



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: LGA Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed^{2/} by “M/s Verdant Renewables Pvt Ltd (VRPL)” to perform the 2nd verification (01-April-2021 to 31-March-2022) of the “100 MW grid connected Wind Power project in Jamnagar Gujarat, India” (VCS ID 2019)^{1/4/}. The main purpose of this verification activity is to have an independent third party for the assessment of the project design, monitoring report to ensure a thorough assessment of the proposed project activity against the applicable VCS requirements.

The purpose of the project activity is to generate energy electricity by the utilization of wind energy and further selling the generated energy to the Indian grid. The power (electricity) thus produced by the project activity would be transmitted to Indian electricity grid. Therefore, the project activity is displacing an equivalent amount of electricity which would have been otherwise generated in fossil fuel dominant electricity grid. The project activity is installation of 105 MW wind power project, promoted by M/s Verdant Renewables Pvt Ltd (VRPL). The project consists of 50 number Wind Turbine Generators (WTG's) of 2.1 MW each. The project WTGs are installed across the Jamnagar districts in the villages of Hajamchora, Bhensdad, Mota Garediya, Manekpar, Dudhai, Manamora, Mavapar, Bhadra, Lakhtar, Keshiya, Meghpar, Tarana, Balambha of Gujarat State, in India. The Project Activity was commissioned in phase-wise manner and 1st set of WTGs were commissioned on 21-June-2019^{01/}. The monitoring period for this VCS verification is 01-April-2021 to 31-March-2022 (including both days) and the project activity achieved 326,138 tCO_{2e} emission reductions during this monitoring period thereon displaced 348,141.39 MWh amount of electricity from the generation-mix of power plants connected to the Indian Grid, which is mainly dominated by thermal/fossil fuel-based power plant.

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 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 4.3^{8/} and VCS Standard Version 4.4^{8/}

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

A risk-based approach has been followed to perform this verification activity. In the course of verification, 04 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 2nd verification of the “100 MW grid connected Wind Power project in Jamnagar Gujarat, India” under VCS Project guide, version 4.3 and VCS standard, version 4.4. 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 4.3 and VCS standard, version 4.4
- CDM validation and verification standard for project activities, version 03.0/^{13/}
- VCS program guide version 4.3/^{8/}
- VCS standard version 4.4/^{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/^{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 4.4 and programme guide, version 4.3, 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 4.3 and VCS Standard Version 4.4.

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 4.4.

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-2021 to 31-March-2022 (inclusive of both dates) and the project activity achieved 326,138 tCO₂e 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 4.4, VCS program guide version 4.3 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;
3. The resolution of outstanding issues and the issuance of the final verification report and opinion.

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

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

Appointment of the assessment team

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

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

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

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

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

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Mr. Pankaj Kumar	LA/TE	YES	YES	NA	YES
Mr. Deepak Pundlik	A	YES	YES	NA	YES
Mr. Srikanth Meesa	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 04/05/ 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.	Ohri	Chandresh	M/s Verdant Renewables Pvt Ltd	07-December-2022	Project Implementation, JMR & invoicing procedure, calibration, grievance mechanism, Management practices, data storage, QA/QC	Mr. Pankaj Kumar / Mr. Deepak Pundlik
2.	Tyagi	Sourabh	O&M Manager, Vestas			
3.	Baj	Ankur	Executive, EDF Renewables India			
4.	Saha	Tapti	EKI Energy Services Ltd.			
5.	Patel	Shreeja	Villager			
6.	Vasava	Hitesh	Villager		GHG calculations, MR and ER preparation, Data collection, data storage, QA/QC	

2.4 Site Inspections

Duration of on-site inspection: 07-December-2022				
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	07-December-2022	Mr. Pankaj Kumar / Mr. Deepak Pundlik

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 04/05/ 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	00	00
Monitoring plan	00	00	00
No Net harm assessment	00	00	00
Local stakeholder consultation	00	01	00
Others (please specify)	00	00	00
Total	02	04	01

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

2.5.1 Forward Action Requests

This is 2nd verification of the project activity and no FAR from validation. ONE FAR raised during the first verifications 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

PP had applied for below deviations which was requested and accepted during earlier verifications and one (1) deviation is applied for during current monitoring period. The details of the deviations are as follows:

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/}.

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.

