

**GOLD STANDARD FOR THE GLOBAL GOALS (GS4GG)
REPORT
-
VERIFICATION**



Project Title:	50.6 MW Wind Power Project at Umralli, Gujarat by Powerica Limited
Monitoring Period:	01/09/2021 to 31/12/2022 (Both days included)
GS project ID:	GS 7620
Internal ID:	14823
Customer:	EKI Energy Services Limited (PP: Powerica Limited)
Date:	09/02/2024
Revision:	03

SUMMARY			
Reference No.	Date (first version)	Version No.	Date (last version)
A+SH_SYST_TQC_ 14823	31/08/2023	03	09/02/2024
GS4GG Verification			
GS4GG Certified Product (sought):		GHG Emission Reductions	
GS4GG SDG Impact Statement-		Impact Certification	
General Information			
Client	Powerica Limited		
Project Title	50.6 MW Wind Power Project at Umrali, Gujarat by Powerica Limited		
Project Participants	Powerica Limited		
Project Location	The project is located at Ambliyara, Betavad, Umrali, Trakuda and Padlava villages of Rajkot district of Gujarat state in India		
Contact Person	Mr. Pradeep Gupta		
Monitoring Period:	01/09/2021 to 31/12/2022 (Both days included)		
GS4GG Version: GS4GG Principles and Requirements 1.2 GS4GG Activity Requirements: RE Activity Requirements 1.4 Applied Methodology Version: ACM0002 "Grid-connected electricity generation from renewable sources" Version 20.0 ^{4/} Current Methodology Version: ACM0002 "Grid-connected electricity generation from renewable sources" Version 21.0		GS4GG Sectoral Scope: 2 UNFCCC CDM Sectoral Scope: 1 Technical Area: 1.2	
Monitoring Report Version: 01 ^{1/} Date: 30/06/2023		Final Monitoring Report Version: 04 ^{1/} Date: 08/02/2024	
Certified Project Design Document Version: 04 Date:25/08/2022 ^{3/} GS Passport Version (if applicable): NA			
Estimated SDG Goals for this monitoring period: SDG 7: 215,853.1 MWh SDG 8: 1 training : 10 employees SDG 13: 201,735 tCO ₂ e			
Actual SDG Goals achieved during current monitoring period: SDG 7: 198,390.36 MWh for this Monitoring Period SDG 8: 6 training : 44 employees (2021 & 2022) SDG 13: 185,410 tCO ₂ e for this Monitoring Period			
Selected Sustainable Development Goals (SDGs): 7, 8 and 13			
Verification Summary			
LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Powerica Limited to perform the 2 nd verification of "50.6 MW Wind Power Project at Umrali, Gujarat by			

SUMMARY

Powerica Limited¹ (Ref. No. 7620¹) applying the methodology ACM0002 version 20.0.

The management of Powerica Limited is responsible for the preparation of the GHG emissions data and the reported GHG emission reductions.

A desk review and an interviews have been conducted to verify the data submitted in the monitoring report. Applus+ Certification confirms the following have been reviewed:

- a. The GS4GG registered PDD including the monitoring plan;
- b. Monitoring report(s);
- c. The applied monitoring methodology;
- d. Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
- e. GS4GG guideline and related Annex.
- f. All information and references relevant to the project activity's resulting in emission reductions.

The project activity is a 51.3² MW wind energy project, promoted by Powerica Limited. The purpose of the project activity is to generate clean electricity with utilization of wind energy. The project activity includes implementation and operation of 51.3 MW wind energy electricity generation from 19 GE made WTGs each with capacity 2.7 MW., in the state of Gujarat in India.

The electricity generated by the project is exported to the Indian grid. The project activity therefore displaces an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid and there by reduces the associated CO₂ emissions.

Applus+ Certification confirms that the project is implemented in accordance with the validated and registered PDD^{3/}. The monitoring plan complies with the applied methodology ACM0002 version 20.0^{4/} and the GS4GG guideline the monitoring has been carried out in accordance with the monitoring plan. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information reviewed and evaluated Applus+ Certification confirms that the implementation of the project has resulted in 185,410 tCO₂e emission reductions during period 01/09/2021 to 31/12/2022 (Both days included)

During the current verification assessment team raised total 04 CARs, 04 CLs and 00 FARs. All the findings were successfully closed. Detailed assessment and closure is included in the Annex 01 of the report.

¹<https://registry.goldstandard.org/projects/details/2261>

² As per the PPA signed between Powerica Limited (PP) and Gujarat Urja Vikas Nigam Limited (local electricity transmission utility), the installed capacity is 50.6 MW; however, 5% variation is allowed in PPA in terms of capacity and the installed capacity 51.3 MW is within that 5% limit.

ASSESSMENT TEAM		
Team Members	Type of Resource ³	Organization (for OEs)
Lead Auditor: Mr. Pankaj Kumar	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Auditor: NA	☐ IR ☐ EI ☐ OE	NA
Technical Expert: Mr. Pankaj Kumar	☐ IR ☐ EI ☒ OE	M/s True Quality Certifications Private Limited
Technical Reviewer: Mr. David Lubanga	☐ IR ☒ EI ☐ OE	Applus+ Certification

Note: In line with the [GS Rule Update RU 2020 PR – PR V1.2 dated on 02/04/2020](#), The VVB hereby discloses that the different team under VVB (Applus Certification) i.e., Team Leader : Mr. Atul Takarkhedehas and Technical reviewer as Mr. Simon Shen performed validation assessment of this project according to the aforementioned requirement.

³ IR (Internal Resource); EI (External Individual); OE (Outsourced Entity)

ABBREVIATIONS	
ACM	Approved Consolidated Methodology
Applus+ LGAI / Applus+	LGAI Technological Center, S.A. (Applus+ Certification)
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CL / CR	Clarification Request
CM	Combined Margin
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
DNA	Designated National Authority
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
GS4GG (or GS)	Gold Standard for Global Goals
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-Governmental Organization
SDG	Sustainable Development Goal
TAC	Gold Standard Technical Advisory Committee
OM	Operational Margin
PDD	Project Design Document
PP	Project Participant
UNFCCC	United Nations Framework Convention for Climate Change
VVB	Validation and Verification Body
VVS	Validation and Verification Standard

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Appendix 1: Corrective Action Request / Clarification Request / Forward Action Request resolution table.

Appendix 2: Calibration details of monitoring meters.

Appendix 3: Audit Team CVs.

1. INTRODUCTION

1.1 Objective

LGAI Technological Center, S.A. (hereafter referred to as Applus+ Certification) has been contracted by Powerica Limited to perform the 2nd verification of "50.6 MW Wind Power Project at Umralli, Gujarat by Powerica Limited" applying the methodology ACM0002 version 20.0 and GS4GG guideline^{/6/}. Gold Standard projects must undergo periodic audits and verification of emission reductions as the basis for issuance of Gold Standard VERs.

