



**Verified Carbon
Standard**

“GRID CONNECTED WIND POWER PROJECT BY M/S. D. J. MALPANI IN RAJASTHAN”



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Summary:

M/s VKU Certification Pvt. Ltd. (here after referred as VKU) was commissioned by M/s EKI Energy Services Limited has verified the greenhouse gas emission reduction reported for the project activity “Grid Connected Wind Power Project By M/S. D. J. Malpani in Rajasthan.” (VCS ID 1021) in India, covering monitoring period from 01-September-2021 to 31-March-2022 (Inclusive of both start and end dates) under 2nd crediting period¹ from 21-March-2021 to 20-March-2031 (Inclusive of both dates) with regard to the relevant requirements for VCS activities. The project involves generation of electricity from WTGs with installation capacity of 7.5 MW (5WTGs×1.50 MW) in Rajasthan which is supplied to the Unified Indian Grid.

The purpose of the verification is to have an independent review ex-post determination of the monitored reductions in GHG emission reductions and verify that the monitoring methodology was implemented according to the monitoring plan and monitoring data used to confirm the reductions in anthropogenic emissions by sources is sufficient, definitive and presented in a concise and transparent manner.

The verification scope of the project is:

- To verify that the project is implemented as described in the registered VCS Joint PD&MR.
- To assess the project’s compliance with other relevant rules including the host country legislation.
- To confirm that the monitoring system is implemented and fully functional to generate voluntary emission reductions without any double counting.

¹ 10 years & 0 months with renewable once and currently it is second crediting period. First Crediting period was from 21-March-2011 to 20-March-2021 (as renewable once; so maximum till 20-March-2031) as per registered VCS Joint PD&MR version 03 dated 02-April-2013/30/

- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- To verify that reported GHG emission data is sufficiently supported by evidence.

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS program guide version 4.2/4/, VCS standard Version 4.3/5/, VCS validation and verification manual version 3.2/21, CDM M&P, the latest version of the CDM Validation and Verification Standard 3.0/22/, and relevant decisions of the COP/MOP and the CDM EB and applying standard auditing techniques. The verification consisted of desk review, on-site assessment and the resolution of outstanding issues and the issuance of the final verification report and certification.

VKU followed the rule-based approach to perform this verification. During the course of verification, related to operation, monitoring and GHG emission reduction calculation of the VCS project activity in relation to all relevant VCS requirements for the project activity and the applied baseline and monitoring methodology and a total of 04 findings were raised, which includes: 03 Corrective Action Request (CAR); 01 Clarification Requests (CL). All the raised findings were raised and successfully resolved by the PP. The same has been discussed in Appendix B of this verification report.

The verification team ensured that the reported emission reductions are complete and accurate in accordance with applicable VCS requirements in order to be certified therefore the verification team has detected no further uncertainties

The GHG emission reductions were calculated on the basis of the approved methodology AMS I.D. "Grid Connected Renewable Electricity Generation" Version 18.0/7/ and the monitoring plan included in the registered VCS Joint PD&MR/3/ version 02 dated 22-October-2021.

In conclusion, it is VKU's opinion that the project activity "Grid Connected Wind Power Project by M/S. D. J. Malpani in Rajasthan." (VCS ID 1021) in India, meets all relevant requirements for VCS standard and guidelines and correctly applies the baseline and monitoring methodology AMS I.D. "Grid Connected Renewable Electricity Generation" Version 18.0/7/. The monitoring system is in place and the emission reductions are calculated without material misstatement. Hence, VKU is able to certify that the emission reductions from the project during the monitoring period from 01-September-2021 to 31-March-2022(Inclusive of both start and end dates) under 2nd crediting period from 21-March-2021 to 20-March-2031 (Inclusive of both dates) amount to 2,505 tCO₂e.

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1 INTRODUCTION

1.1 Objective

M/s EKI Energy Services Limited has commissioned M/s VKU Certification Pvt Ltd (hereafter as VKU) to carry out the second verification of the project “Grid Connected Wind Power Project by M/S. D.J. Malpani in Rajasthan” (VCS ID 1021) project in India for the period from 01-September-2021 to 31-March-2022 (Inclusive of both start and end dates) under second renewable crediting period from 21-March-2021 to 20-March-2031.

This report summarizes the findings of the verification of the project, performed on the basis of VCS Requirements and UNFCCC criteria for CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The purpose of the verification is to have an independent evaluation of a project activity by an accredited validation and verification body against the requirements of the VCS program guide Version 4.2/4/, VCS standard version 4.3/5/ and GHG program applied, on the basis of the registered project design document.

The verification is for the second monitoring period from 01-September-2021 to 31-March-2022 (Inclusive of both start and end dates) under the 2nd crediting period from 21-March-2021 to 20-March-2031.

The objectives of this verification exercise are, by review of objective evidence, to establish that:

- The project activity has been implemented and operated as per the project description Joint PD&MR and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place.
- Monitoring report and other supporting documents are complete.
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.
- To confirm that the monitoring system is implemented and fully functional to generate Verified carbon units (VCUs) without any double counting.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.

1.2 Scope and Criteria

The verification scope is:

- To verify that the project is implemented as described in the registered VCS Joint PD&MR.
- To assess the project's compliance with other relevant rules including the host country legislation.
- To confirm that the monitoring system is implemented and fully functional to generate voluntary emission reductions without any double counting.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- To verify that reported GHG emission data is sufficiently supported by evidence.
- The verification shall ensure that the reported emission reductions are complete and accurate in order to be certified.

The project is assessed against the requirements of VCS standard version 4.3/5/, VCS program guide version 4.2/4/, validation and verification manual version 3.2/21/ and related rules and guidance. VKU has, based on the recommendations in the latest version of CDM Validation and Verification Standard/22/, VCS validation and verification manual version 3.2/21/ employed a rule-based approach (as criteria) in the verification, focusing on the identification of significant reporting rules and the reliability of project monitoring.

The method and criteria used for verification consisted of the following phases:

- Completeness check and desk review;
- Remote interviews with stakeholders;
- Resolution of outstanding issues and issuance of final verification report and applicable VCS Validation and Verification Deeds of Representation.

Verification is not meant to provide any consultancy towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the monitoring.

1.3 Level of Assurance

All the revisions of the verification report before being submitted to the client were subjected to an independent internal technical review to confirm that all verification activities had been completed according to the pertinent VKU's procedure, with a reasonable level of assurance

The verification report is based on the Monitoring report /01/, registered VCS Joint PD&MR /3/ and supporting documents /10//11//12//13//14//15//16/made available to the verifier and information collected through performing interviews.

The technical review was performed by a technical reviewer(s) qualified in accordance with VKU's qualification procedure. The verification team and the technical reviewers consist of the following personnel.

