



**Verified Carbon
Standard**

21.8 MW WIND POWER PROJECT AT JANGI VANDHIYA, GUJARAT BY POWERICA LIMITED



Document Prepared By

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

Project Title	21.8 MW Wind Power Project at Jangi Vandhiya, Gujarat by Powerica Limited
Version	01
Report ID	A+SH_SYST_TQC_VCS_VER_12423

Report Title	21.8 MW Wind Power Project at Jangi Vandhiya, Gujarat by Powerica Limited
Client	Powerica Limited
Pages	36
Date of Issue	11-August-2023
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Summary:

Verification purpose: LGAI Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed^{2/} by “Powerica Limited” to perform the 5th verification (01-January-2022 to 31-December-2022) of the “21.8 MW Wind Power Project at Jangi Vandhiya, Gujarat by Powerica Limited” (VCS ID 1823)^{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 activities 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 and operation of a 11 Wind Turbine Generators (WTGs) with total capacity of 22 MW & located at Kutch district of Gujarat, India. The Project Activity was commissioned on 12-June-2014 (earliest phase of commissioning)^{01/}. The monitoring period for this VCS verification is 01-January-2022 to 31-December-2022 (including both days) and the project activity achieved 38,520 tCO₂e emission reductions during this monitoring period thereon displaced 39,508.66 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/}

A risk-based approach has been followed to perform this verification activity. In the course of verification, 03 Corrective Action requests (CAR), 04 Clarification Requests (CLs) were raised and successfully closed. No FAR was raised during this verification. 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.

¹ <https://registry.terra.org/app/projectDetail/VCS/1418>

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. (Aplus+ 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.

CONTENTS

1. Introduction	6
1.1 Objective	6
1.2 Scope and Criteria	6
1.3 Level of Assurance	7
1.4 Summary Description of the Project	7
2. Verification Process.....	7
2.1 Method and Criteria.....	7
2.2 Document Review	10
2.3 Interviews	10
2.4 Site Visits.....	11
2.5 Resolution of Findings	11
2.5.1 Forward Action Requests.....	12
2.6 Eligibility for Validation Activities	13
3. Validation Findings.....	13
3.1 Participation under Other GHG Programs	13
3.2 Methodology Deviations.....	13
3.3 Project Description Deviations.....	13
3.4 Grouped Project	14
4. Verification Findings.....	14
4.1 Project Implementation Status	14
4.2 Safeguards	19
4.2.1 No Net Harm	19
4.2.2 Local Stakeholder Consultation.....	20
4.3 AFOLU-Specific Safeguards	21
4.4 Accuracy of GHG Emission Reduction and Removal Calculations	21
4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals	24
4.6 Non-Permanence Risk Analysis.....	26
5. Verification OPINION.....	27
APPENDIX 1: Documents Reviewed or Referenced	28

APPENDIX 2: CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS AND FORWARD ACTION REQUESTS (CAR/CL/FAR)31

APPENDIX 3: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS.....35

APPENDIX 4: ABBREVIATIONS.....36

1. INTRODUCTION

1.1 Objective

LGAI Technological Center S.A. (Applus+ Certification) (Hereafter referred as Applus+ Certification) has been appointed by “Powerica Limited” to perform the 5th verification of the “21.8 MW Wind Power Project at Jangi Vandhiya, Gujarat by Powerica Limited” 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 15.0/^{15/}
- The project’s monitoring plan is assessed against “ACM0002, version 15.0/^{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 & CDM PDD^{/4/} and registered approved methodology ACM0002, version 15/^{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 15. 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 on-site visit (OSV to verify metering/monitoring arrangement. The verification team has reviewed all the documents like commissioning certificates^{/1/}, technical specification^{/16/}, O & M practices^{/7/}, /JMR as per Monthly Generation Report^{/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 physical site visit 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 15.0 and the VCS Standard Version 4.4.

1.4 Summary Description of the Project

The project activity is a Wind Power Project which involves installation of 11 Wind Turbine Generators (WTGs) with total capacity of 22 MW located at Kutch, District of Gujarat, India. The Project activity is promoted by Powerica Limited. The monitoring period of this VCS verification covered from 01-January-2022 to 31-December-2022 (inclusive of both dates) and the project activity achieved 38,520 tCO₂e emission reductions during this monitoring period. The start date of the Project Activity is 12-June-2014 as 1st WTG (Initial phase) was commissioned on this date. Assessment team checked the commissioning status of the project activity with the commissioning Certificates^{/01/} and found correct. The project is implemented as per the description in the registered VCS PD and CDM PDD^{/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 & CDM PDD/^{04/} and final validation report;
2. Follow-up interviews with project participant;
3. The resolution of outstanding issues and the issuance of the final verification report and opinion.

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

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

Appointment of the assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, Applus+ Certification has composed a project assessment team in compliance with the contract and Assessment Team appointment rules in the internal Quality Management System of Applus + Certification as well as in compliance with the applicable requirement in the Accreditation Standard.

The composition of the Assessment Team (Applus+ Certification team) has been approved by Applus + Certification during the Contract Review process ensuring that the required skills and capabilities are covered.

The qualification levels for Assessment Team members that are assigned by aforementioned appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A)
- Technical Expert (TE)
- Technical Reviewer (TR).
- Any of the above mentioned roles in training (iT,e.g.AiT for auditor in training).

The sectoral scope / technical area knowledge linked to the applied methodology(ies) is covered by the Assessment Team as shown below:

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Mr. Jitendra Mohan Singh	LA/TE	YES	YES	NA	YES

Name	Role	SS Coverage	TA Coverage	Financial aspect	Host country experience
Mr. Amit Rai	Ait/TEiT	YES	YES	NA	YES
Mr. Denny Xue	TR/TE	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 & CDM PDD/^{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.