The objective of the verification work is to assess the compliance with the requirements of paragraph 62 of the CDM Modalities and Procedures as well as the GS4GG guidelines and relevant Principles and Requirements. According to this assessment Applus+ Certification shall:

- Ensure that the project activity has been implemented and operated as per the registered GS PDD^{/3/} for registration and that all physical features (technology, project equipment, monitoring and metering equipment) of the project are in place;
- Ensure that the published MR and other supporting documents provided are complete, verifiable and in accordance with applicable CDM VVS version 03.0^{/5/} for the project activities and Gold Standard Validation and Verification Standard Version 01^{/5/} (i. e. applicable GS4GG requirements);
- Ensure that the actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology;
- Evaluate the data recorded and stored as per the ACM0002 version 20.0.

1.2 Scope

The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the DOE. The verification is based on the submitted monitoring report, registered GS PDD, the applied monitoring methodology, relevant decisions, clarifications and guidance from the CMP and the EB, GS4GG guideline and any other information and references relevant to the project activity's resulting emission reductions. These documents are reviewed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures, GS4GG guideline and relevant Principles and Requirements, as well as their related rules and guidance.

Based on the requirements in the CDM VVS version 03.0^{/5/} for the project activities as well as the GS4GG guidelines, Applus+ Certification has applied a rule-based approach for the verification of the project. The principles of accuracy, completeness, relevance, reliability and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion.

The verification considers both quantitative and qualitative information on emission reductions. The verification also considers the monitoring of SDG goals as per the requirement of GS4GG guideline.

The verification is not meant to provide any consultancy towards the client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the monitoring activities.

1.3 Description of the project activity

The project activity is a 51.3 MW Wind Energy Project, promoted by Powerica Limited. The purpose of the project activity is to generate clean electricity with utilization of wind energy. The project activity includes implementation and operation of 51.3 MW wind energy electricity generation from 19 GE made WTGs each with capacity 2.7 MW.

The electricity generated by the project is exported to the Indian grid. The project activity therefore displaces an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid and there by reduces the associated CO₂ emissions.

Assessment team checked the technical specifications^{17/} from the manufacturer manual and the details are as below. Assessment team also confirm that the details are same as mentioned in the registered PDD^{3/}.

Technical Description:

The technical specification^{17/} of the GE 2.7-132-50 model of WTGs are as follows:

Particulars	Details
WTG Make	GE
Model no.	2.7-132-50 Hz
Operational Data	
Rated Power	2,700 KW
Cut-in-wind speed	3.0 m/s
Cut-out wind speed	20.0 m/s
Rotor	
Rotor Diameter	132 m
Swept Area	13,684 m ²
Electrical	
Generator Type	Doubly-fed induction type
Gear Box	
Type	Multi-stage planetary/helical gear design
Tower	
Hub Height	130 m

2. METHODOLOGY

Applus+ Certification approach to the verification is a two-stage process. In the 1st stage, Applus+ Certification completed a strategic review and risk assessment of the project's activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;

- Means of verifying reported data; and
- Compilation of the monitoring report.

Applus+ Certification used a periodical Verification Checklist which, based on the risk-based assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

In the 2nd stage, using the Verification Checklist, Applus+ Certification verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question. This involved a interview and a desk review of the Monitoring Report. This Verification Report describes the findings of this assessment.

2.1 Appointment of the assessment team

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

The composition of audit team shall be approved by the LGAI Technological Center, S.A. (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. David Lubanga	TR	YES	YES	NA	NA

The complete list of CVs is included as Appendix 3 of this report.

2.2 Document review

The Monitoring Report version 01 was submitted to VVB before the verification activities started. The MR was assessed based on all the relevant documents. The aim of the assessment in the desk review was to:

- Verify the completeness of the data and the information presented in the MR;
- Check the compliance of the MR with respect to the monitoring plan depicted in the registered GS PDD and verify that the applied methodology was carried out. Particular attention to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures of the power plant was checked by the assessment team.
- Evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.
- Please check reference 4 of this report for detail of the documents checked.

2.3 On site assessment and follow up interviews

A site visit was conducted on 27/10/2021 for the first verification. As per GS4GG guidelines, physical site visit is mandatory after three years from the date of previous physical site visit. Current monitoring period is from 01/09/2021 to 31/12/2022. Considering shorter monitoring period, VVB has decided to conduct interview instead of physical site visit to avoid additional financial implications. Verification team has used the following alternative means for its assessment and to justify that they are sufficient for the purpose of verification of the PA. Along with desk review, audit team has conducted audit interview corresponding to the PA as follows:

A complete desk review of the MR and supportive evidences have been checked by the verification team.

- Verification team has performed MS teams interview with PP in order to check implementation, current situation, evaluation of data management, QA/QC system, project technology, training provided, monitoring, calibration etc. Interview questions were filled as per Verification team interview checklist. Cross checks between information provided by interviewed personnel (i.e. by checking sources) to ensure that no relevant information has been omitted.
- Verification team has performed interview with randomly selected Local stakeholders to check the monitoring of GS sustainable parameters like employment and training, environmental and other relevant issues.
- Cross-check evaluation, for information received from interviews, under the scope of all information and references provided in the MR and supporting documents.

Details of interviewees, topics covered and additional information presented below

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1	Gupta	Mr. Pradeep	PP representative	21/07/2023 (MS teams interview)	Project implementation, Baseline emissions, ER calculations, Sustainable monitoring etc.	Mr. Pankaj Kumar
2	Gupta	Mr. Abhishek	PP Representative	21/07/2023	Stakeholder meeting- Employment opportunities, Standard of Livings etc.	
3	Kumar	Ratan	Local stakeholder	21/07/2023	Stakeholder meeting- Employment opportunities, Standard of Livings etc.	
4	Solanki	Ajay	Local Stakeholder	21/07/2023	Stakeholder meeting- Employment opportunities, Standard of Livings etc.	
5	Shah	Jignesh	Local Stakeholder	21/07/2023	Stakeholder meeting- Employment opportunities, Standard of Livings etc.	
6	Jain	Anima	Consultant, EKI Engergy Services Ltd.	21/07/2023	Project implementation, Baseline emissions, ER calculations, Sustainable	

					monitoring etc.	
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The objective of the Interview is to:

- Confirm the implementation and operation of the project;
- Review the data flow for generating, aggregating and reporting the monitoring parameters;
- Confirm the correct implementation of procedures for operations and data collection;
- Cross-check the information provided in the MR documentation with other sources;
- Check the monitoring equipment against the requirements of the PDD, GS PDD and the approved methodology, including calibrations, maintenance, etc.;
- Review the calculations and assumptions used to obtain the GHG data and ER;
- Identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.
- Confirm the SDG goals/ Sustainable monitoring parameter as per the registered GS PDD
- To understand grievance (if any) from the villagers during the monitoring period.
- Local stakeholder meeting details:

Name of the stakeholder	Ajay Solanki
Occupation	Farmer
VVB QUESTION: Did PP promised employment opportunity? Answer: Yes, employment is generated and the locals are given priority. Assessment team noted that locals were employed for the project activity for the current monitoring period. VVB also like to conclude that the visual inspection during the interview it was observed that local people were employed for security and operation related work like water spraying, vegetation improvement and other unskilled work. VVB also found that skilled local persons were also employed by the organization for the operation and maintenance of the power plant.	

