2019, 05-July-2019, 26-July-2019, 13-September-2019, 21-September-2019, 27-September-2019, 28-September-2019, 25-October-2019, 06-November-2019, 18-November-2019, 22-November-2019, 27-November-2019, 07-December-2019 and 18-December-2019. Assessment team checked the commissioning certificate/^{1/} and confirmed that the dates of Commissioning for the WEGs are correct. Assessment team also conform during interview with the PPs representatives that there is no change in project design and the project is implemented as per the description provided in the VCS PD, Technical details confirmed during onsite consistent with VCS PD/^{4/}. The Technical details of WEGs are provided below:

Parameter	Specifications
Model No.	V120-2.1MW HH 120m
Rotor	
Installed Electrical Output	2100 KW
Diameter	120 m
Cut-in-wind Speed	3 m/s
Rated Wind Speed	14 m/s
Cut-out Wind Speed	20 m/s
Rotor Swept Area	11310 m ²
Regulation	Pitch regulated with variable speed

Generator	
Type	Asynchronous, 4 Poles, doubly fed generator, slip rings
Rated output	2100 KW
Frequency	50 Hz
Gear Box	
Type	One planetary Stage and two helical stages
Yaw System	
Drive	Active electrical yaw motors
Bearing	Polyamide slide bearing
Safety System	
Aerodynamic Brake	3 independent systems with blade pitching
Mechanical Brake	Hydraulic disc brake
Technical Life	25 years

The project boundary includes the electricity generation equipment at the project site, substation and the regional grid (now Indian grid).

Assessment team also checked the technical details of the wind turbines installed onsite from documents submitted by PP and previous verification reports. The same is cross checked from the photographs of the number plates, module capacity etc. submitted by PP & also cross checked from the technical details from Manufacturer.

The assessment team confirmed that there is no proposed or actual change to the project design during this monitoring period. The project design as mentioned in the registered VCS PD is implemented and thus the same is acceptable to the assessment team. All required monitoring equipment's and procedures as mentioned in the registered VCS PD are available and implemented in an appropriate manner.

The organisational role and responsibility as mentioned in the registered VCS PD is followed onsite confirmed during onsite visit. All the emergency preparedness as mentioned in the VCS registered VCS PD is followed onsite and no discrepancies were found regarding the same. Meters are calibrated as per calibration frequency in registered VCS registered VCS PD /4/. All the emergency preparedness as mentioned in the VCS registered VCS PD is followed onsite and no discrepancies were found regarding the same. Thus, the completeness of the monitoring

plan confirmed and there are no any material discrepancies between the actual monitoring system and the plan provided in the registered VCS PD.

CAR 01 ,CAR 02 and CAR 03 is raised and closed successfully after proper response of PP please refer Appendix 2 for complete details.

Assessment team confirms following during the verification Onsite Inspection:

1. Start date of the project activity is 21-June-2019 as mentioned in the registered VCS PD^{4/}.
2. An undertaking letter dated 09-October-2023 has been submitted by PP for no 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. Assessment team also checked that the projects are not registered under the REC mechanism of India and the same can be cross-checked at <https://recregistryindia.nic.in>. PP has given a written declaration that the credit claimed under VCS for the current monitoring period is not claimed under any other GHG mechanism^{10/}.
3. Assessment team confirms that this is the 3rd monitoring under VCS and covers the activity from 01-April-2022 to 31-March-2023 (inclusive of both dates). The project activity adopts renewable crediting period of 10 years period and can be renewed for maximum 2 times. The project start date for this project is 21-June-2019. This is the day on which the first WTG was commissioned^{1/}.

The GHG credits from 01-April-2022 to 31-March-2023 will be claimed under VCS only. At any point of time during the crediting period, the project proponent will abide by the “No Double Counting”^{10/}.

Below is the issuance of project history, VVB team found history of the below audit trail is correct: -

S. no	Monitoring period	Verification
1	21-June-2019 to 31-March-2021	1 st Verification
2	01-April-2021 to 31-March-2022	2 nd Verification
3	01-April-2022 to 31-March-2023	3 rd Verification (Ongoing)

4. Assessment team checked and found that the Project proponent of the project activity mentioned in Section 1.3 of monitoring report is correct^{5/}:
5. Assessment team also checked the details of other entity mentioned in Section 1.4 of monitoring report and found correct.
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 314,731 tCO₂e which is 13.49% lower than the estimated emission reductions 363,796 tCO₂e (363,796 tCO₂e/365 days x 365 days) during this monitoring period which is due to low wind availability during the monitoring period which is a natural phenomenon and beyond the control of the Project Proponent. Hence, this change will not

affect the additionality of the project. The VVB confirms that these doesn't have impact on additionality and it is below the bench march. Hence accepted.