Follow-up interviews

An on-site audit was conducted by LGAI Technological Center S.A. (Applus+ Certification) who performed interviews, in person conferences with project stakeholders to confirm selected information and to resolve issues identified in the document review. The detail pertaining to site visit is provided in this report in the below sections.

Resolution of Clarification and Corrective Action Request

The objective of this phase of the Verification was to resolve the requests for corrective actions and clarification and any other outstanding issues which need to be clarified for Applus+ Certification positive conclusion on the Monitoring report. The Corrective Action Requests and Clarification Requests raised by Applus+ Certification were resolved during communications between the Client and Applus+ Certification to guarantee the transparency of the verification process, the concerns raised and responses given are summarized below in the Appendix 2.

The final MR Version 02/05/ 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

During the physical site visit (OSV) , the project proponent representatives were questioned about the implementation of the project activity. Several topics like the verification of commissioning date of equipment's, generation records, and monitoring of the data and the error accountability were discussed. To cross check the information provided by PP, various documents like technical specifications^{/03/}, commissioning certificates^{/01/}, PPA/17/, Plant records^{/14/}, Energy Generation Record sheets^{/09/}, invoice^{/09/}, calibration certificates^{/11/} etc. were also verified. The assessment team visited the site on dated 06-July-2023. Project proponent representatives, O & M staff and local stakeholders were questioned. The table includes information on the interviewees from PP side. The names of the persons interviewed during on-site audit through in-person meeting is given below;

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Kumar	Praveen	Senior Engineer (Vestas Wind Technology India Limited)	06-July-2023	Project Implementation, JMR & invoicing procedure, calibration, grievance mechanism, GHG calculations, MR and ER preparation, Data collection, data storage, QA/QC Management practices, data storage, QA/QC	Mr. Jitendra Mohan Singh (LA & Technical Expert) Mr. Amit Rai (AiT & TEiT)
2.	Kumar	T. Arun	Assistant Manager (Powerica Limited)			
3.	Vankar	Ramji	Assistant Manager (Powerica Limited)			
4.	Gaiward	Subir	Engineer (OM Power)			

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
					Technical & Safety Trainings	
5.	Singh	Dinesh	Villager (Local Stakeholder)		Addressal process of grievance's and their compliances.	
6.	Rajgir	Praveer	Villager (Local Stakeholder)			

2.4 Site Visits

Duration of on-site inspection: 06-July-2023			
Activity performed on-site	Site location	Date	Team member
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.	Bhachau Taluka of Kutch District, Gujarat (India).	06-July-2023	Jitendra Mohan Singh (Lead Auditor) Mr, Amit Rai AiT/TEiT)

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 02/05/ 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.

A few discrepancies were found during the verification, indicated under the titles corrective action requests (CARs) and clarification requests (CLs). CARs and CLs require the PP to take relevant actions. Criteria for judging items as CAR or CL are as follows:

Corrective action request (CAR):

- the project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions
- the Voluntary Carbon Standard's requirements have not been met, or
- there is a risk that emission reductions cannot be monitored or calculated.

Clarification request (CL):

- Information is insufficient or not sufficiently clear to determine whether the applicable VCS requirements have been met.

FAR (Forward Action Request):

FARs is to be raised to highlight issues related to project implementation that require review during the first verification of the project activity. FARs does not relate to VCS requirements for registration.

CARs and CLs are to be resolved or closed out if the PP modifies the project description, rectifies the MR or provides adequate additional explanations or evidence that satisfies the concerns. If this is not completed, the project activity cannot be recommended for issuance under VCS registry.

The monitoring report was revised addressing the CARs & CLs issued by Applus+ Certification. After reviewing the revised and resubmitted MR^{/05/} resolving the CARs & CLs raised and outstanding concerns, Applus+ issues this final verification report and opinion.

04 CLs and 03 CARs were found during verification and closed satisfactorily. The list of CARs/CLs raised, and the response provided, the means of verification, reasons for their closure and references to correction in the MR are provided in appendix 2 of this report. No FAR has been raised during the current verification. The revised MR^{/05/} with changes incorporated as per the issues raised were rechecked with the documentary evidence and found to be inline.

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

2.5.1 Forward Action Requests

This is 5th verification of the project activity and no FAR was raised from Validation or previous Verification.

2.6 Eligibility for Validation Activities

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

3. VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project activity has also been registered under Clean Development Mechanism (UNFCCC Reference No 10042²). . 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 that project participant will not claim any credits of the current monitoring period in any other GHG programs..

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

This section is not applicable for present verification as no project description deviation sought during this verification (i.e. 01-January-2022 to 31-December-2022) However, in the previous monitoring period following deviations has been sought and validated by previous verification team.

- The parameter $EG_{LCS,y}$, representing summarized quantity of electricity generation recorded at LCS of each WTGs has been excluded from the monitoring table as same is not utilized in the calculation of emission reductions. This deviation has been taken during the verification period from 12-June-2014 to 30-September-2018. VVB confirms that the project description deviation doesn't impact the applicability of the methodology, additionality and baseline scenario of project. Thus, acceptable to VVB.
- The Calibration frequency for installed monitoring equipment has been revised to once in five years, consistent with CEA Metering Regulations³. This deviation has been taken

² <https://cdm.unfccc.int/Projects/DB/RWTUV1411994965.49/view>

³ <https://cea.nic.in/regulations-category/metering-regulations/?lang=en>

during the verification period from 01-January-2020 to 31-December- 2020. VVB confirms that the project description deviation doesn't impact the applicability of the methodology, additionality and baseline scenario of project. Thus, acceptable to VVB.