Role/Qualification	Last Name	First Name
VCS Team Leader, VCS Verifier & Technical Expert 1.2	Chouhan	Rakesh
Technical Reviewer & Technical Expert 1.2	Kumar	Sanjay

1.4 Summary Description of the Project

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

The total installed capacity of the project is 7.5 MW (5 WTGs × 1.50 MW). The project activity employs Wind Turbine Generators (WTGs) of Class S-82 manufactured by M/S Suzlon Energy Limited. The project was commissioned on 22-March-2011 which is the earliest date of commissioning of the windmill of the project activity and run satisfactorily since then.

The purpose of the project activity is generation of clean electricity by utilizing kinetic energy of wind. As per MR, the electricity generated from the project is supplied to the unified Indian Grid which is confirmed from registered VCS Joint PD&MR /3/, last Joint validation and verification report/18/ and interview with PP. The WTGs are commissioned between 22-March-2011 and 30-March-2011 and the dates of the WTGs are verified against the registered VCS Joint PD&MR /3/ and commissioning certificates/13/.

This information was verified during on site assessment and found to be in line with the details provided in the registered VCS Joint PD&MR /3/ "Grid Connected Wind Power Project by M/S. D.

J. Malpani in Rajasthan”. The emission reductions from the project activity during the period 01-September-2021 to 31-March-2022 (including both days) amount to 2,505 tonnes of CO₂e.

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification was conducted using VKU’s procedures in line with the requirements specified in the VCS Requirements, i.e., VCS Program Guide version 4.2/4/, VCS Standard version 4.3/5/. The GHG emission reductions are on the basis of the approved Baseline and monitoring methodology AMS I.D. “Grid Connected Renewable Electricity Generation” Version 18.0/7/.

The verification consisted of the following three phases

- Document review;
- On-site assessment including Interviews and actual project scenario;
- Resolution of any Material Discrepancy and the issuance of the final verification report and certification.

The following sections outline each step in more detail.

2.2 Document Review

The verification of the project is performed by applying the standard auditing techniques to assess the quality of the documents submitted by PP and project documents available/20/. The verification was performed primarily based on the review of the monitoring report (MR) version 01 dated 13-May-2022 and version 02 dated 19-July-2022 /1/ MR version 02.1 dated 28-July-2022 /1/and final MR version 03 of 22-August-2022/1/, the emission reduction calculations spreadsheet version 01 of 13-May-2022 and version 02 of 19-July-2022 /2/, were assessed as part of the verification. In addition, the registered VCS Joint PD&MR /3/ in particular the baseline estimations and the monitoring plan for the project was reviewed. The following table lists the documentation that were reviewed during the verification.

/1/	EKI: VCS monitoring report for “Grid Connected Wind Power Project By M/S. D. J. Malpani in Rajasthan. • Version 1.0 of 13-May-2022 • Version 2.0 of 19-July-2022 • Version 2.1 of 28-July-2022 and • Final version 3.0 of 22-August-2022
/2/	EKI: Emission Reduction Calculation Spreadsheet, version 1.0 of 13-May-2022 and version 2.0 of 19-July-2022
/3/	EKI: Registered VCS Joint PD&MR for the project Grid Connected Wind Power Project By M/S. D. J. Malpani in Rajasthan’ version 2.0 dated 22-October-2021

/4/	VCS: VCS Program Guide, version 4.2 of 22-June-2022
/5/	VCS: VCS Standard, version 4.3 of 22-June-2022
/6/	VCS: Monitoring report Template VCS Version 4.1
/7/	CDM Executive Board: Baseline and Monitoring Methodology AMS I.D. "Grid Connected Renewable Electricity Generation" Version 18.0
/8/	UNFCCC: Project search: CDM: BUYB9NI6CVBQZZBLQ3D0ZFCZYHX4JP (unfccc.int)
/9/	Gold Standard Foundation: https://registry.goldstandard.org/projects?q=&page=1
/10/	Monthly JMR issued by PP to state utility Rajasthan Rajya Vidyut Utpaadan Nigam Limited (RRVUNL) for the current verification period.
/11/	Certificates of Calibration for all the meters belongs to project activity
/12/	Invoice issued by PP to state utility- (RRVUNL) Rajasthan Rajya Vidyut Utpaadan Nigam Limited
/13/	Commissioning certificate of all the WTGs of the project activity issued by state electricity authority
/14/	Power Purchase Agreements signed between Project Proponent and state electricity authority: - M/S D.J. Malpani & M/s. Suzlon infrastructure services limited & Jodhpur Vidyut Vitran Nigam limited for 7.5 MW (5 WTGs × 1.50 MW) wind power project dated 04-March-2011
/15/	Letter of declaration dated from PP regarding not having created or sought any other form of environmental credit for the same period
/16/	Monthly generation reports issued by O&M contractor
/17/	Central Electricity Authority (Installation and Operation of Meters) Regulations Notified on 17/03/2006 No. 502/70/CEA/DP&D Amendments Notified on 26-06-2010 No. 502/6/2009/DP&D/D-I
/18/	LGAI Technological Center, S.A. (Applus+ Certification): Joint Validation & Verification report "Grid Connected Wind Power Project By M/S. D. J. Malpani in Rajasthan" version 2.0 dated 29 -10 -2021 covering monitoring period of 01-September-2020 to 31-August-2021
/19/	Site Visit Photographs videos and attendance sheet dated 25-June-2022
/20/	VERRA: https://registry.terra.org/app/project/Detail/VCS/1021
/21/	Validation and verification manual version 3.2 dated 19-October-2016
/22/	CDM Validation and Verification Standard version 3.0 dated 23-October-2021
/23/	Technical Specifications of WTGs
/24/	Grievance Register present on site
/25/	On site personnel interview dated 25-June-2022
/26/	GPS Google software used for location during onsite visit and Google earth for desk review of WTGs
/27/	Breakdown details for current verification period
/28/	REC website Renewable Energy Certificate Registry of INDIA https://www.recregistryindia.nic.in/index.php/publics/faqs
/29/	DGR and PLF Report Submitted by PP for the current monitoring period from 01-September-2021 to 31-March-2022
/30/	EKI: Registered Joint PD&MR for the project Grid Connected Wind Power Project By M/S. D. J. Malpani in Rajasthan' version 03 dated 02-April-2013

2.3 Interviews

An on-site inspection has been performed by the assessment team for Jaisalmer district, Rajasthan site. However, the representatives of the PP and O&M contractors were interviewed personally by assessment team on 25-June-2022 i.e., personnel responsible for monitoring of the project activity, data collection and management, and QA/QC procedure.

The details of the people interviewed are mentioned in the table below.