Name of the stakeholder	Jignesh Shah
Occupation	Villager
VVB questions: Did the power plant discharge any harmful pollutants? Answer: NO, the plant does not discharge any harmful pollutants. VVB questions: Did the power plant destroy any crop fields? Answer: The plant is implemented in barren land and there were no any fertile land or crop which is damaged.	

2.4 Quality of evidences

Sufficient evidence covering the full verification period in the required frequency is available to verify the figures stated in the final MR Version 04. Specific cross-checks have been done in cases that further sources were available. The monitoring report's figures were checked by the assessment team against the raw data. The data collection system meets the requirements of the monitoring plan as per the methodology.

2.5 Reporting of findings

As an outcome of the verification process, the assessment team can raise different types of findings.

Where a non-conformance arises the assessment team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

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

The assessment team shall raise a Clarification Request (CR) if information is insufficient or not clear enough to determine whether the applicable CDM/GS requirements have been met.

All CARs /CRs/ FARs raised during verification shall be resolved prior to submitting a request for issuance.

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period.

Please refer Appendix 1 of this report. Total numbers of CARs: 04, CLs: 04, FARs: 00.

2.6 Internal Quality Control

As a final step of verification, the final documentation including the verification report has to undergo an internal quality control by the Technical Reviewer. Each report has to be finally approved either by the VVB's Technical Manager or the Deputy. This approval process also includes another quality assurance check in terms of Administrative Review. In case one of these two persons is part of the assessment team, the final approval can only be given by the person who is not a part of the assessment team. If the documents have been satisfactorily approved, the Request for Issuance is submitted to the GS Registry along with the relevant documents.

3. VERIFICATION FINDINGS

3.1 FARs from Validation / Previous Verification

This is 2nd verification for the project activity and no FAR is envisaged from validation and latest previous verification.

3.2 Project Implementation in accordance with the registered Project Design Document

The project activity was fully implemented according to the description presented in the GS4GG PDD. The assessment team confirms, through the visual inspection during the interview that all physical features of the proposed project activity including data collecting systems and storage have been implemented in accordance with the validated PDD.

The technical features of the equipment's have been verified by the assessment team through the visual inspection during the interview by checking nameplate of Wind turbines and also cross checked with manufacturer's technical manual.

Assessment team checked the relevant dates i.e. Commissioning dates for the project activity and found the same to be appropriate. The actual date of Commissioning is mentioned in the below table. The details are as below:

Number of WTGs	Total Capacity (MW)	Date of commissioning
7	18.9	06/10/2020
3	8.1	07/10/2020
9	24.3	06/11/2020

The project activity was in normal operational during the monitoring period and the same has been confirmed through the visual inspection during the interview. No unusual activates observed during the monitoring period and plant was undergone scheduled maintenance as per the recommendation of the manufactures. The project has observed scheduled shutdown and few forced breakdowns and the same is confirmed by the assessment team with the plant log details.

The verification team has reviewed the commissioning certificates^{/11/} to conclude that the capacity of the project is same as mentioned in the GS4GG PDD. The capacity of the project activity does not change after the registration of the project activity. The commission certificates^{/11/} were issued by "Govt agencies" which is a third-party government firm and thus the commissioning dates are acceptable to the assessment team.

Also, during the interview, it was observed that the rated capacity of the Wind project is 51.3 MW. As the capacity of the project is more than type I limit of small-scale project activity, VVB confirms that the project is large scale project activity.

Assessment team also checked the locations of the project activity with Google Map. The location as mentioned in the GS4GG and monitoring report version 03 is thus correct. The detail location of the project activity is as below.

Geographical coordinates of the all WTGs are given below:

S.No.	Location No.	Village Name	Taluka	Geo Co-ordinates
1	TKD-01	Trakuda	Gondal	21°58'34.9"N 70°38'49.7"E
2	TKD-02	Trakuda	Gondal	21°58'07.7"N 70°38'38.2"E
3	TKD-04	Trakuda	Gondal	21°57'56.6"N 70°37'03.8"E
4	AMB-01	Ambaliyala	Kotda Sangani	22°02'02.5"N 70°37'06.0"E
5	AMB-03	Ambaliyala	Kotda Sangani	22°02'33.2"N 70°37'02.4"E
6	AMB-05	Ambaliyala	Kotda Sangani	22°02'46.7"N 70°36'43.4"E
7	AMB-07	Ambaliyala	Kotda Sangani	22°02'52.3"N 70°37'42.6"E

8	AMB-06	Ambaliyala	Kotda Sangani	22°02'50.5"N 70°37'12.3"E
9	AMB-08	Ambaliyala	Kotda Sangani	22°03'28.2"N 70°37'47.2"E
10	BTV-02	Betavad	Gondal	22°00'41.2"N 70°37'16.9"E
11	BTV-06	Betavad	Gondal	22°01'38.2"N 70°36'43.8"E
12	BTV-05	Betavad	Gondal	22°01'38.8"N 70°37'11.9"E
13	CPD-01	Champabeda	Kotda Sangani	22°05'42.4"N 70°35'50.5"E
14	CPD-03	Champabeda	Kotda Sangani	22°06'20.7"N 70°35'59.1"E
15	NGH-01	Noghanchora	Kotda Sangani	22°05'22.5"N 70°34'31.6"E
16	NGH-02	Noghanchora	Kotda Sangani	22°05'29.0"N 70°34'12.1"E
17	TDI-01	Thordi	Kotda Sangani	22°06'16.3"N 70°38'30.1"E
18	TDI-02	Thordi	Kotda Sangani	22°06'16.2"N 70°38'00.2"E
19	TDI-04	Thordi	Kotda Sangani	22°04'43.5"N 70°38'24.0"E

The grid structure as mentioned in the PDD is still applicable for the project and ex-ante emission factor as proposed in the PDD is used for emission reduction calculation.

Moreover, there were no changes in host country regulations which may impact either baseline or additionality of the project. Thus, assessment team confirms that the project is implemented as per the registered GS PDD and no change in additionality/baseline is envisaged for the present monitoring period.

Materiality adopted in Verification:

Consideration of materiality in planning the verification

No.	Risk that would lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk levels	Justification	
1	Human errors: Readings from Meters (if not automatic)	LOW	Human error is likely to occur if the monitoring	All the personal are well trained to monitor and collect data and thus risk associated with Human error is

			personnel are not trained well or inexperienced in data recording procedures and monitoring processes.	minimized. Assessment team checked the training records to confirm that all the personal are well trained to handle the activities related to monitoring. Assessment team checked the training records for the complete monitoring period and confirm that the personal are well trained to monitor and collect data for the project activity.
2	Human error: Quantification of emission reduction	LOW	Use of spread sheets without adequate data control, changes/updates, version tracking, traceability and security	All the energy statement i.e JMR sheets and the invoices for the complete monitoring period are checked and thus the assessment team confirms that the ER value is conservative and correct.

Consideration of materiality in conducting the verification

In line with Guidelines for Application of materiality in verifications, Version 02, the verification team has conducted a complete verification of all the information presented in the monitoring report and data monitored as presented in the emission reduction calculation spread sheet. It invoices follows the paper trail back to the raw data such as meter reading records and invoices. There are no material errors, overestimation of ER, emission or misstatement.