- Deviation refers to accept the accuracy class (0.5S) of energy meter's (installed at WTG's yard location), consistent with CEA Metering Regulations, 2019⁴. This deviation has also been taken during the verification period from 01-January-2020 to 31-December- 2020. VVB confirms that the project description deviation doesn't impact the applicability of the methodology, additionality and baseline scenario of project. Thus, acceptable to VVB.

3.4 Grouped Project

The project is not a grouped project. Thus, not applicable.

4. VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity is in operation stage as evidenced by the on-site inspection of the site. All the physical components and project boundary are in conformity with the description in registered VCS PD & CDM PDD/^{04/}. The capacity of project equipment's have been confirmed during the on-site visit (OSV), also through the technical specifications /^{03/} and found in-compliance with the registered VCS PD & CDM PDD/^{04/}. The project activity was commissioned on 12-June-2014 as per commissioning certificate/^{17/}.

On the basis of the On-site visit and the reviewed project documentation like the technical specification, single line diagram/^{16/}, Power Purchase agreement/^{17/}, commissioning certificates/^{01/}, calibration certificates of energy meters/^{01/}, and invoices/^{09/} etc. the verification team confirms that the project was implemented and operated as described in the registered VCS PD & CDM PDD/^{04/}. Further, the verification team confirms that-

- There is no any material discrepancy between project implementation and the project description in the registered VCS PD & CDM PDD.
- The monitoring plan is completely implemented and is suitable with actual monitoring system (i.e., process and schedule for obtaining, recording, compiling and analysing the monitored data and parameters)
- The project activity has also been registered under Clean Development Mechanism (UNFCCC Reference No 10042⁵). However, no credits have been issued under CDM as

⁴ <https://cea.nic.in/regulations-category/metering-regulations/?lang=en>

⁵ <https://cdm.unfccc.int/Projects/DB/RWTUV1411994965.49/view>

verified from the UNFCCC website. The project has not received or sought any other form of environmental credit since validation or previous verification.

Start date of the project is 12-June-2014 which is the date of commissioning of first WTGs (Initial phase) of project activity. Assessment team checked the commissioning certificate^{1/} and confirmed that the dates of Commissioning for the WTGs and SPV are correct. Assessment team also confirm during the on-site 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 & CDM PDD. The details of WTGs commissioning with different dates are incorporated below:

Sr. No.	WTG ID	Capacity (MW)	Commissioning Date
1	VWT/2000/14-15/3444	2	12-June-2014
2	VWT/2000/14-15/3447	2	12-June-2014
3	VWT/2000/14-15/3448	2	12-June-2014
4	VWT/2000/14-15/3449	2	12-June-2014
5	VWT/2000/14-15/3450	2	12-June-2014
6	VWT/2000/14-15/3445	2	14-June-2014
7	VWT/2000/14-15/3452	2	14-June-2014
8	VWT/2000/14-15/3451	2	14-June-2014
9	VWT/2000/14-15/3442	2	25-June-2014
10	VWT/2000/14-15/3443	2	25-June-2014
11	VWT/2000/14-15/3446	2	08-July-2014

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 (WTGs) installed at project site from documents submitted by PP at the time of desk review, previous verification

reports and during the on-site inspection. The same is cross checked from the technical details from Manufacturer.

Wind Power Project Technological Details:

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 & CDM PDD 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 & CDM PDD are available and implemented in an appropriate manner.

The technical details of the WTGs involved in the project activity are as below-

Parameters	Value
Make	Vestas
Model	V-100
Rated Power	2000 KW
Rotor diameter	100 m
Swept Area	7850 m ²
Cut in wind speed	3 m/s
Rated wind speed	12 m/s
Cut out wind speed	20 m/s
No. of blades	3
Rotor Speed	14.4 rpm
Hub Height	80 m
Generator Type	4-pole (50 Hz) doubly fed generator, slip rings

Gear Box	Type two planetary stages and one helical stage
Tower Type	tubular steel tower

The project activity is located at Village – Jangi, Lakhapar, Vadhiya, Lakhdhirdh and Godpar, Taluka – Bhachau, District - Kutch in the state of Gujarat (India). The geo-coordinates of each WTG are as follow:

Sr. No.	WTG No.	Village	Latitude	Longitude
1	JW04	Jangi	23° 12' 41.3" N	70° 34' 28.8" E
2	JW11	Jangi	23° 13' 05.5" N	70° 32' 15.6" E
3	VW33	Lakhapar	23° 12' 46.6" N	70° 38' 00.0" E
4	VW41	Vadhiya	23° 12' 18.3" N	70° 35' 59.7" E
5	VW50	Lakhdhirdh	23° 14' 52.2" N	70° 35' 41.2" E
6	VW52	Godpar	23° 13' 06.3" N	70° 36' 58.4" E
7	VW53	Lakhdhirdh	23° 14' 49.6" N	70° 34' 59.9" E
8	VW60	Lakhdhirdh	23° 14' 26.6" N	70° 35' 07.8" E
9	VW68	Lakhdhirdh	23° 15' 10.3" N	70° 35' 56.3" E
10	VW69	Vadhiya	23° 14' 23.1" N	70° 36' 26.9" E
11	VW72	Vadhiya	23° 14' 24.5" N	70° 37' 02.3" E

Geo coordinates were checked on the google earth and also cross-checked with VCS PD and CDM PDD and further, verification team concluded that the geo coordinates of project locations are consistent.