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

41	GUVNLI/VERDANT/19-20/5810	18-November-2019	33 KV Feeder No. 2 (Tarana)
42	GUVNLI/VERDANT/19-20/5821	27-November-2019	33 KV Feeder No. 2 (Tarana)
43	GUVNLI/VERDANT/19-20/5848	07-December-2019	33 KV Feeder No. 2 (Tarana)
44	GUVNLI/VERDANT/19-20/5849	07-December-2019	33 KV Feeder No. 2 (Tarana)
45	GUVNLI/VERDANT/19-20/5850	07-December-2019	33 KV Feeder No. 2 (Tarana)
46	GUVNLI/VERDANT/19-20/5851	07-December-2019	33 KV Feeder No. 2 (Tarana)
47	GUVNLI/VERDANT/19-20/5853	18-December-2019	33 KV Feeder No. 2 (Tarana)
48	GUVNLI/VERDANT/19-20/5854	18-December-2019	33 KV Feeder No. 2 (Tarana)
49	GUVNLI/VERDANT/19-20/5855	18-December-2019	33 KV Feeder No. 2 (Tarana)
50	GUVNLI/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. The details of WEGs are provided below:

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.

Further, assessment team checked the Project Proponent and found that there is no change in PP. However, there is change in contact person from Ms. Shweta Singh to Mr. Chandresh Ohri. Same was verified from the Board Resolution copy and found correct. Further, during interviews with PP it was also confirmed that EKI Energy Services Limited is acting as project consultant.

Geo coordinates were checked on the google earth and also cross-checked with validation report and verification team concluded that the geo coordinates of project locations are consistent with registered VCS PD.

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 is raised for the inconsistency with respect to MR template guidelines and CAR 02 is raised for supporting evidences for No-Double counting and closed successfully after proper response of PP.

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 16-November-2022 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 2nd monitoring under VCS and covers the activity from 01-April-2021 to 31-March-2022 (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-2021 to 31-March-2022 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/}.

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 326,138 tCO₂e which is 10.4% 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.

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.

The project participants obtained all clearances from stakeholders hence no legal risks are anticipated.

(a) Socio-economic well-being:

- Project activity has generated direct and indirect employment for skilled and unskilled manpower during construction phase as well as during operational stage and thus helped in controlling migration from the region and alleviation of poverty.
- The project activity's contribution of power supply towards the Indian grid is helping in the upliftment of the social life of the people by ensuring a sustainable and reliable source of power for the region.
- The Project activity has improved the infrastructural facilities like water availability, road, and medical facilities etc. in the region.

(b) Environmental well-being:

- The project activity generates clean and green power thus causing negligible emissions of greenhouse gases. By building and operating the power project, much pollution is avoided. In the absence of the project activity, equivalent power would have been generated based on the fossil fuels resulting in more Green House Gas emissions into the atmosphere.
- The project activity has reduced the dependence on fossil fuels for power generation thus conserving the natural reserves. The project has led to greenhouse gas emission reduction and hence contributed in mitigating climate change.

(c) Technological well-being:

The project activity has increased awareness and interest among the private players to make investments in similar areas. The project activity envisages installation of high efficiency turbines and generators and the power will be transmitted at high voltage to ensure low losses. Moreover, the technology being used is well established, most updated and environmentally safe.

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 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 3.18.19 of VCS Standard, version 4.4 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 major grievance was received. However, some of the minor complaints of the stakeholders found genuine are addressed immediately. Details of the Some of the inputs about the project/grievances and their resolution dates are given below:

Sl. No	Date of Complaint	Site	Topic	Date of Resolution	Remark from PP
1	10-June-2021	Gujarat	Sitting Arrangement was not good	12-June-2021	Chairs were provided
2	24-November-2021	Gujarat	Request to repair RO at the primary school	25-November-2021	RO purifier was repaired

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

³ <https://cpcb.nic.in/openpdffile.php?id=TGF0ZXN0RmlsZS9MYXRlc3RfMTE4X0ZpbmFsX0RpcmVjdGlbnMucGRm>

Thus, assessment team is of the opinion that the ongoing stakeholder mechanism is adequate and appropriate. CAR 03 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 04 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 CO₂ emission factor of Indian grid is taken from Central Electricity Authority: CO₂ Emission Database CEA CO₂ Baseline database Version 14. 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 (tCO₂e) 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 CO₂ 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” (t CO₂/MWh) The calculation of baseline emissions is as below, $BE_y = 348,141.39 \text{ MWh} * 0.9368 \text{ tCO}_2/\text{MWh}$

=326,138 tCO_{2e} (round down values)

Monitored Parameters:

1. EG_y: Electricity supplied to GUVNL (MWh)

The project activity is connected to the feeders at Keshiya and Tarana wind farm site substation which are further connected to GETCO substations Dhrol and Jamdudhai. Net electricity generated is monitored at feeders at the substation with the help of main & check meters. The GETCO and PP representative takes the JMR every month and GETCO calculate the share of the PP. The procedures for metering is as per the power purchase agreement. The Share certificates (JMRs) are issued by GETCO every month which contains the net electricity delivered by the project activity. PP do not have role in the calculation of the net electricity. The verification team has checked the entire monthly JMR reports for net electricity generated & supplied to the grid and crosschecked same with the invoices raised by PP towards State Utilities for the monitoring period. All values are found correct. All the parameters are monitored and recorded as per the monitoring plan in the MR. Assessment team found 348,141.39 MWh value correct and inline with the JMR and invoices. Thus accepted.