3.3 Compliance of the Monitoring Plan with the Monitoring Methodology

The verification team is able to confirm that the monitoring plan is in accordance with the approved methodology ACM0002 version 20.0, applied by the GS project activity. No deviation observed for the present monitoring period.

During the verification all relevant monitoring parameters (as listed in the PDD) have been verified with regard to the appropriateness of the applied measurement/ determination method, the correctness of the values applied for ER calculation, the accuracy, and applied QA/QC measures.

3.4 Completeness of Monitoring

The monitoring has been carried out in accordance with the monitoring plan contained in the transitional document. The verification team assessed the monitoring techniques and each monitoring value in the monitoring report; and provided a short summary on the verification of every parameter listed in the monitoring plan and used for calculation of emission reductions. All parameters were monitored and determined as per the monitoring plan of the transitional documents as follows:

a. Data and parameters fixed ex ante or at renewable of crediting period

$EF_{grid,OM,y}$, $EF_{grid,BM,y}$, $EF_{grid,CM,y}$, were mentioned as ex-ante fixed parameter. Assessment team checked the values, source of data, choice of data, purpose of the data mentioned in the MR

from the registered PDD and confirms that the similar approach was considered for the current monitoring period also.

The value for $EF_{grid,OM,y}$, $EF_{grid,BM,y}$, $EF_{grid,CM,y}$, was considered from the CO₂ baseline database published by Central Electricity Authority (CEA) version 16.0⁴. The default value as mentioned in the registered PDD and MR are same. The value of combined margin in India is being given by CEA (Central Electricity Authority, Govt of India) and thus assessment team concludes that the value is correct and appropriate. The default value in turn is used for baseline calculation as per the formula given in the registered GS PDD for the current monitoring period.

The relevant Emission factor values used for emission reduction calculation are as below. Also, as per the transitional requirement for GS4GG the ex-ante fixed parameters are now connected to relevant SDG indicator which is acceptable to the assessment team.

$EF_{grid,OM,y}$ = **Relevant SDG Indicator= SDG13: Climate Action=** 0.9567 tCO₂e/MWh

$EF_{grid,BM,y}$ = **Relevant SDG Indicator= SDG13: Climate Action=** 0.8682 tCO₂e/MWh

$EF_{grid,CM,y}$ = **Relevant SDG Indicator= SDG13: Climate Action=** 0.9346 tCO₂e/MWh

b. Data and parameters monitored

As per the registered monitoring plan and requirement of the registered methodology following parameters need to be monitored:

$EG_{PJ,y}$ = Quantity of net electricity generation supplied by the project plant/unit in year y in MWh = Relevant SDG indicators= **SDG 7: Affordable and Clean Energy**

Relevant SDG Indicator	SDG 7: Affordable and Clean Energy	
Data/parameter:	$EG_{PJ,y}$	
Unit	MWh	
Description	Quantity of net electricity generation supplied by the project plant/unit in year y in MWh	
Source of data checked by the assessment team	Monthly joint meter reading reports	
Value(s) of monitored parameter	Actual Quantity of net electricity supplied to the grid: 198,390.36MWh	
	Monitoring Duration	Values
	01/09/2021 to 31/12/2021	46,589.13
	01/01/2022 to 31/12/2022	151,801.23
	Total	198,390.36

⁴ https://cea.nic.in/wp-content/uploads/baseline/2021/06/User_Guide_ver_16_2021-1.pdf

Means of verification:	The electricity exported & imported is measured by Energy meter installed at substations. The Net electricity exported by the project directly sourced from the monthly share certificate issued by GETCO. Assessment team checked that the parameter is calculated. The electricity exported & imported measured by Energy meter installed at substation. The meters are approved, tested & sealed by the State Utility. The meters are in the custody of State Utility. The frequency of calibration is once in 5 years as per the GS4GG PDD. The monthly electricity supplied/exported by the project activity in the share certificate (JMR)^{9/} report is cross checked with the monthly invoices of sale. In the absence or delay in the meter calibration appropriate Guidelines are applied appropriately to confirm the conservativeness of metering. The details of the Meters are as follows: <table><tr><th>Serial No & Type</th><th>Make</th><th>Accuracy Class</th><th>Calibration Date</th><th>Validity</th></tr><tr><td>GJ4600A (Main meter)</td><td>Secure</td><td>0.2 s</td><td>15/07/2020</td><td>14/07/2025</td></tr><tr><td>GJ4601A (Check meter)</td><td>Secure</td><td>0.2 s</td><td>15/07/2020</td><td>14/07/2025</td></tr></table>	Serial No & Type	Make	Accuracy Class	Calibration Date	Validity	GJ4600A (Main meter)	Secure	0.2 s	15/07/2020	14/07/2025	GJ4601A (Check meter)	Secure	0.2 s	15/07/2020	14/07/2025
Serial No & Type	Make	Accuracy Class	Calibration Date	Validity												
GJ4600A (Main meter)	Secure	0.2 s	15/07/2020	14/07/2025												
GJ4601A (Check meter)	Secure	0.2 s	15/07/2020	14/07/2025												
Cross check mechanism	The Monthly joint meter reading reports is cross-checked with the invoice copies. Emission reduction calculated in thus correct and accurate. The crosscheck mechanism is presented in the emission reduction calculation sheet and the same is found correct.															

Relevant SDG Indicator	SDG 13: Climate Action								
Data/parameter:	ER_y (Emission reductions achieved per year)								
Unit	tCO ₂ e/year								
Description	Emission reductions achieved per year								
Source of data checked by the assessment team	As per actual ER sheet ^{2/}								
Value(s) of monitored parameter	185,410 tCO₂ emission reductions achieved during the reported monitoring period. <table border="1"> <thead> <tr> <th>Monitoring Period</th><th>Values</th></tr> </thead> <tbody> <tr> <td>01/09/2021 to 31/12/2021</td><td>43,540</td></tr> <tr> <td>01/01/2022 to 31/12/2022</td><td>141,870</td></tr> <tr> <td>Total</td><td>185,410</td></tr> </tbody> </table> The applied OM & BM for the project are as following: Operating Margin: 0.9567 tCO₂/MWh Build Margin: 0.8682 tCO₂/MWh The applied Combined margin for the project activity is 0.9346 tCO₂/MWh. This high emission factor signifies the fact that the electricity being fed in the Indian grid is highly carbon intensive. Every MWh of electricity generated by	Monitoring Period	Values	01/09/2021 to 31/12/2021	43,540	01/01/2022 to 31/12/2022	141,870	Total	185,410
Monitoring Period	Values								
01/09/2021 to 31/12/2021	43,540								
01/01/2022 to 31/12/2022	141,870								
Total	185,410								

	the project activity prevents further emissions. The value calculated using electricity generation and combined margin emission factor was checked in the ER sheet calculation and found correct.
Means of verification:	The value is checked and confirmed based on calculation presented in the ER sheet. Baseline situation of parameter The baseline was fossil fuel dominated grid as the project is a green field and no any activity occurred before the implementation of the project activity. Future target for parameter Optimal operation of wind power project to generate clean energy and associated emission reductions.
Cross check mechanism	Not applicable