S.No.	Name	Designation	Topic
1	Vinayak Patel	AIC	Project Implementation and technical details of the Project like breakdown details, calibration of meters and monitoring of required monitored parameters and implementation of QA/QC Procedure.
2	Sandeep Sharma	Site In-charge	
3	Yashwant	Site In-charge	
4	Vijendra Singh	Section In-charge	Project Implementation, data management, recording, monitoring and archiving.
5	Rahul	Shift Engineer	Data archiving, breakdown details and maintenance generation records
6	Vikash Tiwari	Site Quality	Project Implementation, records maintenance, QA/QC Procedure implementation at site
7	Dilip Sharma	SS In-charge	Data recording, management and archiving procedure
8	Gopal Singh	MT In-charge	Data management and archiving procedure

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

S. No.	Name	Designation	Topic
1	Bhavani Singh	Local Stakeholder	- Project activity implementation and its impact on social, economic and environmental condition of the local people. - The ongoing communication procedure and the address of their grievance by the project proponent - The employment generation due to project activity implementation.
2	Raju Singh		
3	Hajara Ram		
4	Shaitan Singh		

There were no negative comments received during the stakeholder consultation interview conducted on site and more detail is enlisted in the section 4.2.2 below.

2.4 Site Inspections

An On-site visit was undertaken by the verification team on 25-June-2022 at the Project site in Jaisalmer district, Rajasthan to carry out the following;

- An assessment of the implementation and operation of the registered project activity as per the registered VCS Joint PD&MR /3/ and VCS MR/1/
- A review of information flows for generating, aggregating and reporting the monitoring parameters;
- Interviews with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the VCS Joint PD&MR /3/
- A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources;
- A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the VCS Joint PD&MR, the applied methodology including applicable tool(s), and, where applicable, the applied standardized baseline;
- A review of calculations and assumptions made in determining the GHG data and emission reductions;

An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

2.5 Resolution of Findings

The objective of this phase of the verification is to resolve any outstanding issues which need to be clarified for VKU's positive conclusion on the project description. To guarantee transparency a verification protocol has been customized for the project. The protocol shows in a transparent manner the requirements, means of verification and the results from verifying the identified criteria. The verification protocol consists of three situations described below: -

A corrective action request (CAR) is raised if one of the following occurs:

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;
- Issues identified in a FAR during validation to be verified during verification have not been resolved by the project participants.

A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

In summary, 1 CL and 3 CARs were raised during this verification which were closed successfully and details are given under Appendix B of this report.

2.5.1 Forward Action Requests

Based on the review of the Joint validation & Verification report/18/ available, no FAR is pending which needs to be closed during the current verification. Also no FAR is raised during current verification.

2.6 Eligibility for Validation Activities

VKU has not undertaken any validation activities as part of the verification and does not hold accreditation for validation of any relevant sectoral scope. Hence this section is not applicable.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project is registered under VCS as well as CDM with registration ID 5794. However, Project Proponent has submitted undertaking /15/ that they will not claim same GHG emission reductions of the project from CDM thus ensuring emission reduction generated from the project activity will not be double counted. This was verified by checking the project webpage of CDM/8/ and hence assessment team accepted that the project is not claiming emission reduction from CDM for the current monitoring period.

The project is not applied under any other GHG program except CDM which is confirmed through a declaration/15/ submitted by the PP Simultaneously, Assessment team independently has also checked other GHG Program registry websites and searched for similar projects but could not find any similar project registered on other registry websites hence accepted by the assessment team. Based on both independent assessment and declaration submitted by PP/15/, the assessment team accepted the claim that there will not be double counting from this project activity for this monitoring period. Similar exercise will be performed for all subsequent monitoring periods. Thus, ensuring emission reduction generated from the project activity will not be double counted hence accepted by the assessment team. Assessment team also checked the REC Mechanism database /27/ of India and found that the project activity is not accredited/registered under REC mechanism. This was further ensured through a declaration letter /15 / from PP that they will not be using the energy generation from this project activity during the current monitoring period, under REC mechanism. Also, assessment team checked the following registries to confirm the same. The details of the registries checked are as follows:

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

Rejection by other GHG programs

The Project is not rejected by other GHG programs. A declaration/15/ for the same is checked and found correct by the assessment team. Also, assessment team has independently checked other GHG Program registry website and searched for similar project but could not find any similar project rejected by any other GHG Program.

1. <http://www.recregistryindia.nic.in/>
2. <http://www.goldstandard.org/>
3. <https://verra.org/verra-standards-and-programs/>.

3.2 Methodology Deviations

There is no methodology deviation identified during the current monitoring period. Also, there were no methodology deviations identified during the previous joint validation and verification report/18/.

3.3 Project Description Deviations

There is no project description deviation identified during the current monitoring period. Also, there were no deviations identified during the previous joint validation and verification report/18/.

3.4 Grouped Project

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

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

During the onsite audit with PP representative, it was concluded that the project is implemented as per the requirement of the registered VCS Joint PD&MR and approved monitoring plan. The total capacity of the project activity is 7.5 MW (5 WTGs × 1.50 MW) of Class S-82 manufactured by M/s. Suzlon Energy Limited. During the current monitoring period, it was observed through breakdown log sheet/ records onsite that no unforeseen incident/event evolved which can impact the operation of the project activity. The project underwent continuous operation and only scheduled maintenance and shutdown of 1319.4 hours happened due to low wind availability and maintenance which is acceptable to the assessment team. Moreover, there is no unforeseen incident which can affect the applicability of the methodology and thus the same is acceptable to the assessment team.

Project location is confirmed by the assessment team through the GPS Google software and Google earth. Moreover, assessment team confirm that the latitudes and longitudes as mentioned in the registered VCS Joint PD&MR /3/ are correct. The WTG wise latitudes and longitudes are confirmed below:

Sr. No.	Location No.	Khasra No.	Village	Taluka	Latitude	Longitude
1.	AK-278	83/P, 76/P	Sangana	Fatehgarh	N 26°47'48.7"	E 71°08'12.6"
2.	AK-283	147/P	Asayach	Jaisalmer	N 26°48'54.9"	E 71°07'04.6"
3.	AK-262	370/P	Chord	Fatehgarh	N 26°45'32.0"	E 71°09'49.3"

4.	AK-321	310/P	Chord	Fatehgarh	N 26°47'36.7"	E 71°10'15.8"
5.	AK-331	94/P	Asayach	Jaisalmer	N 26°49'45.3"	E 71°07'59.6"

Starting date of the operation of the project activity is 21-March-2011 which is the date of commissioning/commercial operation of the 1st WTG. Assessment team checked the commissioning certificate and confirmed that the dates of Commission for the WTGs are correct. Assessment team also confirm during the onsite audit that there is no change in project design and the project is implemented as per the description provided in the registered VCS Joint PD&MR /3/.