7. Project activity claimed credit under VCS only for the current monitoring period and during previous validation and verification and credit will not be claimed under any other form of environmental credit and other GHG mechanism nor rejected.

Sustainable development indicators

As a part of regional development efforts associated with the project, PP has supported many education, health & infrastructure related needs for local people. These are funded from the revenue generated from the operation of the project activity. In the absence of project activity, there would be no revenue generated from the project and hence the activity would have not occurred in the absence of the project activity. Further, in line with para 3.17.1, VCS project standard version 4.5 "The project proponent must demonstrate that a project contributes to at least three SDGs by the end of the first monitoring period, and in each subsequent monitoring period." Thus, PP has provided project's contribution towards SDGs 7.2, 8.6 and 13.0 in table 1 of monitoring report and training details provided in Appendix- III of monitoring report. Verification team verified the same with the Training details and Training attendance sheet/^{20/} submitted by PP along with the monitoring report and found both inline.

VVB team verified details provided in table 1. Thus, acceptable to VVB team.

Below the SDG target for the project activity.

- 1) SDG 7.2.1: Renewable energy share in the total final energy consumption
- 2.) SDG 8.6.1: Proportion of youth (aged 15-24 years) not in education, employment or training
- 3) SDG 13: Total greenhouse gas emissions avoided or removed.

Thus, the project activity contributes to the sustainable development of the country.

4.2 Safeguards

4.2.1 No Net Harm

No potential environment or socio-economic matter was found during the documents review of VCS PD and grievance register/^{12/} etc. The project is renewable energy project and thus no negative impact observed due to project activity.

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 2013² mentions that solar/Wind power project activity operations do not result in direct air pollution, noise

² <https://smartnet.niua.org/sites/default/files/resources/report-on-developmental-impacts-of-RE.pdf>

pollution. Moreover, also as per the Central Pollution Control Board of India notification³ solar/wind project falls under White Category and are practically non-polluting. Assessment team checked and found this appropriate.

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 grievance register/^{12/} 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 3.18.3 of VCS Standard, Version 4.5 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, assessment team is of the opinion that the ongoing stakeholder mechanism is adequate and appropriate. CAR 04 was raised during the verification process and closed successfully. Please refer Appendix 2 of this report for the detail closure of the CAR.

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 MR. 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/ ^{4/}
Findings	CAR 05 was raised during the verification process and closed successfully. Please refer Appendix 2 of this report for the detail closure of the CAR.
Conclusion	As per the registered PD and applied methodology, Formula used to calculate achieved emission reduction is as follow; $ER_y = BE_y - PE_y - LE_y$ As per registered PDD, the build margin and operating margin CO ₂ emission factor of Indian grid is taken from Central Electricity Authority: CO ₂ Emission Database CEA CO ₂ Baseline database Version 14.

³ <https://cpcb.nic.in/openpdffile.php?id=TGF0ZXN0RmlsZS9MYXRlc3RfMTE4X0ZpbmFsX0RpcmVjdGlvbnMucGRm>

Thus,

$$EF_{OM,y} = 0.9610 \text{ tCO}_2/\text{MWh}$$

$$EF_{BM,y} = 0.8644 \text{ tCO}_2/\text{MWh}$$

$$\& EF_{CM,y} = 0.9368 \text{ tCO}_2/\text{MWh}$$

The baseline emissions are calculated as below,

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

Where;

BE_y : Baseline Emissions in year y (tCO_2e)

$EG_{PJ,y}$: 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/yr)

$EF_{grid,CM,y}$: Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” ($\text{t CO}_2/\text{MWh}$)

The calculation of baseline emissions is as below,

$$\begin{aligned} BE_y &= 335,965.35 \text{ MWh} * 0.9368 \text{ tCO}_2/\text{MWh} \\ &= 314,731 \text{ tCO}_{2e} \text{ (round down values)} \end{aligned}$$

Monitored Parameters:

1. EG_y : Electricity supplied to GUVNL (MWh)

The project activity is integrated into the feeders at the Keshiya and Tarana wind farm site substations, which are subsequently linked to GETCO substations in Dhrol and Jamdudhai. The monitoring of net electricity generation takes place at the substation feeders, facilitated by both main and check meters. On a monthly basis, representatives from GETCO and the Power Producer (PP) jointly undertake the Joint Meter Reading (JMR), with GETCO responsible for computing the PP's share in accordance with the power purchase agreement. The metering procedures strictly adhere to the terms stipulated in the agreement. GETCO issues Share Certificates (JMRs) on a monthly basis, detailing the net electricity delivered by the project activity. It is crucial to note that the Power Producer does not play a role in the calculation of net electricity. Throughout the monitoring period, the verification team meticulously examined the complete set of monthly JMR reports concerning net electricity generation and supply to the grid. This was crosschecked against the invoices submitted by the Power Producer to State Utilities. All values were verified and found to be accurate. All parameters were diligently monitored and recorded according to the monitoring plan outlined in the MR. Following a comprehensive assessment, the verification team confirmed the accuracy of the 335,965.35 MWh value, which aligned seamlessly with the information in the JMR and invoices. As a

result, the findings were deemed acceptable and in line with the established criteria, thus acceptable to VVB team.

2. EG_{WTG}: Electricity generated by each WTG

Electricity generated by each WTG is monitored through an integrated electronic meter i.e. Controller. These controller/WTGs are connected to the Central Monitoring Station (CMS) of the entire wind farm through communication cables & generation data of individual WTG is monitored as a real-time entry at CMS. This data for each individual WTG is recorded daily. The assessment team checked the monthly DGR data and found correct. The verification team has crosschecked the revised emission reduction sheet and monitoring report data with the JMR sheet and invoice and found all the values are matching.

Project emissions:

As the project activity involves in harnessing wind power. So, the emission from the project are zero.

Leakage Emission:

The project activity is a Greenfield wind power project and there is no technology transfer with respect to this project activity. Hence the Leakage emissions for the project are zero.

Hence, net GHG reduction and removals

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)
2021 (From 01-April-2021 till 31-December-2021)	254,170	0	0	254,170
2022 (From 01-January-2022 till 31-March-2022)	60,561	0	0	60,561
Total	314,731	0	0	314,731

VVB confirmed that GHG reductions and removals have been quantified correctly and in line with monitoring procedure in VCS PD and applied methodology.

The estimated emission reduction achieved from the project activity for the current monitoring period is 363,796 tCO₂e based on the number of days covered during the current monitoring period which comes out to be 365 days. Whereas the actual emission reductions achieved during the current monitoring period are 314,731 tCO₂e. The actual VCUs are 13.49% lower than the

	estimated VCUs. This variation is majorly due to low wind availability during the monitoring period which is a natural phenomenon and beyond the control of the Project Proponent. Hence, this change will not affect the additionality of the project. The VVB confirms that these doesn't have impact on additionality and it is below the benchmark. Hence accepted.
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4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

Means of verification	The verification team checked the Calibration details of the monitoring meters with the calibration certificates.
Findings	CAR 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	Assessment team has checked calibration certificates^{11/} and found that meters are calibrated and calibration is valid for current monitoring period. Verification team confirms that all the energy meters (main and check meter) installed at the substation are of accuracy class of 0.2s and are calibrated as per the calibration frequency mentioned in monitoring plan in VCS PD i.e. The calibration frequency of meters is once in 5 years. No delayed calibrations were observed in the project activity for this monitoring period. All the meters are of same accuracy class i.e., 0.2s as per the requirement of the registered VCS PD^{4/}. During Onsite Inspection with O&M personnel also confirms the same. The calculation of net electricity supplied to grid is under purview of state electricity board and PP does not have control on it. Calibration details of the monitoring meters checked with calibration certificates submitted by PP and found that calibration frequency of 5 years is complied. Thus, no delayed calibration is observed and thus the same is found appropriate. (refer Appendix-5). The break down log is checked and there is no major breakdown during the monitoring period. No unforced error observed. No sampling procedure applied for monitoring of the data parameter and entire documents were checked by the assessment team to arrive at positive verification conclusions. The monitoring plan is followed at the project site. The monitoring meters were calibrated in line with the registered monitoring plan and there was no delay in calibration observed. Thus, assessment team concluded that the evidences are sufficient in quantity, and appropriate for the quality, to determine the GHG reductions and removals. Assessment team confirmed that data/ information used for determining GHG reductions and removals were sufficient in quantity and of appropriate quality. Calibration certificates of meters/ QA/QC procedure checked and found to be appropriate.