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	Project emissions or	Leakage emissions (tCO _{2e})	Net GHG emission reductions or
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		removals (tCO ₂ e)	removals (tCO ₂ e)		removals (tCO ₂ e)
	2021 (From 01-April-2021 till 31-December-2021)	263,567	0	0	263,567
	2022 (From 01-January-2022 till 31-March-2022)	62,571	0	0	62,571
	Total	326,138	0	0	326,138
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 326,138 tCO₂e. The actual VCUs are 10.4% 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 bench march. Hence accepted.					

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 1 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.
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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 2nd verification (01-April-2021 to 31-March-2022) 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.

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-2021 to 31-March-2022 (inclusive of both days)

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

Year	Baseline emissions or removals (tCO2e)	Project emissions or removals (tCO2e)	Leakage emissions (tCO2e)	Net GHG emission reductions or removals (tCO2e)
2021 (From 01-April-2021 till 31-December-2021)	263,567	0	0	263,567

2022 (From 01-January- 2022 till 31-March- 2022)	62,571	0	0	62,571
Total	326,138	0	0	326,138

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_45622	14-October-2022	PP
3.	NA	The operational lifetime of the project activity from the manufacturer (Technical specifications)	Manufacturer technical specifications	PP
4.	NA	Registered VCS PD and validation report	https://registry.verra.org/app/projectDetail/VCS/2019	PP
5.	NA	Monitoring report Version 01 (Initial) Monitoring report Version 02 Monitoring report Version 03) Monitoring report Version 04	02-November-2022 19-December-2022 27-December-2022 21-February-2023	PP
6.	NA	Emission reduction sheet version 01 Emission reduction sheet version 02 Emission reduction sheet version 03(Final)	02-November-2022 27-December-2022 21-February-2023	PP
7.	PP	O & M Agreement	-	PP
8.	NA	Tools/ guidelines used in the project activity - VCS Program Definitions, version 4.3 - VCS standard Version 4.4 - VCS Program Guide 4.3 - VCS verification report template version 4.1		VERRA
9.	State Utility for share certificate s, PP for invoice	Share certificates and Invoices		PP
10.	PP	Declaration regarding no participation in other GHG program for the concerned monitoring period	16-November-2022	PP
11.	NA	Calibration details of the project activity undergoing verification	Calibration certificates	PP
12.	NA	Grievance Register maintained at site	-	PP

No.	Author	Title	References to the document	Provider
13.	UNFCCC	CDM validation and verification standard for project activities, Version 03.0	-	UNFCCC
14.	PP	Shutdown details for the Project Activity Maintenance log book	-	PP
15.	UNFCCC	CDM methodology ACM0002	version 19	UNFCCC
16.	NA	Technical datasheet for WTG		PP
17.	PP	Photographs of WTGs, Energy meters		PP
18.	PP	Power Purchase Agreement	-	PP
19.	VERRA	Previous verification reports	https://registry.VERRA.org/app/projectDetail/VCS/2019	VERRA

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.	NA	Date : 14-December-2022
Description of FAR				
Project registration documents were found not uploaded on the VERRA project webpage. PP submitted the final copies of approved VCS PD & validation report to the assessment team during verification and thus PP requested to upload the same on the VERRA project webpage.				
Project participant response				Date : 14-December-2022
VCS PD and Validation report have been uploaded.				
Documentation provided by project participant				
VCS PD and Validation report				
DOE assessment				Date: 23-December-2022
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 are not uploaded on the VERRA project webpage. Thus, FAR remains Open. The verifying VVB to check for the final validation report uploading.				

Table 2. CL from this verification

CL ID	01	Section no.	4.1	Date : 19-December-2022
Description of CL				
1. It was observed that there is change in the contact person of PP and change in other entity from the registered VCS PD however details about the same are not mentioned in section 3.1				
Project participant response				Date: 19-December-2022
1. New contact person's name of PP has been mentioned in section 3.1 of the revised MR V02.				
Documentation provided by project participant				
1. Revised MR V02.				
DOE assessment				Date: 23-December-2022
1. PP has mentioned the new contact person's name of PP and his contact details in Section 3.1 of the revised MR V 02 and the details of the same has been updated in table 1.3. Thus, CL is Closed.				