The organizational role and responsibility as mentioned in the registered VCS PD & CDM PDD is followed onsite confirmed during the physical audit conducted on 06-July-2023. All the emergency preparedness as mentioned in the registered VCS PD & CDM PDD is followed and no discrepancies were found regarding the same. Meters are calibrated as per calibration frequency in registered VCS registered monitoring plan^{4/}. Thus, 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 monitoring plan.

Assessment team confirms the following during the on-site audit of project activity:

1. Start date of the project activity is 12-June-2014 as mentioned in the registered VCS PD & CDM PDD^{4/}.
2. An undertaking letter dated 23-June-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/}. Further, Assessment team confirms that given project activity is not a supply chain project. Hence, Not applicable.
3. Assessment team confirms that, this is the 5th monitoring under VCS and covers the verification activity from 01-January-2022 to 31-December-2022 (inclusive of both dates). The project activity adopts fixed crediting period of 10 years period from 12-June-2014 to 11-June-2024.
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 checked the details of other entity mentioned in Section 1.4 of monitoring report and found correct.
6. Assessment team checked the details of the Audit history table mentioned in Section 1.1 of monitoring report and found correct.

Audit Type	Period	Program	VVB Name	Number of years
Validation	25-September-2014	VCS	LGAI Technological Center, S.A. (Applus+ Certification)	NA
Verification 1	12-June-2014 -- 30-September-2018	VCS	LGAI Technological Center, S.A. (Applus+ Certification)	4 years, 3 months and 19 days
Verification 2	01-October-2018 -- 31-December-2019	VCS	LGAI Technological Center, S.A. (Applus+ Certification)	1 year, 3 months
Verification 3	01-January-2020 -- 31-December-2020	VCS	KBS Certification Services Pvt.Ltd.	1 year
Verification 4	01-January-2021 -- 31-		LGAI Technological Center, S.A.	1 year

	December-2021	VCS	(Applus+ Certification)	
Verification 5 (Current Verification Period)	01-January-2022 -- 31-December-2022	VCS	LGAI Technological Center, S.A. (Applus+ Certification)	1 year
Total	5 verifications- (12-June-2014 – 31-December-2022)	VCS		Total verifications – 8 years, 6 months & 19 days

7. 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 38,520 tCO_{2e} which is 23.28% lower than the estimated emission reductions 50,207 tCO_{2e} (50,207 tCO_{2e}/365 days x 365 days) during this monitoring period which is due to the variable hours of wind at specific geographical location and other climatic conditions which are not under the control of project proponent. Therefore, accepted by the VVB.

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 confirmed during the onsite interview with local stakeholders. 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.

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 & CDM PDD 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 2013⁶ 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 notification⁷ 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 prior to the project registration at VERRA and same was validated by the validating VVB. Also verified during the current MP by the VVB with previous records and proceeding shared by the PP. Project Proponent had invited different stakeholders to a meeting to explain the proposed project activity and benefits associated with it on 10-January-2014. The stakeholders identified for the project activity by the project proponents are as follows:

- Local villagers
- Local Gram Panchayat Members
- Local School Staffs
- State Nodal Agency i.e. Gujarat Energy Development Agency (GEDA),
- Local contractors involved in the project
- Employees of Powerica Limited

The stakeholders were invited for the meeting through public notice on local paper dated 04-January-2014 and personal invitation, a week in advance of the meeting. A record of the people attending the meeting was maintained and all comments from the stakeholders received during the meeting were recorded and compiled in the minutes of meeting. The details are mentioned in Section 2.2 of MR.

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 & interviewed the local stakeholders 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.

⁶ <https://smarnet.niua.org/sites/default/files/resources/report-on-developmental-impacts-of-RE.pdf>

⁷ <https://cpcb.nic.in/openpdffile.php?id=TGF0ZXN0RmlsZS9MYXRlc3RfMTE4X0ZpbmFsX0RpcmVjdGlvbnMucGRm>

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 & CDM PDD/4/.
Findings	CAR – 03 was raised and closed successfully during the current monitoring period. Refer appendix 2 for more details.
Conclusion	<p>Baseline emission: The baseline Emissions for a given year is calculated by multiplying the energy baseline (EB) with the grid emission factor of the grid. Formula Used: - $BE_y = EG_{PJ,y} \times EF_{grid,CM,y}$ Where: BE_y = Baseline emissions in year y (tCO₂) $EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)</p> <p>$EF_{grid,CM,y}$ = 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” (Version 04.0.0) (tCO₂/MWh).</p> <p>The project activity is the installation of a new, grid connected renewable power plant (Greenfield project) with no renewable power plant operating prior to the implementation of the project activity. Hence, $EG_{PJ,y} = EG_{facility,y}$</p> <p>Where: $EG_{PJ,y}$ = 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)</p> <p>$EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)</p> <p>Therefore, $BE_y = EG_{facility,y} \times EF_{grid,CM,y}$</p> <p>Where, BE_y = Baseline Emissions (tCO₂/year) $EG_{facility,y}$ = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr) $EF_{grid,CM,y}$ = Baseline Emission Factor (Combined margin CO₂ emission factor for grid).</p>

Ex-ante fixed parameters:

The baseline emission factors are sourced from the registered VCS PD/CDM PDD. Combined margin CO₂ emission factor ($EF_{grid,CM,y}$) is 0.9750 tCO₂/MWh.

The calculation approach was in line with the registered VCS PD/CDM PDD.

Values of ex-ante parameters are as follows:

$EF_{grid,OM,y}$ = Calculated as per “Tool to calculate the emission factor for an electricity system, version 04.0.0” as 3-year generation weighted average using data for the years 2010-11, 2011-12 and 2012-13. The data are obtained from “CO₂ Baseline Database for Indian Power Sector” version 09, published by the Central Electricity Authority, Ministry of Power, Government of India.