Relevant SDG Indicator	SDG 8: Decent Work and Economic Growth 8.5.1 Number of employment generation				
Data/parameter:	Number of employment generation				
Unit	Number				
Description	Number of people employed directly due to the project activity				
Source of data checked by the assessment team	Plant records or the training records for all the employees/Letter from O&M contractor for employment generation/ DOE interview with employees, local stakeholders etc				
Value(s) of monitored parameter	Assessment team checked that for Quality of employment: Trainings & workshops were conducted for the O&M ^{16/} staff. 6 training was conducted for the Staffs on various topics for the current monitoring period. The training records for the monitoring period is checked by the assessment team and found correct.				
	S.No	Training Date	Topic	No. of attendees	Venue of training
	1.	07/01/2022	LOTO	12	33/66KV Umralli SS, Powerica
	2.	23/02/2022	Work at height	10	33/66KV Umralli SS, Powerica
	3.	23/03/2022	Basic of substation	10	33/66KV Umralli SS, Powerica
	4.	13/06/2022	Work at height	07	33/66KV Umralli SS, Powerica
	5.	20/09/2022	Basic of substation	10	33/66KV Umralli SS, Powerica
	6.	14/12/2022	Fire Safety	07	33/66KV Umralli SS, Powerica

	The training programmes help in making the workforce efficient and skilled at their job. This not only helps the company but also adds to growth of individual employees. Thus, the project has a positive impact on the parameter. The detail regarding locals and non-locals participated in the training is also included in the table above. Assessment team thus checked that the locals were also given equal opportunity as per the need of the organization and proper training were also provided to them for the operational related works. Assessment team checked that for Number of people employed directly due to the project activity: The total number of persons employed for the calendar year is as below: The detail of the employees employed ⁵ with the project are as follows: <table><tr><th>Years</th><th>Skilled</th><th>Unskilled</th></tr><tr><td>2021</td><td>13</td><td>09</td></tr><tr><td>2022</td><td>15</td><td>7</td></tr></table> The vintage-wise details of employment generation are for that particular year i.e. 22⁶ persons were employed in 2021 and additional 22 persons were employed in 2022. The salary as provided to both skilled and non-skilled person is above the minimum wage of the locality. Before the implementation of the project activity local people are employed as labor in the Agricultural field and the Job is also not permanent. They are paid as per the requirement of the field and day work. After the implementation of the project activity the local people are employed with a permanent job and paid as per the minimum salary wages of the area. This not only improved the livelihood of the local villagers/peoples but also helped in improving the happiness quotient of the area. Therefore, assessment team confirm that project not only provide a sustainable employment opportunity to the skilled and unskilled person but also help to improve the living standard.	Years	Skilled	Unskilled	2021	13	09	2022	15	7
Years	Skilled	Unskilled								
2021	13	09								
2022	15	7								
Means of verification:	Assessment team by checking all the training records and certificates, it is confirmed that the project proponent provided sufficient training for the employee/local people for skill and operation of the power plant. Also, some interviews were made with employee/local people and they confirmed that they are receiving a lot of trainings. The training not only improves the operation level of the Project, and also enhances the technical skill of the staff. Baseline situation of parameter In the baseline, local people have no such opportunities to be trained on the technology and the monitoring of the plant operation, and the emergency and safety procedures. Future target for parameter Continuation of regular trainings/workshops for employees & O&M staffs									
Cross check mechanism	Not applicable									

⁶ These 22 person had been employed in 2021 but these are employed between January to August 2021 which is under 1st MP. So, these 22 person continued job in 2021 i.e. from September to December 2021 which is under current MP.

The electricity exported & imported is measured by Energy meter installed at 33/66 kV grid line to Umralli site substation (33/66 kV.53 MVA) at Umralli. The Umralli site substation is connected to GETCO's 33/66 kV Rabarika substation.

The reading is recorded and the difference from last month reading gives the number of units imported/exported. The net electricity exported by the project is provide in the monthly share certificate issued by Gujarat Energy Transmission Corporation Limited (GETCO). PP has no role to play in it. The procedures for metering have been as per the provisions of the power purchase agreement^{/15/}.

The meters is approved, tested & sealed by the State Utility. The meters are in the custody of State Utility. Assessment team checked during the MS teams interview/telephonic interviews with PP that 0.2s meter (both main and check meter) is installed at substation and thus the same is acceptable to the assessment team. As per the GS4GG PDD, the Calibration frequency of meter is once in 5 years as per the PPA^{/15/} signed between PP and State electricity board. As evident from the calibration certificate^{/10/} there is no delay in calibration of meters.

c. Implementation of sampling plan

PP did not apply sampling plan to determine data and parameters monitored during this monitoring period. The verification team has checked all the documents such as Share Certificate issued by State electricity board /Invoices etc. and hence sampling plan was not required. The verification team hereby confirms that has checked all the documents.

d. Compliance with the calibration frequency requirements for measuring instruments

The metering arrangement of energy meters (main and check meters) at the substation. These meters record several parameters including electricity exported & imported. These electricity meters are being used by state officials to obtain the value of export and import and hence Net electricity supplied is calculated based on these values.

The calibration details such as make, accuracy class serial number is as per the meter available checked through the visual inspection during the interview.

All the energy meters are as per the validated PDD and is calibrated by the SEB (State electricity board) officials, as per the provisions of the PPA^{15/}, signed between the PP and the SEB (State electricity board). Calibration of meters were valid during the current monitoring period. PP has not control whatsoever over the processes related to SEB meters. As evident from the calibration certificate^{10/} there is no delay in calibration.

The Calibration details are presented in section Annex 1 of the MR. Calibration Agency for all the meters is State electricity board (Meter and testing division of SEB). As per the PPA, the calibration dates and frequency is under the control of State electricity board (Meter and testing division of SEB).

The calibration is done by State nodal agency (Meter Testing division), which is accredited Laboratory from National Accreditation Board for Testing and Calibration, Govt of India (<http://www.nabl-india.org/>) to carry out calibration.

Assessment team checked the same and found that the calibration is appropriate and correct as traceability is ensured. The meters were calibrated as per the norms of NABL and the meters are within the permissible error limit.

3.5 SDG Outcomes Monitoring

In the validated GS4GG PDD, Version 04 dated 25/08/2022 indicators are chosen for the monitoring of sustainable monitoring:

Meth/tool	Relevant indicator	SDG	GS PDD	MR	Compliance
Emission reduction in tCO _{2e}	SDG 13: Climate Action		Emission reduction in tCO ₂	Emission reduction in tCO ₂	Yes
Access to affordable and clean energy services	SDG 7: Affordable and Clean Energy		Access to affordable and clean energy services	Access to affordable and clean energy services	Yes
Quantitative employment, Quality of employment and income generation	SDG 8: Decent Work and Economic Growth		Number of employment generation and better salary and employment	Number of employment generation and better salary and employment	Yes

The verification of the parameters required by the monitoring plan is provided as follows:

During the interview, the verification team confirmed that there is a grievance book^{/14/} with GS contact information in the lobby of the project owner's office. By checking grievance book, it was able to confirm there are no comments received from the local people for the present monitoring period. Local people are happy with the implementation of the project activity as it entrusts employment and improve living standard of local people and villagers.