CL ID	02	Section no.	4.1	Date : 26-December-2022
Description of CL				
1. It was observed that a project description deviation was sought during previous monitoring period however details about the same are not mentioned in section 3.2 of the revised MR. Kindly Clarify.				
Project participant response				Date: 27-December-2022
Deviation for change in PP contact person's name has been mentioned in section 3.2 of the revised MR V03.				
Documentation provided by project participant				

Revised MR V03	
DOE assessment	Date: 27-December-2022
PP has added the details about the project description deviation sought during previous monitoring period in section 3.2 of the revised MR V03. Thus, CL is Closed.	

Table 3. CAR from this verification

CAR ID	01	Section no.	4.1	Date : 14-December-2022
Description of CAR				
During desk review, the following inconsistencies were observed:				
- Font size and format throughout the Monitoring report is not in line with the VCS Template Version 4.1, Thus, corrective action sought. - Title of ministry responsible for regulate SDG's indicators in India is not inline with ministry's official webpage. - PP requested to Update the table of content of monitoring report version 1 dated 02-November-2022. - PP requested to submit copies of O&M agreement, & Breakdown sheet of the project activity. Kindly submit. - In section 1.11 (Table 1: Sustainable Development Contributions) of MR value for Contributions Over Project Lifetime is not correct. - Title of the applied methodology in section 4.3 is incorrect.				
Project participant response				Date: 19-December-2022
- Font size and and format have been updated throughout the revised MR V02. - Title of ministry responsible for regulating SDG's indicators in India is inline with the ministry's official webpage in the revised MR V02. - Table of contents have been updated in the revised MR V02. - O&M Agreement, breakdown detail of the project activity have been submitted to the DOE. - In section 1.11 of the revised MR V02 the value for contribution over project lifetime is now updated. - Title of the methodology has been updated throughout the revised MR V02.				
Documentation provided by project participant				
- Revised MR V02 - Breakdown Detail - O&M Agreement				
DOE assessment				Date: 23-December-2022
- PP has updated the Font size and format throughout the revised MR V02. Thus, CAR is Closed. - PP has corrected the Title of ministry responsible for regulating SDG's indicators in India is inline with the ministry's official webpage in the revised MR V 02. Thus, CAR is Closed. - PP has updated the Table of contents in the revised MR V 02. Thus, CAR is Closed. - PP has submitted the O&M Agreement, breakdown detail of the project activity to the assessment team and same is found correct. Thus, CAR is Closed. - PP has updated the value for contribution over project lifetime in section 1.11 of the revised MR V02. Thus, CAR is Closed. - PP has updated the Title of the methodology throughout the revised MR V 02. Thus, CAR is Closed.				

CAR ID	02	Section no.	4.1	Date : 14-December-2022
Description of CAR				
PP requested to submit declaration letter regarding avoidance of double counting of emission reductions in the other GHG trading programmes and REC mechanism of India.				
Project participant response				Date: 19-December-2022

Double counting declaration has been submitted to the DOE.	
Documentation provided by project participant	
<i>Double Counting Declaration</i>	
DOE assessment	Date: 23-December-2022
PP has submitted the undertaking letter for no any double counting for current monitoring period dated 16-November-2022 and for project activity PP not claiming any ERs other than VCS verified by assessment team. Thus, CAR is closed.	

CAR ID	03	Section no.	4.2	Date : 14-December-2022
Description of CAR				
In Section 2.2, PP has mentioned about process of ongoing mechanism for communication with local stakeholder as per the requirement of Para 3.17.3 and 3.17.4 of the VCS standard V.4.3. However, to verify, PP is requested to provide the supporting for the same.				
Project participant response				Date: 19-December-2022
A copy of grievance register is being maintained at the site to keep a track of all ongoing communications and feedback from the local stakeholders. This copy has been submitted to the DOE.				
Documentation provided by project participant				
1. Copy of grievance register				
DOE assessment				Date: 23-December-2022
PP has submitted Grievance Registers of the all units of the project activity. Assessment team found no major grievances has been made by local stakeholders during current monitoring period. However, some of the minor complaints of the stakeholders found genuine are addressed immediately. Thus, accepted. CAR is closed.				