The value 0.9776 is used for the calculation of the Baseline Emission and is found to be consistent with the registered VCS PD/CDM PDD.

$EF_{grid,BM,y}$ = The Build Margin emission factor is sourced from Central Electricity Authority: CO₂ Emission Database CEA CO₂ Baseline database Version 09, published by the Central Electricity Authority, Ministry of Power, Government of India. The value 0.9673 is used for the calculation of the Baseline Emission and is found to be consistent with the registered VCS PD/CDM PDD.

The combined margin emissions factor is calculated as follows:

$$EF_{grid,CM,y} = EF_{grid,OM,y} * WOM + EF_{grid,BM,y} * WBM$$

Where:

$EF_{grid,BM,y}$ = Build margin CO₂ emission factor in year y (tCO₂/MWh)

$EF_{grid,OM,y}$ = Operating margin CO₂ emission factor in year y (tCO₂/MWh)

WOM = Weighting of operating margin emissions factor (0.75)

WBM = Weighting of build margin emissions factor (0.25)

After calculation, the Combined Emission factor is obtained as 0.9750 tCO₂/MWh.

Monitored Parameter: As per registered VCS PD/CDM PDD, the following monitoring parameter is monitored:

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

The energy generated from the wind farm is measured by Tri-vector Main and Check Meter (bi-directional) installed at WTG yard as well as at substation. Joint meter readings (export and Import) are recorded at substation meter as well as Meter located at WTG yard by representative of Gujarat Electricity Transmission Company (GETCO) and PP representatives.

The Certificate for share of electricity generated by the wind is issued by GETCO. The certificate for share of electricity contains final value of quantity of net electricity generation supplied by the project. The details of Meters are as follows:

WTG ID	Meter Serial No.	Accuracy Class	Make
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JW04	GJU65932	0.5 S	L & T
JW11	GJU65931	0.5 S	L & T
VW33	GJU65934	0.5 S	L & T
VW41	GJU65678	0.5 S	L & T
VW50	GJU65933	0.5 S	L & T
VW52	GJU65935	0.5 S	L & T
VW53	GJU65930	0.5 S	L & T
VW60	GJU65936	0.5 S	L & T
VW68	GJU65937	0.5 S	L & T
VW69	GJU65684	0.5 S	L & T
VW72	GJU65685	0.5 S	L & T

The bulk meters located at the substation (Vandhiya, 220 kV substation)

Meter Sr. No.	GJ-2311 A	GJ-2363 A
Type	Tri-vector Meter	Tri-vector Meter
Make	L & T	L & T
Accuracy Class	0.2 S	0.2 S

The calibration frequency of meters is once in 5 years. The details of calibration of meters are provided in Section 4.5 of this report.

During the current monitoring period, quantity of net electricity generation supplied by the project is 39,508.66 MWh. The verification team has checked Certificate for share of electricity issued by GETCO^{/09/} and found that quantity net electricity generation supplied to the grid is correct. Quantity of net electricity generation supplied to the grid has also been cross verified with the monthly invoices^{/09/} issued by the PP and found consistent. Verification team has also cross check the Certificate for share of electricity by wind farm available on line at GETCO website.

The calculation of baseline emissions is as below,

$$BE_y = E_{\text{facility},y} \times EF_{\text{grid},CM,y}$$

$$= BE_y = 39,508.66 \text{ (MWh)} * 0.9750 \text{ (tCO}_2\text{/ MWh)}$$

$$BE_y = 38,520 \text{ tCO}_2\text{e (round down values)}$$

Project emissions: The project activity involves in harnessing wind power. Hence, in line with the applied methodology, project emissions are zero.

Leakage emissions: The project activity involves in harnessing wind power. Hence, in line with the applied methodology, leakage emissions are zero. Thus, Emission Reductions are:

	<p>The emission reductions (ER_y) by the Project activity during a given year y is the difference between baseline emissions (BE_y), project activity emissions (PE_y) and leakage, as follows</p> $ER_y = BE_y - PE_y - LE_y$ $= 38,520 \text{ tCO}_2\text{e} - 0 - 0$ $= 38,520 \text{ tCO}_2\text{e}$ <p>Verification team confirms that the monitoring has been carried out in accordance with the monitoring plan contained in the registered VCS PD^{4/}. And also, confirmed that the GHG emission reductions and removals have been quantified correctly in line with the registered VCS PD^{4/}.</p>
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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	No finding raised in this Section.																														
Conclusion	<p>The metering arrangement is bi-directional energy meters (main and check) at the State Electricity Board (SEB) substation as well as at WTG yard. These meters record several parameters including electricity exported & imported. The electricity meters located at the sub-station are being used by state electricity board (GETCO) for Share certificate statements. Assessment team found that Since metering arrangement, monitoring practice, accuracy class, calibration interval is under control of state electricity board, the PP does not have control over this process. However as per the State electricity guideline in the state of Gujarat, the Meter calibration frequency should be once in a 3 Year. As per registered VCS PD^{4/}, the Calibration frequency is once in a 3 year. However, PP had sought deviation in calibration frequency in line with host country guidelines which prescribes for calibration of meters once in 5 years. The same has been accepted during the previous verification. The calibration details of meters installed are as follows:</p> <p>Meter located at WTG yard:</p> <table border="1" data-bbox="496 1308 1393 1848"> <thead> <tr> <th>WTG ID</th> <th>Feeder Connection To</th> <th>Meter Serial No.</th> <th>Calibration Date</th> <th>Due Date of Calibration</th> </tr> </thead> <tbody> <tr> <td>JW04</td> <td>Feeder-1</td> <td>GJU65932</td> <td>23-March-2019</td> <td>22-March-2024</td> </tr> <tr> <td>JW11</td> <td>Feeder-11</td> <td>GJU65931</td> <td>23-March-2019</td> <td>22-March-2024</td> </tr> <tr> <td>VW33</td> <td>Feeder-03</td> <td>GJU65934</td> <td>23-March-2019</td> <td>22-March-2024</td> </tr> <tr> <td>VW41</td> <td>Feeder-05</td> <td>GJU65678</td> <td>23-March-2019</td> <td>22-March-2024</td> </tr> <tr> <td>VW50</td> <td>Feeder-06</td> <td>GJU65933</td> <td>23-March-2019</td> <td>22-March-2024</td> </tr> </tbody> </table>	WTG ID	Feeder Connection To	Meter Serial No.	Calibration Date	Due Date of Calibration	JW04	Feeder-1	GJU65932	23-March-2019	22-March-2024	JW11	Feeder-11	GJU65931	23-March-2019	22-March-2024	VW33	Feeder-03	GJU65934	23-March-2019	22-March-2024	VW41	Feeder-05	GJU65678	23-March-2019	22-March-2024	VW50	Feeder-06	GJU65933	23-March-2019	22-March-2024
WTG ID	Feeder Connection To	Meter Serial No.	Calibration Date	Due Date of Calibration																											
JW04	Feeder-1	GJU65932	23-March-2019	22-March-2024																											
JW11	Feeder-11	GJU65931	23-March-2019	22-March-2024																											
VW33	Feeder-03	GJU65934	23-March-2019	22-March-2024																											
VW41	Feeder-05	GJU65678	23-March-2019	22-March-2024																											
VW50	Feeder-06	GJU65933	23-March-2019	22-March-2024																											