Commissioning dates of WTGs are given below:

S. No.	Project Owner	Machine ID	DOC	Village	Taluka	District	State
1	D. J. Malpani	AK-283	21-March-2011	Asayach	Jaisalmer	Jaisalmer	Rajasthan
2		AK-331		Asayach	Jaisalmer		
3		AK-278	30-March-2011	Sangana	Fatehgarh		
4		AK-262		Chord	Fatehgarh		
5		AK-321		Chord	Fatehgarh		

The technical parameters have been verified with the name plates as well as with the technical specifications of WTGs and also cross checked from the technical manual of the Manufacture. Assessment team confirms that the technical parameters are consistent with the registered VCS Joint PD&MR /3/. The major technical specifications of the WTG are as follows:

The project activity comprises WTG's by Suzlon Energy Limited for Class S-82

Technical details for Suzlon Class S-82

1.	Main Data	
	Turbine type	Horizontal axis turbine
	Rated Power	1500 kW
	Rotor Diameter	82 m
	Hub height (including foundation)	Approximately 78.5 m
	Rotational Speed	15.6 to 18.4 rpm
2.	Rotor	

	Number of rotor blades	3
	Rotor Orientation	Upwind
	Material	Epoxy bonded fibre glass
3.	Gear Box	
	Type of Gear Box housing	One planetary stage / Two helical stages
	Ratio	1: 95.09
	Power	1650 kW
	Type of cooling	Forced oil cooling lubrication system
4.	Generator System	
	Generator type	Single speed induction generator with slip rings, variable rotor resistance via Suzlon Flexi slip system
	Rated power	1500 kW
	Speed at rated power	1511 rpm
	Rated voltage	690 V AC (phase to phase)
	Frequency	50 Hz
	Insulation Class	Class H
5.	Tower	
	Tower type	Tubular tower (corrosion proof painting on inner and outer surface) with welded steel plates
	Tower Height	76 m
6.	Operational Parameters	
	Cut-in wind speed	4 m/s
	Rated wind speed	14 m/s
	Cut-off wind speed	20 m/s
	Survival wind speed	52.5 m/s

The assessment team confirmed through onsite visit/25/ with PP representative that there is no proposed or actual change to the project design during this monitoring period. It was observed that the monitoring plan was implemented as per the registered VCS Joint PD&MR /3/ and applied methodology AMS I.D., Version 18.0/7/. The organizational role and responsibility as mentioned in the registered VCS Joint PD&MR /3/ is followed onsite. Meters are calibrated as per calibration frequency in registered VCS Joint PD&MR /3/. All the emergency preparedness as mentioned in the registered VCS Joint PD&MR is followed onsite and no discrepancies were found regarding the same.

Assessment team concludes the following:

- a) There are no material discrepancies between project implementation and the project description provided in the registered VCS Joint PD&MR /3/.
- b) The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analyzing the monitored data and parameters) is appropriate.
- c) There are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology/7/.
- d) The project has not received or sought any other form of environmental credit, or has become eligible to do so since validation or previous verification.
- e) The GHG emission reductions or removals generated by the project have not been included in any emissions trading program or any other mechanism that includes GHG allowance trading/15/.
- f) The project is registered under VCS and CDM, however PP has submitted the declaration/15/ stating, they will not claim same GHG emission reductions of the project from CDM for the current monitoring period when project is seeking to get GHG emission reduction from VCS.
- g) The project activity complies with four indicators for sustainable development i.e., social wellbeing, economic wellbeing, environmental wellbeing and technological wellbeing in the interim approval guidelines for Clean Development Mechanism (CDM) projects from India as discussed under section 1.11 of MR /1/. Assessment team has verified the same during on site visit /19/ and found all the indicators can be observed to be effective and applicable for the project activity.

The Project activity has implemented activities that results in 2 SDG Contributions; **7.2.1** and **13**

- **7.2.1: Renewable energy share in the total final energy consumption-** 2,680.75 MWh of renewable electricity has been supplied to Indian grid during the current monitoring period that helped to increase the renewable energy share in the energy mix. The total energy supplied to Indian Grid by the project activity during its lifetime is 59,253.75 MWh (9,386 + 36,821 + 10,366 + 2,680.75) MWh

- **13: Tonnes of greenhouse gas emissions avoided or removed-** By supplying 2,680.75 MWh clean electricity to Indian grid, the project avoided release of 2,505 tCO₂e in to the atmosphere during the current monitoring period. The greenhouse gas emissions avoided by the project activity during its lifetime are 56,061 tCO₂e (8,904 + 34,931 + 9,721 + 2,505) tCO₂e

S. No.	Energy supplied by the project activity to grid during its lifetime (MWh)	GHG emissions avoided by the project activity during its lifetime (tCO ₂ e)	Monitoring Period dates ²
1	9,386	8,904	<u>21-March-2011 to 13-February-2012</u>
2	36,821	34,931	<u>01-October-2016 to 31-August-2020</u>
3	10,366	9,721	<u>01-September-2020 to 31-August-2021</u>
4	2,680.75	2,505	01-September-2021 to 31-March-2022 (Current Monitoring period)

In view of the information's as verified above the assessment team is able to conclude that the project has been implemented as described in the registered VCS Joint PD&MR /3/ and MR /1/. The emission reduction achieved in current monitoring period from 01-September-2021 to 31-March-2022 are 2,505 tCO₂e which are 67.89% lower than what was anticipated. The lower emission reduction was due to major shutdown of 1319.4 hours and low PLF achieved during the current monitoring period and same has been justified in section 4.5 below.

4.2 Safeguards

4.2.1 No Net Harm

Being renewable wind power generation project there are no negative impacts on air, water, soil quality and ambience are envisaged due to the implementation of project activity and no potential negative environmental and socio-economic impacts in current monitoring period, in

² The Project is registered under CDM as well and the credits for the period from 01-March-2012 to 30-September-2016 are issued under CDM /8/ and the same were not considered under the VCS verifications and the table list down the verifications conducted under VERRA only and there was no double counting observed. The links for all the verifications are listed in the table.

fact project activity contributes positively by providing environment friendly power generation leading to sustainable development of the region. Also, the generation of employment supports upliftment of socio-economic status of region.

As per the EIA notification dated 14th September 2006, the wind power projects are exempted from environmental clearance. Hence, Environmental impact assessment is not required for this project activity.

The report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013³ also confirms that wind power project activity operations do not result in direct air pollution, noise pollution. Hence verification team confirms that there are no any significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity.

In addition, due to the project activity, jobs are created at local level as verified during on-site interview which has improved socio-economic impacts in the project area. Therefore, there is no net harm from the project activity.

4.2.2 Local Stakeholder Consultation

The Project is already registered with VCS and registered VCS Joint PD&MR/3/; sections 2.2 describe the Local Stakeholder Consultation Process as in-line with VCS requirement. As a part of continuous feedback from stakeholders, there were no other major comments or protest raised by the stakeholders and they were totally in support for setting up of these kinds of projects in the region. For ongoing communication, the PP has also placed a grievance register onsite where in the stakeholder can put down his/her complain and the same if found genuine will be addressed immediately. However, being renewable wind power generation project there is no feedback/grievance/24/ has been reported within this monitoring period verified onsite from the grievance register placed at the site.