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^{/02/} by M/s Verdant Renewables Pvt Ltd (VRPL) to perform the 3rd verification (01-April-2022 to 31-March-2023) of the “100 MW grid connected Wind Power project in Jamnagar Gujarat, India”.

The project participants are 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 ^{/4/} and the applied methodology ACM0002, version 19.0.

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 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 VCS PD ^{/4/};
- the development and maintenance of records and reporting procedures are in accordance with the monitoring plan;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.
- A Reasonable Level of assurance was achieved as planned, during verification process.
- Verification period: 01-April-2022 to 31-March-2023 (inclusive of both days)

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

Year	Baseline emissions or removals	Project emissions or	Leakage emissions	Net GHG emission reductions or
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	(tCO ₂ e)	removals (tCO ₂ e)	(tCO ₂ e)	removals (tCO ₂ e)
2022 (From 01-April-2022 till 31-December-2022)	254,170	0	0	254,170
2023 (From 01-January-2023 till 31-March-2023)	60,561	0	0	60,561
Total	314,731	0	0	314,731

It is to be noted here that as per the estimated emission reduction to be achieved from the project activity for the current monitoring period is 363,796 tCO₂e, whereas actual emission reductions achieved are 314,731 tCO₂e, which is approximately 13.49% lower than the estimated emission reductions.

<u>Ex-ante emissions reductions/removals</u>	<u>Achieved emissions reductions/removals</u>	<u>Percent difference</u>	<u>Justification for the difference</u>
363,796	314,731	13.49 %	The lower emission reduction achieved is justified due to lower generation in the current monitoring period. The generation of electricity depends upon many other climatic conditions, which are not within the control of the project participant.

APPENDIX 1: DOCUMENTS REVIEWED OR REFERENCED

No.	Author	Title	References to the document	Provider
1.	State Utility	Commissioning certificates of all WTGs.	Commissioning of the wind power project	PP
2.	Applus	Contract of the project participant with the DOE. Ref. No. A+SH_SYST_TQC_VCS_VER_23023	13-October-2023	PP
3.	NA	The operational lifetime of the project activity from the manufacturer (Technical specifications)	Manufacturer technical specifications	PP
4.	NA	Registered VCS PD version 03 and validation report	https://registry.terra.org/app/projectDetail/VCS/2019	PP
5.	NA	Monitoring report Version 01 (Initial) Monitoring report Version 03 (Final)	29-September-2022 12-December-2023	PP
6.	NA	Emission reduction sheet version 01 Emission reduction sheet version 02	29- September-2022 05-December-2023	PP
7.	PP	O & M Agreement	07 August 2019	PP
8.	NA	Tools/ guidelines used in the project activity - VCS Program Definitions, version 4.4 - VCS standard Version 4.5 - VCS Program Guide 4.4 - VCS verification report template version 4.2		VERRA
9.	State Utility for share certificates, PP for invoice	Share certificates and Invoices		PP
10.	PP	Declaration regarding no participation in other GHG program for the concerned monitoring period	09-October-2023	PP
11.	NA	Calibration details of the project activity undergoing verification	Calibration certificates	PP
12.	NA	Grievance Register maintained at site	-	PP
13.	UNFCCC	CDM validation and verification standard for project activities, Version 03.0	-	UNFCCC
14.	PP	Shutdown/Breakdown details for the	-	PP

No.	Author	Title	References to the document	Provider
		Project Activity		
15.	UNFCCC	CDM methodology ACM0002	Version 19.0	UNFCCC
16.	NA	Technical datasheet for WTG		PP
17.	PP	Photographs of WTGs, Energy meters		PP
18.	PP	Power Purchase Agreement	Signed between PP and GUVNL 25-January-2018	PP
19.	VERRA	Previous verification reports	https://registry.verra.org/app/projectDetail/VCS/2019	VERRA
20.	PP	Training and Attendance Records	O&M personals trainings	

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

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

FAR ID	01	Section no.		Date : 15-November-2023
Description of FAR				
Assessment team checked the VERRA project webpage and found that complete Project registration documents are not uploaded on the VERRA project webpage. PP has submitted the final copies of approved VCS PD & validation report to the assessment team during verification. However, validation report is not uploaded on the VERRA project webpage.				
Project participant response				Date : 12-December-2023
PP has sent the mail to Verra for making the document VCS PD, validation report publicly available				
Documentation provided by project participant				
NA				
DOE assessment				Date: 14-December-2023
PP has mailed the VERRA to make data publicly available hence acceptable assessment team further also provide the VCS PD and Validation report. Thus FAR is open for next verification team to check.				