Assessment team also checked that the project is not registered under the REC mechanism of India and the same can be cross-checked at <https://recregistryindia.nic.in>. Thus, double counting^{/18/} for the current monitoring period is ruled out.

Assessment team also checked the other registry like UNFCCC and VCS and found that project is not submitted for request for registration to UN or VERRA. Thus, double counting for the current monitoring period is ruled out.

Also, during the interview, Applus+ Certification conducted an interview with the project owner and local stakeholders please find the summary of the interview as below:

Sections	Debriefing
Trainings & salaries of the employees	During verification process Mr. Pradeep Gupta, of PP representative team was interviewed. It was noted that regular technical & nontechnical trainings were conducted and the salaries are in line with the industry standard.

In Summary, it is Applus+ Certification's opinion that the monitoring of the project owner regarding to sustainability is in line with requirement of the GS4GG guideline.

Summary of net values of each SDG outcome for the current monitoring period

Item	Baseline estimate	Project estimate	Net benefit
SDG 7: Affordable and Clean Energy	0	198,390.36 MWh	198,390.36 MWh
SDG 8: Decent Work and Economic Growth	0	No. of employment opportunities created: 44 no. of trainings given: 6	No. of employment opportunities created: 44 No. of trainings given: 06
SDG 13: Climate Action	185,410 tCO ₂ e	0	185,410 tCO ₂ e

Comparison of actual value of outcomes with estimates in approved GS PDD

Comparison of actual values of outcomes with estimates in approved PDD

Item	Values estimated in ex ante calculation of approved PDD	Actual values achieved during this monitoring period												
SDG 7: Affordable and Clean Energy	215,853.08 MWh	198,390.36 MWh												
SDG 8: Decent Work and Economic Growth	1 training/year 10 employees/year	No. of Employment opportunities created:<table><tr><th>Year</th><th>Total</th></tr><tr><td>2021</td><td>22⁷</td></tr><tr><td>2022</td><td>22</td></tr></table> No. of trainings conducted:<table><tr><th>Year</th><th>Total</th></tr><tr><td>2021</td><td>00⁸</td></tr><tr><td>2022</td><td>06</td></tr></table>	Year	Total	2021	22 ⁷	2022	22	Year	Total	2021	00 ⁸	2022	06
Year	Total													
2021	22 ⁷													
2022	22													
Year	Total													
2021	00 ⁸													
2022	06													
SDG 13: Climate Action	201,735 tCO ₂ e	185,410 tCO ₂ e												

⁷ These 22 person had been employed in 2021 but these are employed between January to August 2021 which is under 1st MP. So, these 22 person continued job in 2021 i.e. from September to December 2021 which is under current MP.

⁸ Training were held between January to August 2021 which is under 1st MP. So, as per the PDD 1 training should be held per year and in per year is held 1st monitoring 5 were held.

3.6 Assessment of Data and Calculation of Greenhouse Gas Emission Reductions

As a result of verification of the ER calculation process, the assessment team confirmed that all the parameters required for the determination of the emission reductions have been included in the Monitoring report Version 01 & Monitoring report Version 04 and corresponding ER calculation spread-sheets and are consistent with the applied methodology ACM0002 version 20.0 and the monitoring plan contained in the registered GS PDD. The parameters are complete in this monitoring period.

After verifying the reported figures with the raw data sources, it's confirmed that the values of the parameters from the raw data sources are consistent with those quoted in the Monitoring Report Version 01 & Monitoring report Version 04 and corresponding ER calculation spread-sheets. The verification process for the same has been clearly described in above section of the report. See below for the detailed data:

Baseline Emissions for the amount of electricity supplied by project activity, BE_y is calculated as:

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

Where,

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

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

$EF_{grid,CM,y}$ = Combined margin CO_2 emission factor for grid connected power generation in year y calculated using the latest version of the "Tool to calculate the emission factor for an electricity system" (tCO_2/MWh) 0.9346 tCO_2/MWh

$$\begin{aligned} BE_y &= 198,390.36 \text{ MWh} * 0.9346 \text{ tCO}_2/\text{MWh} \\ &= 185,410 \text{ tCO}_2\text{e (Round down value)} \end{aligned}$$

Thus, the baseline value of each SDG outcome are summarised as follows;

Project emissions:

The project is a Wind power project, no fossil fuel is be consumed according to the methodology ACM0002 version 20.0 & according to registered PDD, $PE_y = 0 \text{ tCO}_2\text{e}$

Leakage:

As per ACM0002 version 20.0, No leakage emission needs to be considered.

Emission reductions:

Thus, the emission reductions are:

$$\begin{aligned} ER_y &= BE_y \\ &= \mathbf{185,410 \text{ tCO}_2\text{e (GS VERs)}} \end{aligned}$$

The emission reduction for the current monitoring period is estimated to be 201,735 $tCO_2\text{e}$ (calculated based on pro rate basis considering 487 days of the monitoring period and annual estimation form the GS4GG PDD is 151,198 $tCO_2\text{e}$ whereas during current monitoring period the

actual achieved emission reduction for this monitoring period are 185,410 tCO₂e, which is 8.09% less than estimated emission reductions for the same monitoring period. This is due to factors less wind speed, grid availability etc. which are beyond the control of PP.

3.7 Management and Operational System

The responsibilities of data measurement, collection, verifying, archiving etc. have been clearly defined in the PDD. The same practice is followed during the MS teams interview/telephonic interviews with PP and it is confirmed by the assessment team during the verification. The data related to ER calculation as well as data monitoring, collection process etc. have been internally reviewed by the management of the Monitoring team regularly. The responsibility of each function is consistent with the monitoring plan in the PDD.

The information flow of each parameter has been verified by the assessment team via interviewing with responsible personnel.

It's verified during the interview, the monitoring procedure as well as the internal quality management and control procedures are stipulated in the PDD. The monitoring personnel have been interviewed by the assessment team and it's confirmed that the monitoring is implemented as per the procedure. Also, the training record has been checked by the assessment team and it is confirmed that the monitoring personnel are get sufficient train to perform the monitoring.

Also, through the visual inspection during the interview the VVB witnessed the stakeholder consultations feed-back conducted by the PP and observed that the no complaints or disputes were highlighted by the stakeholder for the project. All the stakeholders are of the opinion that the project proponent had taken care of all the agreed issues during the initial stakeholder consultation at the start of the project.

All the data and documents, either hard copies or soft copies, is kept for two years after the end of the last crediting period or the last issuance of GS VERs for this Project, whichever occurs later.