The verification team has interacted with local stakeholders during on-site assessment and details are summarized in section 2.3 of this report. There was no negative comment or feedback received from local stakeholders as recorded by the verification team.

³ <https://smartnet.niua.org/sites/default/files/resources/report-on-developmental-impacts-of-RE.pdf>

4.3 AFOLU-Specific Safeguards

This is a non- AFOLU Project hence this section is not applicable for this verification.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The project monitoring has been carried in accordance with the registered VCS Joint PD&MR /3// and involves just one parameter to be monitored **EG_{PJ, facility, y}** (Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y) according to the monitoring plan and monitoring report/1/. The parameter value is sourced from JMRs/11/ and Invoices/12/. Proper calibrated meters of 0.2s accuracy class installed at site regularly monitor the import and export value which is monthly aggregated in JMRs. ER sheet prepared by PP has been reviewed by assessment team thoroughly by cross checking the values of JMRs and Invoices submitted by PP and found correct including all the formulae and conversions and aggregations.

The expected emission reduction from the project activity for current monitoring period are 7,802 tCO₂e for the current monitoring period, whereas the actual emission reductions achieved were 2,505 tCO₂e which is 67.89% lower than what was anticipated.

The assessment team has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values) in the MR/1/. The emission reductions are based on the net electricity generated and exported from the machines. PP has provided all the sufficient data for current monitoring period. The values of the parameter net electricity generation supplied to the grid by each phase used in deriving the GHG emission reduction could be very well correlated between the data sets and ER spreadsheet/2/ provided by PP. The verification of each monitoring parameter has been discussed later in section 4.5

This lower generation of emission reduction is due to lower PLF achieved in current monitoring period which is highly driven by wind availability and PP do not have any control on it and major breakdown of 1319.4 hours happened during current monitoring period. Further explanation is also provided in section 4.5 of this report.

In section 4,5 of this report and section 5.4 of MR /1/ calculations has been stated which are appropriately presented in ER spreadsheet /2/ that has been verified by the assessment team from JMRs issued to PP by State utility/10/& invoices issued by PP to state electricity authority /12/ submitted to assessment team by PP. Hence VKU states that the calculation method and formulae used in calculating baseline emission is in compliance to the methodology used i.e., AMS I.D. Version 18/7/. Since project activity is a wind power project, leakage emission and project emission has been considered as zero as per the applied methodology Para 39.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

During the verification, all relevant documents were checked to assess the correctness and quality of data submitted by the project participants, which are used to determine emission reductions.

All records needed for monitoring are archived in line with the requirements of the registered monitoring plan. No significant, lack of evidence and missing data were detected during verification. Hence, the verification team confirms that the monitoring system ensures required quality of the monitoring system to ensure the quality of the monitored data. All internal data are subjected to QA/QC measures.

The only monitoring parameter in the project activity is “Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y, $EG_{PJ, Facility, y}$ (MWh). This parameter is monitored through controller reading of each WTG and the reading of bulk energy meters installed at substation.

Sample Apportioning Procedure:

The apportioning of the electricity is the responsibility of the State Utility. The sample apportioning procedure adopted for any given WTG for any given month is given below:

Generation Ratio at metering point (33 kV/220 kV level GSS):

The generation ratio is the ratio of electricity generated by installed WTG of PP to the total generation by all the connected WTGs to the applicable metering point.

$$GR_{\text{metering point}} = \frac{EG_{\text{Controller, WTG}}}{EG_{\text{Controller, metering point}}} \quad (a)$$

Where:

$GR_{\text{metering point}}$: Generation Ratio at metering point

$EG_{\text{Controller, WTG}}$: Electricity generated by installed WTG of PP connected to the applicable metering point.

$EG_{\text{Controller, metering point}}$: Total generation by all the connected WTGs to the applicable metering point.

Calculation of net electricity exported at applicable metering point:

The Main and Check meters at the applicable metering point measures number of parameters including export and import for all the connected WTGs.

The import, kWh by the WTG at the metering point is calculated in the following manner:

$$EG_{\text{Import, metering point}} = GR_{\text{metering point}} \times EG_{\text{Total Import, metering point}} \quad (b)$$

Where:

$EG_{\text{Import, metering point}}$: Import, kWh by the WTG at the metering point

$GR_{\text{metering point}}$: Generation Ratio at metering point

$EG_{\text{Total Import, metering point}}$: Total Import, kWh by all the WTGs at the metering point

The export, kWh by the WTG at the metering point is calculated in the following manner:

$$EG_{\text{Export, metering point}} = GR_{\text{metering point}} \times EG_{\text{Total Export, metering point}} \quad (c)$$

Where:

$EG_{\text{Export, metering point}}$: Export, kWh by the WTG at the metering point

$GR_{\text{metering point}}$: Generation Ratio at metering point

$EG_{\text{Total Export, metering point}}$: Total Export, kWh by all the WTGs at the metering point

The net electricity exported by the WTG at the 33 kV/220 kV level metering point is calculated by subtracting equation (b) from (c).

Thus, the net electricity exported at 33 kV/220 kV level metering point

$$= EG_{\text{Export, metering point}} - EG_{\text{Import, metering point}} \quad (d)$$

Transmission Loss Calculation:

The total transmission loss occurred during export of the electricity between the 33/220 kV level pooling station & 220 kV level common delivery point is calculated as the difference between total aggregated reading of export for all metering points at 33/220 kV level and the total reading of export for same metering points recorded at the 220 kV level. Similarly, transmission loss occurred during import of the electricity is also calculated.

The PP/WTG wise transmission loss during export & import is calculated by multiplying the values of arrived transmission loss for export & import for wind farm with the Generation Ratio at common delivery point.

During site visit the process of calculation of baseline emission reduction is verified by team leader including the above stated apportioning and transmission loss calculation and is found to be followed appropriately on site.

Supporting documents used for calculation of final value has been checked on site and a sample calculation was reproduced to understand the calculation process however the supporting documents are not under purview of Client as they include other PPs details as well hence they are confidential in nature thus the apportioning and transmission loss calculations are not included in ER sheet.

However, the import and export values of PP's WTGs can be appropriately verified in ER sheet from the available JMRs and Invoices provided by third party to PP hence the approach used to calculate baseline emissions is found to be correct and thus accepted.