VW52	Feeder-04	GJU65935	23-March-2019	22-March-2024
VW53	Feeder-06	GJU65930	23-March-2019	22-March-2024
VW60	Feeder-06	GJU65936	23-March-2019	22-March-2024
VW68	Feeder-06	GJU65937	23-March-2019	22-March-2024
VW69	Feeder-05	GJU65684	23-March-2019	22-March-2024
VW72	Feeder-03	GJU65685	23-March-2019	22-March-2024

Meter Located at sub-station:

Meter Sr. No.	GJ-2311 A	GJ-2363 A
Type	Tri-vector Meter	Tri-vector Meter
Make	L & T	L & T
Accuracy Class	0.2 S	0.2 S
Meter Location (Vandhiya 220 KV Substation)	Line-1	Line-2
Date of Calibration	15-October-2018	15- October-2018
Due date of calibration	14- October-2023	14- October-2023

The above electricity meters are being used for measurement of electricity export and import to grid and from grid by the project activity. These meters record several parameters including electricity exported & imported.

Assessment team confirms that all the energy meters (both main and check meter) installed at WTG yard and at the substation are of accuracy class of 0.5s and 0.2s,

All the meters are calibrated as per calibration frequency mentioned in monitoring plan i.e once in five year^{/11/}. The calibration of meters is carried out by Meter Testing Laboratory, Paschim Gujarat VIJ Company Ltd.^{/11/} which is a Govt. Agency for testing of meters thus acceptable to the assessment team. The Meter and testing division of Paschim Gujarat VIJ Company Ltd.is accredited by NABL (National Accreditation Board for Laboratory, Govt of India) to carry out the testing of the meters which is as per the national regulation and thus traceability of the Calibration is also confirmed by the assessment team.

It is reported that the data will be kept for 2 years following the end of the crediting period or till the last issuance of VCUs for the project activity whichever occurs later.

The responsibilities and authorities of project management, data handling and recording, measurement methods and QA/QC procedure have been systematically established and formalized and the same was verified during the on-site visit.

	<p>Further, during on-site visit and interview with site personnel also confirms that the operational and organizational chart as mentioned in registered VCS PD/CDM PDD is as per the site practice and thus assessment team confirms that the details are correct.</p> <p>The shutdown / break down reports^{14/} are checked and found that the plant undergone scheduled maintenance and break down. Assessment team checked the routine maintenance log book and confirmed that it does not have any impact on project design and monitoring procedures. No unforced error observed.</p> <p>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.</p>
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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 OPINION

Applus+ Certification has been engaged^{/02/} by Powerica Limited to perform the 5th verification 01-January-2022 to 31-December-2022 of the “21.8 MW Wind Power Project at Jangi Vandhiya, Gujarat by Powerica Limited”.

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 & CDM PDD^{/4/} and the applied methodology ACM0002, version 15.

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 & CDM PDD^{/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-January-2022 to 31-December-2022 (inclusive of both days)

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

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2022 (01-January-2022 - 31-December-2022)	38,520	0	0	38,520
Total	38,520	0	0	38,520

Year	Ex-ante emissions reductions /removals	Achieved emissions reductions /removals	Percent difference	Justification for the difference
Year 2022 (01-January-2022- 31-December -2022)	50,207 tCO ₂ e	38,520 tCO ₂ e	-23.28%	The actual VCUs achieved by project activity is 23.28% lower than estimated emission reductions. The is due to climatic factors affecting wind power generation and not in the control of project participants. Also, some major break down reported during the current monitoring period (Refer Appendix 2 of MR)
<i>Total</i>	50,207 tCO ₂ e	38,520 tCO ₂ e	-23.28%	A/A