Table 2. CL from this verification

CL ID	01	Section no.	1.4	Date: 15-November-2023
Description of CL				
During onsite visit it was noted that the legal ownership lies with the Verdant Renewables however, EDF Renewables is also representing PP. Kindly clarify the role of EDF Renewables. Kindly clarify.				
Project participant response				Date: 30-November-2023
EDF Renewable is a management Service provider to the SPV verdant Renewables. However, Verdant Renewables is a SPV and EDF (EN India) has the ownership of the project.				
Documentation provided by project participant				
Board Resolution				
DOE assessment				Date: 06-December-2023
The assessment team determined that Verdant Renewables is the legal owner of the project, and they are also the project proponent. In this context, EDF Renewable is acknowledged solely as the project proponent's representative same is verified with board resolution document dated 13-September-2023. The assessment team finds this arrangement acceptable. CL#01 is closed.				

CL ID	02	Section no.	1.4	Date: 15-November-2023
Description of CL				
Table 1 of monitoring report version 01 found not inline with requirement of VCS Standard V 4.5 para 3.17.1. kindly clarify.				
Project participant response				Date: 30-November-2023
Necessary correction has made in Table 01 which is now inlined with the requirement of VCS Standard V 4.5 para 3.17.1.				

Documentation provided by project participant	
Monitoring Report	
DOE assessment	Date: 06-December-2023
PP has incorporated the details of the SDG 8 in the Table 1 and checked with the revised monitoring report version 02 which is now found inline with the requirement of VCS Standard V 4.5 para 3.17.1. Thus, CL#02 is closed.	

Table 3. CAR from this verification

CAR ID	01	Section no.	4.1	Date: 15-November-2023
Description of CAR				
During review of MR following inconsistencies were observed:				
- Font size and style of the Title page are not inline with the VCS MR Template guidelines version 4.2. Update the font size and font style throughout the VCS MR version 01. - Revise language throughout the submitted MR version 01 dated 29-September 2023 as the project activity is already commissioned and contributing towards emission reduction. - In section 1.1 of the MR version 01. Validation related details are found missing in the Table. - Section 3.1 of the VCS MR version 01 is not inline with the VCS MR Template guidelines version 4.2. Technical Specifications of the WTGs is found missing. - In the section 4.1 of the VCS MR, PP has mentioned the source of data of the parameter EF as CEA database, version 14. However, Reference web-link of the same is found missing. - PP is request to submit; O&M agreements, Project ownership documents & lifetime evidence of the complete project activity to the assessment team. Kindly Submit. Corrective action sought.				
Project participant response				Date: 30-November-2023
Font size and Style of Title Page is has been updated and are now inline with VCS MR template guidelines version 4.2. Language has been now revised throughput MR. Validation related details are now included in Section 1.1 of MR. Technical Specifications of WTG has now been included in Section 4.1 of MR. Weblink of CEA database has now provided in Section 4.1 O & M Agreement, Project BR, Technical Specification has been provided to VVB.				
Documentation provided by project participant				
O & M Agreement Project BR Technical Specification of WTG Monitoring Report				
DOE assessment				Date: 06-December-2023

1. PP has updated the Font size and style of the Title page are not inline with the VCS MR Template guidelines version 4.2. Update the font size and font style throughout the VCS MR version 01.
2. Language of the project is not revised throughout the revised MR version 02 as the project is already commissioned. Hence, Comment#02 is open.
3. PP has updated the validation details in the section 1.1 of the revised MR version 02.
4. Technical Specifications of WTGs are incorporated in the section 3.1 of the revised MR version 02 which is inline with submitted technical specifications of the WTGs. Section 3.1 of the revised MR is now inline with the VCS MR Template guidelines version 4.2.
5. PP has updated the reference web-link in the section 4.1 of the revised MR version 02. Now web-link is found operational and relevant to the parameter EF as CEA database, version 14.
6. PP has submitted the O & M Agreement in which there is agreement between Vistas Wind Technology India Private Limited and Verdant renewables private Limited dated 07 August 2019, PP has submitted the Board resolution dated 13 September 2023 which is found inline with the project ownership and Technical specifications of the project which is found correct.