Generation Ratio at common delivery point:

It is the ratio of electricity generated by installed WTG to the total generation by all the connected WTGs/ or connected metering points under common delivery point.

$$GR_{\text{Common Delivery Point}} = EG_{\text{Controller, WTG}} / EG_{\text{Controller, Common Delivery Point}} \quad (e)$$

Where,

$GR_{\text{Common Delivery Point}}$: Generation Ratio at common delivery point

EG_{Controller, WTG} : Electricity generated by installed WTG

EG_{Controller, Common Delivery Point} : Total generation by all the connected WTGs/ or connected metering points under common delivery point

Calculation of net electricity delivered to the Grid:

The values of transmission loss during export & import for the given WTG are subtracting from EG_{Export, metering point} & EG_{Import, metering point} respectively to get the values of export and import respectively for the given month.

The net electricity delivered to the Grid by the given WTG is calculated by subtracting equation (b) from (c). Thus,

$$= \text{Export} - \text{Import} \quad (f)$$

These apportioned values viz import, export and net export kWh can be referred from the Monthly JMR/10/ and Invoice/11/.

The below tables describe how the parameter $EG_{PJ, Facility, y}$, is to be measured according to the monitoring plan, has been verified to confirm that the actual monitoring complies with the monitoring plan, monitoring data has been thoroughly assessed and that the calibration requirements are met:-

Parameter	Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y, $EG_{PJ, facility, y}$ (MWh)	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	The electricity exported to the grid is determined through controller reading and bulk energy meter installed at government sub-station. The electricity exported is measured on continuous basis and reported monthly.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered VCS Joint PD&MR /3/ and monitoring methodology/7/.
	Monitoring equipment	No monitoring equipment is used as this parameter is calculated. However, the parameters Export and Import

		values are calculated using measured values, which are continuously monitored and monthly recorded.
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	The accuracy of the monitoring equipment used to measure the input values such as import and export to calculate net electricity generation value is 0.2s, which is as per the registered VCS Joint PD&MR /3/ which is as per the norm defined in the PPA/14/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range.
	Calibration frequency /interval:	Calibration frequency of the meters is once in 3 years as per the registered monitoring plan.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the manufacturer's specifications?	Yes. The calibration frequency is once in 3 years as outlined in the registered VCS Joint PD&MR /03/ is in accordance with the national standards/17/.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Calibration of the measuring equipment's is carried out by an accredited entity.
	Is(are) calibration(s) valid for the whole reporting period?	Calibration of energy meters is valid for the current monitoring period.

	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out appropriately.
	How were the values in the monitoring report verified?	Cumulative value of $EG_{P,j, facility,y}$ for entire monitoring period is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/. The monthly values were verified from the credit notes issued by state utility and found to be consistent. Value of this parameter for the current monitoring period was verified as 2,680.75 MWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EG_{P,j, facility,y}$ were further cross checked with the monthly invoices raised by the PP /12/ to state utility and found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	On site personnel interview with the project stakeholder of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable. The desk review of O&M agreement and register monitoring plan and its implementation in the current monitoring period is done to satisfactorily verify that the system is in place
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the	No such issues.

	CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	
Findings	CAR#02 was raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan. The emission reduction calculation for the project activity is estimated based on the electricity supplied by the WTGs. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Parameters fixed ex ante:

EF_{grid,OM,y}; tCO₂/MWh: It is the operating margin emission factor for Unified Indian Grid fixed at the time of project registration, the mentioned value of 0.9568 tCO₂/MWh is consistent with the registered VCS Joint PD&MR /3/.

EF_{grid,BM,y}; tCO₂/MWh: It is build margin emission factor for Unified Indian Grid fixed at the time of project registration the mentioned value of 0.8682 tCO₂/MWh is consistent with the registered VCS Joint PD&MR /3/.

EF_{grid,CM,y}; tCO₂/MWh: It is the combined margin emission factor for Unified Indian Grid fixed at the time of project registration the mentioned value of 0.9346 tCO₂/MWh is consistent with the registered VCS Joint PD&MR /3/.

Calibration of meters:

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

The current meter details for M/s D.J. Malpani are as follows:

Location	Meter No.	Type	Make	Accuracy	Calibration Date	Validity of Calibration
SEL 81	RJB90208	Main Meter	Secure	0.2	17-June-2019	16-June-2022

SEL 81	RJB90209	Back Up Meter	Secure	0.2	17-June-2019	16-June-2022
SEL 204	RJB85056	Main Meter	Secure	0.2	12-June-2019	11-June-2022
SEL 204	RJB85057	Back Up Meter	Secure	0.2	12-June-2019	11-June-2022

Assessment on delay in calibration:

The energy meter calibration certificates/11/ are checked and found that the calibration details provided in the MR are correct. From the verification of above table, verification team also confirms that the energy meter calibrations are valid for the complete monitoring period i.e., from 01-September-2021 to 31-March-2022.

The verification team has checked all the meters and confirmed that the meters were working satisfactorily. Also, the calibration of meters is completely under purview of state utility and PP has no control over the same as confirmed through interviews of site personnel and PPA signed by the PP with state utility/14/.

Hence it can be concluded that the approach followed by the PP is conservative and in line with the guidelines provided under paragraph 3.4.2 of VCS version 4.3. The registered VCS Joint PD&MR /3/ & MR /1/ and site audit observations confirm that the metering equipment are sealed and maintained by the state utility.

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

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

GHG Calculations:

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

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

Where:

BE_y = Baseline Emissions in year y; tCO₂

$EG_{PJ,y}$ = Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year y; MWh

$EF_{grid, y}$ = CO₂ emission factor of the grid in year y; tCO₂/MWh

The baseline emissions for the project activity for the current monitoring period are as follows.

Baseline Emission factor = 0.9346 tCO₂/MWh

Calculation of EG_{PJ,y}

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

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

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)

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

Net Electricity Supplied to the Grid, EG_{PJ,facility,y} = 2,680.75 MWh

Baseline Emission, BE_y = 2,680.75 x 0.9346

= 2,505 tCO₂e (ROUND DOWN)

The verification team confirms that appropriate methods and formulae for calculating baseline emissions have been followed. The assumptions, emission factors and default values that were applied in the calculations are justified. The verification team confirms that appropriate methods and formulae for calculating baseline emissions have been followed.