APPENDIX 1: DOCUMENTS REVIEWED OR REFERENCED

No.	Author	Title	References to the document	Provider
1.	State Utility	Commissioning certificates of all WTGs & SPV.	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_12423	PP
3.	NA	The operational lifetime of the project activity from the manufacturer (Technical specifications)	Manufacturer technical specifications	PP
4.	NA	Registered VCS PD & CDM PDD and validation report.	https://registry.verra.org/app/projectDetail/VCS/1823	PP
5.	NA	Monitoring report Version 01 (Initial) Monitoring report Version 02 (Final)	15-May-2023 04-August- 2023	PP
6.	NA	Emission reduction sheet version 01 Emission reduction sheet version 02 (Final)	15-May-2023 04-August 2023	PP
7.	PP	O & M Agreement covering current monitoring period signed between Vestas Wind India Technology Limited and Powerica Limited	Covering monitoring period (01-Jan-2022 to 31-Dec-2022)	PP
8.	VCS Registry	Tools/ guidelines used in the project activity <ul style="list-style-type: none"> • VCS Program Definitions, version 4.3 • VCS standard Version 4.4 • VCS Program Guide 4.3 • VCS verification report template version 4.2 	-	VERRA
9.	State Utility for share certificates, PP for invoice	Monthly electricity share certificates/note or Credit Note or Joint Meter Reading Report	Covering monitoring period (01-Jan-2022 to 31-Dec-2022)	PP
10.	PP	Declaration regarding no participation in other GHG program	Covering monitoring period (01-Jan-2022 to	PP

No.	Author	Title	References to the document	Provider
			31-Dec-2022) by dated 23-June-2023.	
11.	GETCO	Calibration details of the project activity for undergoing verification	Calibration certificates	PP
12.	PP	Grievance Register maintained at site. (Minor Grievances raised and closed during the current verification observed under the furnished supportive)	Covering monitoring period (01-Jan-2022 to 31-Dec-2022)	PP
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 / Plant Records	Covering monitoring period (01-Jan-2022 to 31-Dec-2022)	PP
15.	UNFCCC	CDM methodology ACM0002	version 15	UNFCCC
16.	PP	Single Line Diagram		PP
17.	PP	Power Purchase Agreement (Signed between project proponent and GUVNL) dated: 10-June-2014	-	PP
18.	VERRA	Previous verification reports	https://registry.verra.org/app/projectDetail/VCS/1823	VERRA

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

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

FAR ID	xx	Section no.		Date: DD/MM/YYYY
Description of FAR				
N/A				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				
				Date: DD/MM/YYYY

Table 2. CL from this verification

CL ID	01	Section no.	1.4	Date: 20/07/2023
Description of CL				
Project Proponent to clarify and justify with the evidence: <ul style="list-style-type: none"> Under Section 1.1 of submitted Monitoring Report, there are total 08 verification numbers mentioned however details of 5 verifications has been incorporated under the table. 				
Project participant response				Date: 04/08/2023
The 'Total Verifications' in the audit history table (section 1.1) refers to the cumulative number of years of the total verifications done till now, i.e. till the current monitoring period. The actual count of verifications (5 in number) has already been mentioned in the adjacent cell of the "Total" cell of the same table.				
Documentation provided by project participant				
Revised MR (v.02), dated 04/08/2023				
DOE assessment				Date: 11/08/2023
Project proponent has clarified that 8 years 6 months & 19 days are cumulative number of years of verification which encapsulates 5 verifications (including the current verification period). Hence, acceptable to VVB.				
Hence, CL closed.				

CL ID	02	Section no.	4.2	Date: 20/07/2023
Description of CL				
Under Section 1.11 of submitted Monitoring Report <ul style="list-style-type: none"> Under section 1.11 of submitted monitoring report, PO shall cross check and encapsulate the details of Sustainable Development Contributions, consistent with VCS MR filling Instructions, Version 4.2.0. 				

Project participant response	Date: 04/08/2023
<i>The respective section has been updated according to the VCS MR filling instructions, v.4.2</i>	
Documentation provided by project participant	
<i>Revised MR (v.02), dated 04/08/2023</i>	
DOE assessment	Date: 11/08/2023
<i>Project Proponent has updated the 1.1 Section 1.11. "Sustainable development Contributions" in line with the requirement of instructions to fill the VCS MR template in revised MR</i>	
Hence, CL closed.	

CL ID	03	Section no.	4.2	Date: 20/07/2023
Description of CL				
<i>Under Section 1.11 of submitted Joint PD Monitoring Report, information encapsulated under table 1.1, "Contributions over project lifetime", PO shall cross check the incorporated details with estimated values with registered PDD and clarify. Further, PP shall also furnish the supportive to verify the project lifetime. And also, PO shall confirm if any national policy or regulations has been applicable for the claimed SDG (employment and income).</i>				
Project participant response				Date: 04/08/2023
<i>The incorporated details of the energy, employment and emission reductions generated over the entire project lifetime (including the current monitoring period) has been traced from the previous monitoring reports (registered documents).</i>				
<i>Also, the project's operational lifetime can be substantiated through the technical specifications of the wind turbine generators.</i>				
Documentation provided by project participant				
<ul style="list-style-type: none"> • Old MRs • Technical Specifications 				
DOE assessment				Date: 11/08/2023
<i>Justification provided by the project proponent has been accepted by the verification team which is found consistent with registered documents and furnished technical specifications of the Wind Turbine generator.</i>				
Hence, CL closed.				