4. **REFERENCE**

LIST OF DOCUMENTS	
S. No.	Document/Evidence/Reference/Web link, Version, Date
/01/	Monitoring Report Version 01 dated 30/06/2023 Monitoring report version 02 dated 09/08/2023 Monitoring report version 03 dated 04/09/2023 Monitoring report version 04 dated 08/02/2024
/02/	ER sheets version 1.0 dated 30/06/2023 ER Sheets version 2.0 dated 09/08/2023
/03/	GS Project Design Document Version: 04, dated 25/08/2022
/04/	ACM0002 version 20.0 CDM Tool to calculate the emission factor for an electricity system, version 07.0"
/05/	CDM Validation and Verification Standard for the project activities, version 03.0 GS Validation and Verification Standard for the project activities Version 01
/06/	GS4GG guidelines
/07/	Training records of the employees (both skilled/non-skilled)
/08/	O&M policy
/09/	Monthly Share Certificate (JMR) issued by state utility and invoices raised by PP for the complete monitoring period
/10/	Calibration certificates of the complete monitoring period
/11/	Commissioning certificates for wind turbines
/12/	Log book records for scheduled maintenance of the power plant for the complete monitoring period
/13/	Sample work contract for both skilled and non-skilled manpower
/14/	Grievance register
/15/	Power purchase agreement
/16/	O&M agreement
/17/	Technical manual from the Manufacturer
/18/	Undertaking of PP for double counting avoiding
/19/	GS Validation Report dated 31/01/2022

5. FINAL VERIFICATION STATEMENT

Applus+ Certification has been engaged by Powerica Limited to perform the 2nd verification of the “50.6 MW Wind Power Project at Umralli, Gujarat by Powerica Limited” (GS Ref. No.7620).

The management of the Powerica Limited is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project’s Monitoring Plan in the registered GS PDD and the applied methodology ACM0002 version 20.0.

Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board and Gold Standard. 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. The verification can confirm that:

- the project is operated as planned and described in the project design document and approved by the EB and GS;
- the monitoring plan is as per the applied methodology;
- the monitoring in Monitoring Report is as per the GS PDD and the monitoring plan approved by the EB and GS;
- the development and maintenance of records and reporting procedures are in accordance with the registered 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.

In our opinion, the GHG emission reductions for “50.6 MW Wind Power Project at Umralli, Gujarat by Powerica Limited” for the monitoring period 01/09/2021 to 31/12/2022 (Both days included) as reported in Monitoring Report, prepared on the basis of the project’s Monitoring Plan are fairly stated.

Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period: 01/09/2021 to 31/12/2022 (Both days included)

Verified emissions in the above reporting period:

Leakage emissions	0 tCO ₂ e equivalents
Project emissions	0 tCO ₂ e equivalents
Baseline emissions	185,410 tCO ₂ e equivalents
Emission reductions	185,410 tCO ₂ e equivalents

Date: 09/02/2024

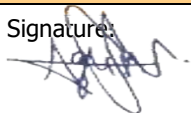
Lead Auditor: Mr. Pankaj Kumar

Tech. Expert: Mr. Pankaj Kumar

Tech. Reviewer: Mr. David Lubanga

Approver (*Applus+ Certification VVB Technical Manager*)

Mr. Agustín Calle de Miguel

ASSESSMENT TEAM	
Team Leader Mr. Pankaj Kumar	Technical Reviewer: Mr. David Lubanga
Signature: 	Signature: 
Approver: Mr. Agustín Calle de Miguel	
Signature: 	

Appendix 1: Corrective Action Request/Clarification Request/Forward Action Request resolution table

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	01
Raised by:	Pankaj Kumar	Ref. to checklist in above tables:	
Description of the audit finding	Date: 02/08/2023		
In KPI sec. of the MR, PP shall provide weblink for the project on GS registry.			
Project Participant's response	Date: 09/08/2023		
Now, weblink has been inserted in KPI sec. of MR.			
Documentation provided as evidence by Project Participant			
Revised MR has been provided.			
Auditor's assessment comment	Date: 21/08/2023		
PP has provided the weblink for the project activity in the KPI sec of the revised MR. Thus, CLis Closed.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	02
Raised by:	Pankaj Kumar	Ref. to checklist in above tables:	
Description of the audit finding	Date: 02/08/2023		
In order to verify any FAR raised by SustainCert during previous performance review, Final performance review report document is missing to assessment team. PP is requested to submit the same.			
Project Participant's response	Date: 09/08/2023		
There is no FAR raised by SustainCert during previous performance review. Performance review report is now provided for your reference.			
Documentation provided as evidence by Project Participant			
Performance review report is now provided for your reference.			
Auditor's assessment comment	Date: 21/08/2023		
PP has provided Performance review report to the assessment team and there is no FAR raised by Sustain Cert during previous performance review. Thus, CLis Closed.			

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	03
Raised by:	Pankaj Kumar	Ref. to checklist in above tables:	
Description of the audit finding	Date: 02/08/2023		
As per the PPA signed between Powerica Limited (PP) and Gujarat Urja Vikas Nigam Limited (local electricity transmission utility), the installed capacity is 50.6 MW; however, the actual capacity of the project activity is 51.3 MW. Kindly Clarify.			
Project Participant's response	Date: 09/08/2023		

As per PP signed 29/07/2019, the installed capacity mention as 50.6 MW and title was given initially considering that. But 5% plus minus of capacity than the mentioned in PPA is permissible as per PPA; but PP has issued work order on 51.3 MW according to the availability of WTG turbines in the market and later the developer has obtained permission on the same capacity from GEDA which is within 5% permissible limit of 50.6 MW (capacity mentioned in signed PPA ; the relevant document from Gujarat Energy Development Agency (GEDA) providing the explanation for this change in capacity during actual commissioning of the project provides the evidence for that. So, the total capacity 51.3 MW is correct		
Documentation provided as evidence by Project Participant		
PPA has been provided.		
Auditor's assessment comment	Date:	21/08/2023
As per PPA signed 29/07/2019, pg. 09 Article-1, $\pm 5\%$ of capacity than the mentioned in PPA is permissible, provided that necessary evacuation consent shall have to be arranged from GETCO/ CTU. Thus, PP shall submit the same to the assessment team. Thus, CLis Open.		
Project Participant's response	Date:	22/08/2023
Consent form has been provided from GETCO/ CTU. The same is now submitted to the DOE Assessment team.		
Documentation provided as evidence by Project Participant		
GETCO/CTU consent form		
Auditor's assessment comment	Date:	24/08/2023
PP has provided the relevant document from Gujarat Energy Development Agency (GEDA) providing the explanation for this change in capacity during actual commissioning of the project which is within 5% permissible limit of 50.6 MW (capacity mentioned in signed PPA ; the relevant document from Gujarat Energy Development Agency (GEDA) providing the explanation for this change in capacity during actual commissioning of the project provides the evidence for that. So, the total capacity 51.3 MW is correct. Thus, CLis Closed.		