The assumptions, emission factors and default values that were applied in the calculations are justified. The actual emission reduction achieved during the current monitoring period are 67.89% lower than the estimated amount of emission reductions as per VCS Joint PD&MR /3/, which is due to following reasons: -

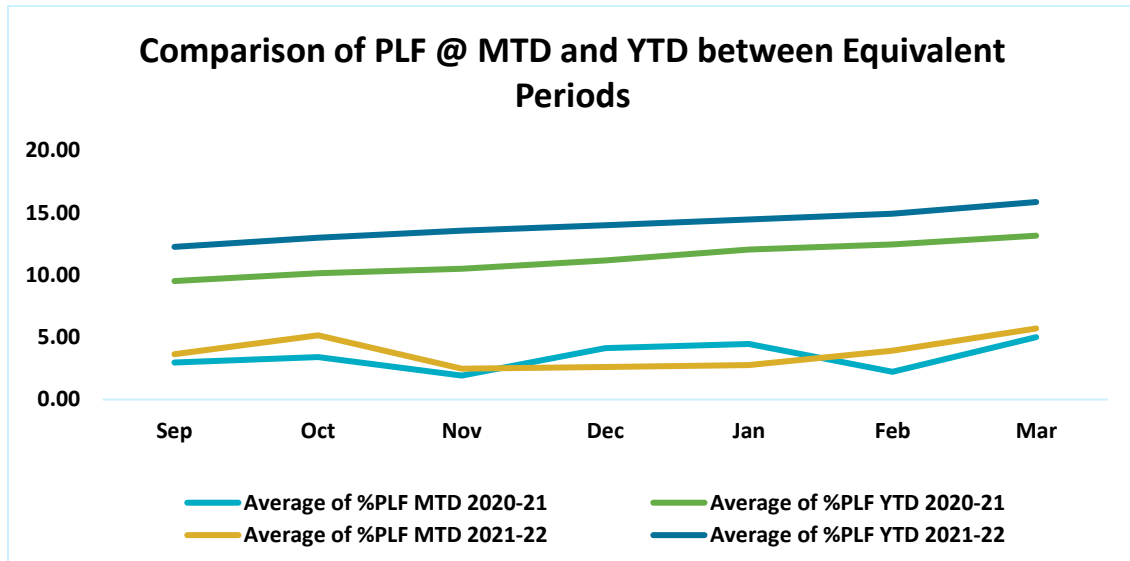
- The average PLF of 14.01% is achieved in the current monitoring period as per the DGR report submitted by PP /30/ which is 7.87% less as compared to the 21.88% PLF considered by PP in registered VCS Joint PD&MR /3/ which is completely governed by the availability of wind. The impact of lower PLF on ERs achieved was approximately 36-41%. Assessment team has verified that the current monitoring period falls under lean period when the wind⁴ availability is very less thus the generation is considerably less as can be verified from the weather data available through government weather monitoring websites and local weather monitoring station websites of Jaisalmer district where the project is implemented.

⁴ <http://aws.imd.gov.in:8091/state.php?id=RAJASTHAN>

https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/jaisalmer_india_1269507

<https://www.weatheronline.in/weather/maps/city?FMM=9&FYY=2021&LMM=3&LYY=2022&WMO=42328&CONT=inin®ION=0024&LAND=IRJ&ART=TMX&R=0&NOREGION=0&LEVEL=162&LANG=in&MOD=tab>

- Assessment team has assessed the breakdown details of previous monitoring period as well and presented it in a tabular and graphical comparison of the PLF at the project site during our monitoring period months.



	Average of %PLF MTD	Average of %PLF YTD	Average of %PLF MTD	Average of %PLF YTD
	2020-21	2020-21	2021-22	2021-22
September	2.97	9.52	3.65	12.26
October	3.41	10.14	5.16	12.99
November	1.92	10.49	2.48	13.56
December	4.12	11.16	2.62	14.00
January	4.46	12.05	2.77	14.45
February	2.23	12.46	3.92	14.92
March	5.01	13.16	5.71	15.86
Average PLF		11.28		14.01

- Based on the table and graph presented it can be seen that for the period September to March in any year, the PLF achieved is low compared to PLF achieved throughout the year. For 2020-21 and 2021-22 block of years, where the VVB performed the analysis, it was found that the PLF for 2021-22 (present monitoring period) is in fact 24% higher than the previous year for the same period i.e., September 2020 to March 2021. This clearly establishes the fickle nature of wind and the impact on PLF that fluctuates with wide ranges for any given year. Besides the equivalence in the MR section was compared between the ER achieved (7-month period) vis a vis the ER in the registered PD (by taking the unitary method). Upon comparing breakdown periods during this period (September-March of 2021-22) and (September-March 2020-21) it is found that between September-March 2020-21 the breakdown hours were 1548.7 hours which is in fact higher than the 1314.9 hours of this Monitoring period. In light of the facts presented the VVB concludes that the lower PLF achieved is due to the factors presented above and chiefly due to the wide fluctuations in wind generation.
- As a result of the low PLF the impact on GHG emission reductions were assessed to be in the range of 36-41 % and major shutdown of plant for 1319.4 hours including the scheduled maintenance and non availability of wind results in 26% down in emission reduction which is verified by the breakdown details submitted by PP /27/ hence the generation achieved by the project activity in current monitoring period is less by 67.89% hence accepted by VVB.
- This comparison is submitted in the ER sheet along with a justification confirming that this event of lower power generation was an unforeseen situation and also not under the direct control of PP. Since the emission reduction is comparatively very less than the estimated emission reduction and proper justification is provided above and it is in line with all the documents submitted by PP, hence accepted.

All the data were made available and have been monitored as per required monitoring frequency. The means of verification for the values of parameters, used for baseline emission calculation, is described above.

VKU is of the opinion that this method of calculation of emission reductions is accurate and results in conservative estimation of emission reduction and is in line with the applicable VCS requirements.

4.6 Non-Permanence Risk Analysis

There is no non-permanence risk rating determined by the project proponent for the project activity hence not applicable.

5 VERIFICATION CONCLUSION

M/s VKU Certification Pvt. Ltd. has performed the second verification of the second crediting period reported for the project activity “Grid Connected Wind Power Project by M/s. D. J. Malpani in Rajasthan” in India, VCS Registry Project ID 1021, for the period 01-September-2021 to 31-March-2022 (Inclusive of both start and end dates), with regard to the relevant requirements for VCS activities. As described in the report from section 1 to 4, VKU has performed the entire verification according to the verification criteria for projects and their GHG emission reductions or removals set out in VCS Standard Version 4.3/5/. The project participants of the “Grid Connected Wind Power Project by M/s. D. J. Malpani in Rajasthan” project are responsible for:

- The preparation of greenhouses gas emissions data and the reported greenhouse gas emission reductions from the project on the basis set out in the monitoring plan contained in the registered VCS Joint PD&MR version 2.0 of 22-October-2021.
- The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of greenhouse gas emission reductions of the project.

It is the responsibility of VKU to express an independent verification opinion about the project’s conformity with the requirements of VCS Standard version 4.3/5/ and GHG program applied, on the reported greenhouse gas emission reductions from the project.

Based on documented evidence and corroborated by an on-site assessment, VKU can confirm that:

- The project has been implemented and operated as per the registered VCS Joint PD&MR /3/
- The monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard version 4.3/5/ requirements;
- The monitoring is in place as per the applied baseline and monitoring methodology;
- The monitoring plan in the registered VCS Joint PD&MR/3/ is as per the applied baseline and monitoring methodology.