CAR ID	04	Section no.	4.4	Date : 14-December-2022
Description of CAR				
In section 5.4, the table mentions years in incorrect format.				
Project participant response				Date: 19-December-2022
The format of monitoring period in table 5.4 has been revised in the revised MR V02.				
Documentation provided by project participant				
Revised MR V02				
DOE assessment				Date: 23-December-2022
PP has revised the format of monitoring period in table 5.4 in the revised MR V02. Thus, CAR 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	PANKAJ	KUMAR	TQC-Outsourced entity	Yes	Yes	Yes	Yes
2.	Auditor	OR	DEEPAK	PUNDLIK	TQC-Outsourced entity	Yes	Yes	Yes	Yes

Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer (TR) / Technical Expert (TE)	EI	Meesa	Srikanth	Applus+ Certification
2.	Approver	IR	Calle de Miguel	Agustin	Applus+ Certification

Short CVs of the Team:

- Mr. Pankaj Kumar** has done M. Sc in Environment Management from Forest Research Institute, Dehradun and B. Sc. (Hons.) in Environment & Water Management from Magadh University, Bihar, India. He has also done Post Graduate Diploma in Environmental Law from NLSIU, Bangalore. He has more than 12 years of working experience in GHG Assessments and has participated during his career in Agencies and DOEs like MITCON, Agrinergy, Carbon Check and is empanelled with Applus+ Certification since 2015 for the performance of CDM/VCS/GS project assessments. He has extensive experience in the Renewable, Waste Management and Energy Demand Scopes of UNFCCC CDM and has done more than 100 Validations and Verifications of PAs and PoAs as Lead Auditor, Technical Expert and Technical Reviewer, mainly in Asia, Africa, USA, Asia Pacific and Americas under CDM, Verified Carbon Standard, Gold Standard & Social Carbon Standard, Brazil. He is an experienced, qualified and result oriented Environment and climate change professional having 16 yrs. of relevant experience in Climate Change (Mitigation & Adaptation), Environmental Due Diligence, Disaster Risk Reduction, Climate finance, adaptation planning, capacity building, validation and verification of GHG project. He can also provide technical support for environmental investigative, remedial projects involving air, water and soil, Waste management, EIA, Environmental Compliance, ISO 14001, OHSAS 18001, GHG accounting (ISO 14064) and

Carbon foot printing. Mr. Pankaj Kumar is based in Patna, India. Mr. Pankaj Kumar may participate as part of the Audit Team as Lead Auditor and Technical Expert for the assessment.

2. **Mr. Deepak Pundlik** has 15 years of experience in climate change, waste management and environmental management. After completing Masters in Environment Sciences from Pune university, He has worked in waste management field. As a GHG consultant, He handled more than 50 projects under renewable energy, waste management sectors during his stint with companies - MITCON and Thermax. Post Thermax, Deepak was involved in organic farming research project with Tata Institute of Social Sciences. As a GHG auditor, He has validated/verified projects under CDM/VCS/GS and GCC mechanisms from renewable energy, energy demand, waste management sectors handling more than 15 projects.
3. **Mr. Srikanth Meesa** is a climate change professional with more than 16 years of experience in the fields of climate change, GHG auditing, carbon footprint assessments, water and energy audits, scope-3 emissions, net zero strategies, sustainability & ESG sectors and water and wastewater treatment sectors. He has completed his masters in Environmental Engineering & Management from I.I.T Delhi and Bachelors in Civil Engineering from Osmania University. Furthermore, he has extensive experience i.e., more than 14 years on the auditing of CDM, VERRA, GS, JCM projects of various sectoral scopes across the world. He has worked with reputed certification bodies such as TUV NORD, DNVGL, TUV SUD and LR. He also has consulting experience on sustainability reports & road-maps, stakeholder consultation and LCA studies while working at Thinkstep (Now called Sphera). Currently, he is associated with Global Green Solution and empanelled with Applus+ Certification to carry out GHG audits in the aforementioned schemes. Mr. Srikanth Meesa is based at Hyderabad, India. Mr. Srikanth Meesa may participate review 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	Accuracy Class	Date of Calibration	Due Date of Calibration	Calibration Frequency	Calibration Compliance
GJ4187-A	Line-1 (Main)	0.2s	01-May-2019	30-April-2024	Once in 5 Years	Yes
GJ4287-A	Line-2 (Check)					

Jamdudhai GETCO SS

Meter Sl. No.	Meter Type	Accuracy Class	Date of Calibration	Due Date of Calibration	Calibration Frequency	Calibration Compliance
GJ4285-A ⁴	Line-1 (Main)	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-2 (Check)		01-May-2019	30-April-2024		

Tarana SS

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

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.

Keshiya SS

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