Project participant response	Date: 12-December-2023
PP has updated the language throughout MR.	
Documentation provided by project participant	
Monitoring Report	
DOE assessment	Date: 15-December-2023
PP has now revised the language of revised monitoring report now found acceptable to VVB team. Thus, CAR#01 is closed.	

CAR ID	02	Section no.	4.1	Date: 15-November-2023
Description of CAR				
PP has mentioned that 'Project activity electricity evacuation SLD is provided under Appendix-2 of the registered VCS PD' in the section 4.3 of the VCS MR version 01. However, it is found missing in MR. Kindly incorporate the SLD in the revised MR. corrective action sought.				
Project participant response				Date: 30-November-2023
SLD has now been added in MR Section 4.3.				
Documentation provided by project participant				
SLD				
DOE assessment				Date: 06-December-2023
PP has incorporated the SLD in the section 4.3 of the revised MR version 02 which is found correct and inline with project site. Thus, CAR#02 is closed.				

CAR ID	03	Section no.	4.1	Date: 15-November-2023
Description of CAR				
In the section 1.9 of the VCS MR, PP mentions 'The undertaking from PP has been submitted for no any double accounting for current monitoring period and project activity is not participated any other GHG program other than VCS. PP to provide undertaking for no double accounting of the project activity for the current monitoring period. corrective action sought.				
Project participant response				Date: 30-November-2023

PP has submitted no double accounting for current monitoring period to VVB.	
Documentation provided by project participant	
No double Accounting Certificate	
DOE assessment	Date: 06-December-2023
PP has submitted no double accounting declaration dated 09 October 2023 for current monitoring period to VVB. During assessment VVB found that project activity is not participated any other GHG program other than VCS which is acceptable.	
Thus, CAR#03 is closed.	

CAR ID	04	Section no.	4.2.2	Date: 15-November-2023
Description of CAR				
1. PP has placed a grievance register on the site' is mentioned in the section 2,2 of the MR version 01. Kindly submit the Copy of Grievance register. 2. PP is requested to submit training records of the O & M personnel at the Site. Corrective action sought.				
Project participant response				Date: 30-November-2023
1. PP has provided copy of grievance register to VVB. 2. PP has submitted training records to VVB.				
Documentation provided by project participant				
• Training Records • Grievance Register				
DOE assessment				Date: 06-December-2023
1. Grievance register has been submitted to the VVB in which one complaint is registered at Tarana Substation on 06 August 2022 and the complaint is resolved by the PP. Other complaint is registered at keshiya Substation on 26 August 2022 and the complaint is resolved by the PP. 2. PP has submitted the Training records. During assessment VVB observed that Site Induction training dated 13 February 2023, STI dated 07 September 2023, Safety meeting dated 11 February 2023, HSE Site induction training dated 06 September 2022, Site induction dated 02 May 2022 and Mock drill (Firefighting) awareness dated 14 April 2022 thus found acceptable to assessment team.				
Thus, CAR#04 is closed.				

CAR ID	05	Section no.	4.4	Date: 15-November-2023
Description of CAR				
1. Annual estimated ER value mentioned in the ER Sheet Tab 'ER Calculation' which is not inline with the Registered VCS PD. 2. Project activity title, ID and as per methodology formula to calculate the emission reduction is found missing in the ER sheet. Thus, Correction Sought.				
Project participant response				Date: 30-November-2023

1. Annual Estimated ER value is correct and inlined with VCS PD. 2. Project activity title, ID is now included in ER Sheet and formula to calculate emission reduction is mentioned in tab "ER Calculation" of ER Sheet.	
Documentation provided by project participant	
ER Sheet	
DOE assessment	Date: 06-December-2023
1. PP has updated the Annual estimated ER value mentioned in the revised ER Sheet Tab 'ER Calculation' which is now found inline with the Registered VCS PD which is acceptable to VVB team. 2. Project activity related basic details has been incorporated in the revised ER Sheet Tab 'ER Calculation' which is found correct. Thus, CAR#05 is closed.	