CL ID	04	Section no.	4.1	Date: 20/07/2023
Description of CL				
<i>Under Section 4.2 of submitted Monitoring Report, with reference to site visit observation, there are set of two "Premier" make energy meters are installed in the substation for GETCO 220 KV line 1 and Line 2 (for Reactive Power reading). Therefore, PO shall clarify how the incorporated details are consistent with actual site monitoring of current project activity.</i>				
Project participant response				Date: 04/08/2023
<i>These two "Premier" make energy meters observed during the site observation, are actually used by Original Equipment Manufacturer (OEM) for reference purpose. The billing is still computed through the meters GJ-2311A and GJ-2363 A, as provided.</i>				
Documentation provided by project participant				
<i>Revised MR (v.02), dated 04/08/2023</i>				

DOE assessment	Date: 11/08/2023
Justification provided by the project proponent is observed to be acceptable and found billing meter's details consistent with on-site visit pictures/snaps and from previous registered documents. (Previous Verifications). Hence, CL closed.	

Table 3. CAR from this verification

CAR ID	01	Section no.	Template	Date: 20/07/2023
Description of CAR				
Under cover page & template of submitted Monitoring Report, <ul style="list-style-type: none"> With reference to template filling instructions for Monitoring Report v4.2, PP shall cross check the table & paragraph format and revise the same throughout the report. 				
Project participant response				Date: 04/08/2023
The respective corrections have now been made.				
Documentation provided by project participant				
Revised MR (v.02), dated 04/08/2023				
DOE assessment				Date: 11/08/2023
Project proponent has now updated the table and paragraph under the cover page and throughout the revised monitoring report version.02. dated 04-August-2023. Hence, CAR closed.				

CAR ID	02	Section no.	4.1	Date: 20/07/2023
Description of CAR				
Under section 4.2 of submitted Monitoring Report, PP shall mention the feeder number on which these WTG's are connected at Substation where billing meters are also installed.				
Project participant response				Date: 04/08/2023
The feeder details of the WTGs have now been provided.				
Documentation provided by project participant				
Revised MR (v.02), dated 04/08/2023				
DOE assessment				Date: 11/08/2023
Under the revised monitoring report, project proponent has incorporated feeder number details on which project WTGs are connected, demonstrated under the Appendix 1 of monitoring report. Hence, CAR closed.				

CAR ID	03	Section no.	4.4	Date: 20/07/2023
Description of CAR				
Under section 5.1 of submitted Monitoring Report, PP shall incorporate the following: <ul style="list-style-type: none"> PP shall incorporate the para reference & applied methodology and their applicable version name along with referred equation for Baseline Emission Reductions (BEy). PP shall incorporate the para and applied methodology & version name for the equality condition for $EG_{PJ,y}$ & $EG_{facility,y}$. Further, PO Shall furnish the Share Certificate given GETCO and associated invoices for cross verification.				
Project participant response				Date: 04/08/2023

<p><i>The requisite changes regarding the applied methodology, the applicable version and the paragraph/equation reference has now been added.</i></p> <p><i>Moreover, the required Share Certificates as well as the invoices for the current monitoring period has been submitted herewith.</i></p>	
<p>Documentation provided by project participant</p>	
<p><i>Revised MR (v.02), dated 04/08/2023</i></p>	
<p>DOE assessment</p>	<p>Date: 11/08/2023</p>
<p><i>Project Proponent incorporated the para reference and applicable version number of ACM0002, Version 20.0. in Section 5.1 of revised MR which is found correct.</i></p> <p>Hence, CAR closed.</p>	

Table 4. FAR from this verification

FAR ID	xx	Section No.	Date: DD/MM/YYYY
Description of FAR			
N/A			
Project participant response			Date: DD/MM/YYYY
Documentation provided by project participant			
DOE assessment			Date: DD/MM/YYYY

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	Singh	Jitendra Mohan	TQC-Outsourced entity	Yes	Yes	Yes	Yes
2	Amit Rai	OR	Rai	Amit	TQC-Outsourced entity	Yes	Yes	Yes	Yes

Technical reviewer and approver of the verification and certification report

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

Short CVs of the Team:

- Mr. Jitendra Mohan Singh** has done Advanced MSc in Sustainable Energy Systems and Management from International Institute of Management, University of Flensburg, Germany and B.Tech. in Agricultural Engineering from Allahabad University, India. He has more than (18) years of working experience in different organizations like IARI, IIT Delhi, ICAR, IRADe, CAPART, SME Cand Perenia Carbon and M B Power (Madhya Pradesh) Ltd. in the area of Agriculture, Energy & Environment and Climate Change. He also worked on contract basis (adhoc) as a RIT expert in UNFCCC from 2010 to 2013. Currently, he is empanelled with Applus+ Certification since 2020 has been involved Verifications of PAs as Lead Auditor and Technical Expert for Renewable and non-Renewable as well as Energy Demand.
- Mr. Denny Xue** (Master's Degree in Thermal Energy Engineering, Bachelor's Degree in Environmental Engineering) is an Auditor appointed by Applus+ LGAI for the GHG project assessment, auditing and technical review. He has more than 6 years of work experience in CDM/GS4GG/VCS project assessment and review with Applus+, apart from the years of experience working as GHG Auditor and ISO 9001/14001 in TUV SUD for 3.5 years before he

joined Applus+. Mr. Denny Xue has extensive experience also as former Applus+ Shanghai CDM Technical Manager.

3. **Mr Amit Rai** has done Bachelor of Technology in Electrical & Electronics Engineering from Dr. A.P.J. Abdul Kalam Technical University, India and Government Certified Competency Class – I, Electrical Supervisor from Government of National Capital Territory of Delhi, India. He has more than (6) years of working experience in different organizations like Sunrator Technologies, Sun Source Energy Private Ltd. (SHV Energy Group, Singapore) & KBS Certification Services Private Ltd. (UNFCCC's – DOE), In the area of Renewable Project Management, Execution, Designing & Climate Change Services. Currently, he is associated with applus+.

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
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)
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