Type:	☐ CAR ☒ CL/CR ☐ FAR	Number:	04
Raised by:	Pankaj Kumar	Ref. to checklist in above tables:	
Description of the audit finding	Date:	02/08/2023	
The capacity mentioned in the title of the project activity is not inline with the actual capacity of the project activity i.e., 51.3 MW. Kindly Clarify.			
Project Participant's response	Date:	09/08/2023	
As per PP signed 29/07/2019, the installed capacity mention as 50.6 MW and title was given initially considering that. But 5% plus minus of capacity than the mentioned in PPA is permissible as per PPA; but PP has issued work order on 51.3 MW according to the availability of WTG turbines in the market and later the developer has obtained permission on the same capacity from GEDA which is within 5% permissible limit of 50.6 MW (capacity mentioned in signed PPA ; the relevant document from Gujarat Energy Development Agency (GEDA) providing the explanation for this change in capacity during actual commissioning of the project provides the evidence for that. So, the total capacity 51.3 MW is correct			
Documentation provided as evidence by Project Participant			
PPA has been provided.			
Auditor's assessment comment	Date:	21/08/2023	

As per PP signed 29/07/2019, pg. 09 Article-1, 5% plus minus of capacity than the mentioned in PPA is permissible, provided that necessary evacuation consent shall have to be arranged from GETCO/ CTU. Thus, PP shall submit the same to the assessment team. Thus, CAR is Open.		
Project Participant's response	Date:	22/08/2023
Consent form has been provided from GETCO/ CTU. The same is now submitted to the DOE Assessment team.		
Documentation provided as evidence by Project Participant		
GETCO/CTU consent form		
Auditor's assessment comment	Date:	24/08/2023
PP has provided the relevant document from Gujarat Energy Development Agency (GEDA) providing the explanation for this change in capacity during actual commissioning of the project which is within 5% permissible limit of 50.6 MW (capacity mentioned in signed PPA; the relevant document from Gujarat Energy Development Agency (GEDA) providing the explanation for this change in capacity during actual commissioning of the project provides the evidence for that. So, the total capacity 51.3 MW is correct. Thus, CL is Closed.		

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Pankaj Kumar	Ref. to checklist in above tables:	
Description of the audit finding	Date:	02/08/2023	
Following discrepancies observed during the review of monitoring report:			
- PP has submitted the operation and maintenance agreement for wind farm project. However, title and location of the project is found inconsistent. Thus, corrective action sought. - PP is requested to reframe the language throughout the monitoring report as the project is already commissioned and contributing towards sustainable development & emission reductions.			
Project Participant's response	Date:	09/08/2023	
- Now, the operation and maintenance agreement for wind farm project is provided with consistent title and location. - Language has been corrected throughout the monitoring report.			
Documentation provided as evidence by Project Participant			
O & M agreement and revised MR is provided.			
Auditor's assessment comment	Date:	21/08/2023	
- PP has provided the revised operation and maintenance agreement for wind farm project with consistent title and location to the assessment team. Thus, accepted. CAR is Closed. - PP has reframed the language throughout the revised MR and same is found correct. Thus, CAR is Closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Pankaj Kumar	Ref. to checklist in above tables:	
Description of the audit finding	Date:	02/08/2023	

PP is requested to submit an undertaking for no double accounting for current monitoring period and for project activity is participated in other GHG schemes along with there would not be double counting of credits. Kindly submit.		
Project Participant's response	Date:	09/08/2023
Undertaking for no double accounting for current monitoring period is been submitted now.		
Documentation provided as evidence by Project Participant		
No Double accounting Document		
Auditor's assessment comment	Date:	21/08/2023
PP has submitted the undertaking letter for no any double counting for current monitoring period dated 04/08/2023 for project activity. Thus, CAR is closed.		

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Pankaj Kumar	Ref. to checklist in above tables:	
Description of the audit finding	Date:	02/08/2023	
Single line diagram showing all relevant monitoring points is found missing in Section-C, of the Monitoring Report. Thus, corrective action sought.			
Project Participant's response	Date:	09/08/2023	
Single line diagram has been provided in Section-C, of the Monitoring Report.			
Documentation provided as evidence by Project Participant			
Revised Monitoring report.			
Auditor's assessment comment	Date:	21/08/2023	
PP has provided Single line diagram showing all relevant monitoring points under Section-C of the revised MR. Thus, CAR is Closed.			

Type:	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Pankaj Kumar	Ref. to checklist in above tables:	
Description of the audit finding	Date:	02/08/2023	
PP is requested to submit the details of monitoring meters and calibration dates as it is found missing in the MR. corrective action sought.			
Project Participant's response	Date:	09/08/2023	
Monitoring meters and calibration dates is been provided now in Annex-1 in monitoring report.			
Documentation provided as evidence by Project Participant			
Meter test report and meter details has been provided for your reference.			
Auditor's assessment comment	Date:	21/08/2023	
PP has provided meter test report and details of meter in Annex-1 of the revised Monitoring report and same is found consistent. Thus, CAR is Closed.			

Appendix 3: Audit Team CVs

Name	SHORT CV. BACKGROUND INFORMATION
Mr. Pankaj Kumar	Mr. Pankaj Kumar worked as team leader – Bihar for South Asia Climate Proofing and Growth Development (CPGD) – Climate Change Innovation Programme (CCIP) supported by DFID that seeks to mainstream climate change resilience into planning and budgeting at the national and sub-national level in India, Pakistan, Nepal, and Afghanistan. Pankaj Kumar has worked previously with IL&FS Infrastructure Development Corporation and BUIDCO (Bihar Urban Infrastructure Development Corporation), Govt. of Bihar as Environmental Specialist for WB & ADB funded projects. Prior to this, he worked with Carbon Check (UNFCCC accredited DoE), Johannesburg, RSA as Team Leader for validation, verification of around 100 GHG projects in Asia, Africa, USA, Asia Pacific & Americas. Pankaj is accredited Lead Auditor, Validator, Verifier and Technical Expert for Sectoral Scope/Technical Area – 1.1, 1.2, 3.1 & 13.1 by UNFCCC DoE (Designated Operational Entity), APPLUS, Spain. He is also member of task force on climate change & human health, Health Department, GoB and on roster of UNICEF's WASH experts. He is an experienced, qualified and result oriented Environment Professional having more than 14 yrs. of relevant experience in Climate Change (Mitigation & Adaptation), Environmental Due Diligence, Disaster Risk Reduction, Validation and Verification of GHG project under CDM, Verified Carbon Standard, Gold Standard & Social Carbon Standard, Brazil. He provides technical support for environmental investigative, consultative and remedial projects involving air, water and soil, Waste management, EIA, Environmental Compliance, ISO 14001, OHSAS 18001, GHG accounting (ISO 14064) and Carbon foot printing. Pankaj Kumar is Masters in Environment Management from Forest Research Institute (University), I.C.F.R.E, Dehradun, which is Centre of Excellence in South East Asia for Forestry education & research and PGDEL from National Law School of India University, Bangalore (India).
Mr. David Lubanga	Mr. David Lubanga is a trained engineer with over 10 years' experience as a GHG auditor. His experience in the field includes assessment of renewable energy projects, energy efficiency, energy audits and waste management and waste to energy. He is a certified auditor for ISO 50001 and 14064-2. He has successfully audited more than 300 GHG (CDM/VCS/GS) projects in different countries around the world. David holds a BSc. in Biochemical Engineering from Jacobs University Bremen (Germany), and a MSc in Environmental Resource Management from Brandenburg Technical University Cottbus (Germany), and Sheffield Hallam University (England). He has undergone additional professional training in Renewable energies, Renewable Energy and Finance, Energy Efficiency and waste management in Scotland, Germany and Austria. Mr. David Lubanga is based in Nairobi, Kenya. Mr. David Lubanga participate in the project's technical review team.