CAR ID	06	Section no.	4.5	Date: 15-November-2023
Description of CAR				
1. The calibration records in Appendix 01 of the VCS MR are lacking details regarding the meter make. 2. Date of Calibration validity of the line 2 Check meters of the Tarana and Keshiya substation found not correct. Further add detail of all check meters at project site. Thus, Corrective action sought.				
Project participant response				Date: 30-November-2023
1. Meter Make Details have been included in VCS MR. 2. All the calibration meter details have been included in MR for Tarana and Keshiya. Single line is there at Tarana Substation. Hence, meter details of the particular line is included in MR.				
Documentation provided by project participant				
- Calibration Record - Monitoring Report				
DOE assessment				Date: 06-December-2023
1. PP has incorporated the details of the energy meter make i.e. secure in the Appendix I of the revised MR version 02. Comment 01 is closed. 2. Date of Calibration validity of the line 2 Check meters of the Tarana and Keshiya substation are updated and found correct which is acceptable to VVB. Further Dhrol and Jamudhai SS check meter details found missing in the Appendix 01 of the MR version 02. Comment#02 is Open.				
Project participant response				Date: 12-December-2023
PP has now included check meter details in Appendix 01 of Monitoring report				
Documentation provided by project participant				
Monitoring Report				
DOE assessment				Date: 15-December-2023
PP has now included all Check meters details and calibration details in the Appendix 1 of revised monitoring report. Thus, acceptable to assessment team and CAR 06 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	Takarkhede	Atul	TQC-Outsourced entity	Yes	Yes	Yes	Yes
2.	Auditor	OR	Shrivastav	Ishan	TQC-Outsourced entity	Yes	No	Yes	Yes
3.	Auditor-in-Trainee	OR	Singh	Anjali	TQC-Outsourced entity	Yes	Yes	Yes	Yes
4.	Observer	OR	Umardand	Adesh	TQC-Outsourced entity	No	Yes	No	No

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) / Technical Expert (TE)	EI	Singh	Dr. N. Premjit	Applus+ Certification
2.	Approver	IR	Calle de Miguel	Agustin	Applus+ Certification

Short CVs of the Team:

1. **Dr. Atul Takarkhede.** is Ph.D. (Environmental Sciences) from Institute of Science, RTM Nagpur University, Nagpur, and he has already published different technical papers related to environmental sciences. He counts with more than 11 years of experience in field of Environmental Auditing, consulting and accreditation. He is an expert in ISO 9001-14001, CO2/GHG Reporting, Carbon Foot Print, Energy, Water and Waste Management reporting for organizations' environmental performance. His professional portfolio is mainly related with carrying out EIA, conducting QA/QC of EIA Reports; conducting environmental/water audits; NABET requirements appliance, functional area expert in Water Pollution & Solid & Hazardous Waste management among others. Furthermore, he counts with solid experience on CDM-VCS-GS consultancy and auditing. Currently he is associated with True Quality Certifications Private Limited and empanelled with Applus+ Certification to carry out GHG audits in the aforementioned schemes. Dr. Atul Takarkhede is based in Nagpur, India. Dr. Atul Takarkhede participated as part of the Audit Team as the Lead Auditor and Technical Expert for the assessment.

2. **Mr. Ishan Shrivastava** holds a Bachelor of Engineering in Mechanical Engineering from Rajiv Gandhi Proudhyogiki Vishwavidyalaya, India. He possesses a year of professional experience within one of India's prestigious Maharatna Companies, GAIL (India) Limited, with a focus on Natural Gas, Energy, and Environmental matters. Currently, he is actively engaged at True Quality Certifications Pvt. Ltd., serving as an integral team member since 2019. This organization serves as an outsourced entity for LGAI Technological Center, S.A. (Spain), operating under the name "Applus+ Certification." In this role, Mr. Shrivastava actively contributes to supporting Audit teams responsible for the verification of Project Activities, encompassing both Renewable and non-Renewable projects, within the framework of CDM/VCS/GS4GG programs. His commitment to this vital task is a testament to his expertise and dedication in the field. Mr. Ishan Shrivastava is based in Indore, India.

3. **Anjali Singh** holds a Bachelor of Engineering degree in Electronic and Communication Engineering from Rajiv Gandhi Proudhyogiki Vishwavidyalaya, India. She has one year of experience as a Graduate Engineer Trainee at Idea Cellular Limited, India. She has also worked for three years as an Assistant Engineer at Gargee Energies, India, where she was involved in solar rooftop project design and consulting, as well as operation and maintenance activities. Currently, Anjali is working at True Quality Certifications Pvt. Ltd. She has been working there since 2021 and the company is an outsource entity for LGAI Technological Center, S.A. (Spain) "Applus+ Certification". At True Quality Certifications, Anjali supports audit teams for verifications of project activities for renewable and non-renewable projects under the Clean Development Mechanism (CDM), Verified Carbon Standard (VCS), and Gold Standard for Global Goals (GS4GG) programs. She is qualified Technical Expert in Sectorial Scope 1.2 (Energy Industries (Renewable / Non-Renewable Sources)).