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

It is VKU's opinion that the GHG emission reduction stated in the monitoring report version 3.0 of 22-August-2022 for the "Grid Connected Wind Power Project by M/s. D. J. Malpani in Rajasthan" in India for the period 01-September-2021 to 31-March-2022 (Inclusive of both start and end dates) are fairly stated. The GHG emission reductions are calculated on the basis of approved methodology AMS I.D. version 18.0/7/ and the monitoring plan included in the registered VCS Joint PD&MR, version 2.0 of 22-October-2021/3/.

Hence VKU is able to certify that the emission reduction from the project during the current monitoring period from 01-September-2021 to 31-March-2022 (Inclusive of both start and end dates) amounts to 2,505 tCO₂e. The following table shows the Net Emission Reduction from 01-September-2021 to 31-March-2022 (Inclusive of both start and end dates) of Second crediting period from 21-March-2021 to 20-March-2031 (Inclusive of both dates)

Verification period: From 01-September-2021 to 31-March-2022 (Inclusive of both start and end dates):

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)
Year 2021 (01-September-2021 to 31-December-2021)	1,272	0	0	1,272
Year 2022 (01-January-2022 to 31-March-2022)	1,233	0	0	1,233
Total	2,505	0	0	2,505

APPENDIX A: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EF	Emission Factor
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MoV	Means of Verification
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PD	Project Description
PE	Project Emission
PP(s)	Project Participant(s)
Ref.	Document Reference
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VCU	Verified Carbon Unit
VKU	VKU Certification Ltd.
VCS	Verified Carbon Standard
VVS	Validation and Verification Standard
VVB	Validation and verification body

APPENDIX B: AUDIT FINDINGS

Type		Date	11/07/2022
CL#01		Reference	Section of Ver protocol: 1/DR& Section 3/DR
Description of the Non Conformance			
- PP is requested to submit the declaration to the VVB confirming there is no credit received or claimed for this monitoring period as mentioned in section 1.10 - PP is requested to submit a copy of grievance register			
1stResponse from PP		Date	19/07/2022
- Declaration letter regarding Double Counting has been submitted to the assessment team. - No grievances has been received during the current monitoring period.			
1stAssessment by Audit Team	Status	Open	Date 28/07/2022
- PP has submitted the declaration to VVB confirming that there is no credit received or claimed during the current monitoring period. Hence accepted. - PP is requested to provide the ongoing stakeholder consultation process document to verify that there has been no grievances received during the current monitoring period. Hence CL#01 is open			
2nd Response from PP		Date	28/07/2022
Point 2. PP has been implementing the local stakeholder consultation process at site and also kept Grievance register on site for local villagers/ visitors. Now grievance register has been provided to the verification team.			
2nd Assessment by Audit Team	Status	Closed	Date 02/08/2022
PP has provided the grievance register photograph and no negative issues were found in the current monitoring period. Hence Accepted. CL#01 Closed			

Type		Date	11/07/2022
CAR#01		Reference	Section of Ver protocol: 1

Description of the Non Conformance				
1. PP is requested to update the Monitoring Report as per Latest Monitoring Report Template Version 4.1. 2. As per the Latest MR template the Headline on first page is in Font Century Gothic Size 13. 3. Please update the following sections i.e. (Contents, 1.11 & 3.2) as per Latest VCS Monitoring Report Template Version 4.1.				
1 st Response from PP		Date	19/07/2022	
1. Monitoring Report has been updated in latest template of version 4.1. 2. Font size has been corrected on first page of the updated MR. 3. Section 1.11 & 3.2 has been updated in MR.				
1 st Assessment by Audit Team	Status	Closed	Date	28/07/2022
PP has updated the entire monitoring report sections in MR version 02 and found to be consistent with the MR template form version 4.1. Hence accepted. CAR#01 is Closed				

Type	Date	11/07/2022
CAR#02	Reference	Section of Ver protocol: section 1 &4
Description of the Non Conformance		
1. PP is requested to provide a working link in section 1.9 of MR 2. PP is requested to provide the major breakdown details for the current monitoring period i.e.01-September-2021 to 31-March-2022 (first and last date included) Since the records provided to the VVB are of current monitoring period& the table provided in Appendix is for previous monitoring period thus cannot be verified hence update accordingly.		
1 st Response from PP	Date	19/07/2022
1. Link has been updated in section 1.9 of the revised MR. 2. Breakdown details has been updated in Appendix 2 of the revised MR and reports has been provided to the verification team.		
1 st Assessment by Audit Team	Status	Open
	Date	28/07/2022
PP is requested to provide the breakdown details either on daily basis or monthly basis to verify the details of breakdown appropriately.		
Hence CAR#02 is Open		
2nd Response from PP	Date	28/07/2022
Breakdown details has been provided in Appendix 2 of the updated MR.		

2nd Assessment by Audit Team	Status	Closed	Date	02/08/2022
PP has provided the breakdown details for the current monitoring period appropriately in the revised MR version 02.1 which can be verified from the breakdown details provided. Hence accepted. CAR#02 Closed				

Type		Date	11/07/2022	
CAR#03		Reference	Section of Ver protocol: 5 (ER SHEET)	
Description of the Non Conformance				
PP is requested to check the formula entered in ER sheet (Summary Section).				
1 st Response from PP		Date	19/07/2022	
Formula has been corrected in summary section of the updated ER sheet.				
1 st Assessment by Audit Team	Status	Closed	Date	28/07/2022
PP has updated the formula in the revised ER sheet version 02. Hence accepted.				
CAR#03 is closed				

APPENDIX C: COMPETENCE STATEMENT

Team Leader-



VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Rakesh Chouhan
Nationality	India
Countries of Experience	India
Education Qualification	M. Tech- Energy Management B. E. - Chemical Engineering
Year of Experience	17 Years
Area of Expertise	Climate Change & Environment / Industry
Eligible Sectoral Scope	1. GHG emission reductions from fuel combustion

Roles

Team Leader	YES
Validator	YES
Verifier	YES
Financial Expert	No
Technical Reviewer	YES
TA Expert (TA1.1, TA1.2 and TA3.1)	YES

Technical Reviewer-



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Sanjay Kumar
Nationality	Indian
Countries of Experience	India
Education Qualification	B.E. (Civil Engineering) M. Tech (Environmental Engineering)
Year of Experience	20 Years +
Area of Expertise	Climate Change & Environment Sustainable Development GHG Footprints
Eligible Sectoral Scope	TA 1.1 - Thermal energy generation and Renewables TA 1.2 - Renewables TA 3.1 - Energy Demand TA 6.1 - Construction TA 13.1 - Solid waste and wastewater TA 13.2 - Manure

Roles

Team Leader	YES
Validator	YES
Verifier	YES
Financial Expert	YES
Technical Reviewer	YES
TA Expert (1.1, 1.2, 3.1, 6.1, 13.1, 13.2)	YES