4. **Mr. N Premjit Singh** has a PhD in Mechanical Engineering (Thesis: Design and development of a square parabolic dish system with a concentrated photovoltaic (CPV) module for performance improvement) from the Indian Institute of Technology (IIT) Madras, Chennai, India, awarded in 2021. M.Tech in Energy Technology, Tezpur University, Napaam, India (2007), and B.Tech in Mechanical Engineering (2005), NERIST, Nirjuli, India. He has extensive experience of about 7 years with DOEs, including UNFCCC CDM and other carbon related schemes (e.g., VCS, GS, GCC), and 5 years + in research projects, renewable energy, and energy audits. In Applus+ since March 2023, he has been the Product Assurance Manager for CDM/VCS/GS4GG/GCC Department to ensure the quality of the performance of different assessments. Coordinate the global team for technical reviews, and identify the training needs for the auditors and technical reviewers to improve the quality of reports. Holds experience as a Lead Auditor, Validator and Verifier for GHG mitigation projects and programmes of activities in Sectorial Scope 1.2 (Renewables), and is qualified as per Applus+ procedures. Dr. N Premjit Singh is based in Gurugram, India. Dr. N Premjit Singh participates as part of Technical Reviewer team.

APPENDIX 4: ABBREVIATIONS

Abbreviations	Full texts
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
VER	Verified 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
DGR	Daily Generation Report
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)
GETCO	Gujarat Energy Transmission Corporation Limited
GWP	Global Warming potential
PP	Project Participant
PLF	Plant Load Factor
MR	Monitoring Report
JMR	Joint Metering Report
PPA	Power Purchase Agreement
WTG	Wind Turbine Generator
VCS	Voluntary Carbon Standard
VVB	Validation and Verification Body

APPENDIX 5: CALIBRATION DETAILS

Dhrol GETCO SS

Meter Sl. No.	Meter Type	Make	Accuracy Class	Date of Calibration	Due Date of Calibration	Calibration Frequency	Calibration Compliance
GJ4187-A	Line-1 (Main)	Secure	0.2s	01-May-2019	30-April-2024	Once in 5 Years	Yes
GJ4287-A	Line-2 (Main)						

XE 481376	Line 1 (Check)		0.2s				
XE481399	Line-2 (Check)						

Jamdudhai GETCO SS

Meter Sl. No.	Meter Type	Make	Accuracy Class	Date of Calibration	Due Date of Calibration	Calibration Frequency	Calibration Compliance
GJ4285-A ⁴	Line-1 (Main)	Secure	0.2s	01-May-2019	30-April-2024	Once in 5 Years	Yes
GJ4612-A	Line-1 (New Main)			03-December-2020	02-December-2025		
XE481384	Line-1 (Check)			01-May-2019	30-April-2024		

Tarana SS

Meter Sl. No.	Meter Type	Make	Accuracy Class	Date of Calibration	Due Date of Calibration	Calibration Frequency	Calibration Compliance
GJ4284-A	Line-1 (Main)	Secure	0.2s	01-May-2019	30-April-2024	Once in 5 Years	Yes
GJ3571-A	Line-2 (Check)			18-March-2023	17-March-2028		

Keshiya SS

Meter Sl. No.	Meter Type	Make	Accuracy Class	Date of Calibration	Due Date of Calibration	Calibration Frequency	Calibration Compliance
GJ4186-A	Line-1 (Main)	Secure	0.2s	01-May-2019	30-April-2024	Once in 5 Years	Yes
GJ4286-A	Line-2 (Main)			18-March-2023	17-March-2028		

⁴ There was a change in main meter of Jamdudhai GETCO substation Line-1. The faulty meter GJ4285-A was replaced by GJ4612-A on 3rd December,2020.

GJ3572-A	Line-1 (Check)						
GJ3573-A	Line-2 (Check)						

There was Meter change for main meter of Jamdudhai GETCO substation Line-1. The faulty meter GJ4285-A was replaced by GJ4612-A on 03-December-2020. Further there is no delay observed in Calibration of the energy meters. Thus, acceptable to assessment team.