



WIND PROJECT IN MAHARASHTRA, INDIA BY KAYATHAR AND JATH

Document Prepared By



VKU Certification Pvt. Ltd.

Regd. Off: Flat No. 306, Sky Star, N-1, New Rani Bagh Khandwa Road, Indore, Madhya Pradesh, India - 452020

URL: <http://vkucertification.com> | e-mail: info@vkucertification.com

Project Title	Wind Project in Maharashtra, India by Kayathar and Jath
Version	1.1
Report ID	VKU.VER.73.22_VCS_1520

Report Title	Wind Project in Maharashtra, India by Kayathar and Jath
Client	NSL Wind Power Company (Kayathar) Pvt. Ltd
Pages	101
Date of Issue	30-October-2023
Prepared By	VKU Certification Pvt. Ltd.
Contact	Regd. Off: Flat No. 306, Sky Star, N-1, New Rani Bagh Khandwa Road, Indore, Madhya Pradesh - 452020 URL: http://vkucertification.com e-mail: info@vkucertification.com
Approved By	Dr. Vikas Kumar Aharwal (Founder and Director) vikas.aharwal@vkucertification.com
Work Carried Out By	Barun Kumar - Team Leader cum Technical Expert TA 1.2 (Local Expert – Country: India) Niharika Kaushik - Validator/Verifier Anil Dhankar - Validator/Verifier-Trainee Komal Kumari – Project Trainee Sanjay Kumar- Technical Reviewer cum Technical Expert TA 1.2

Summary:

VKU Certification Pvt.Ltd. (hereafter referred as VKU) was commissioned by NSL Wind Power Company (Kayathar) Pvt. Ltd (hereafter referred as PP) has verified the greenhouse gas emission reductions reported for the project activity “**Wind Project in Maharashtra, India by Kayathar and Jath**” (**VCS ID 1520**) in India. This is the eighth periodic verification for monitoring period from **01-May-2022 to 31-December-2022 (Inclusive of both start and end dates)** of fixed crediting period i.e., **30-March-2014 to 29-March-2024 (Inclusive of both dates)** of the project activity.

The purpose of the verification: The objective of the verification process is to obtain an impartial evaluation of the ex-post determination of the monitored reductions in greenhouse gas (GHG) emission. This verification ensures that the monitoring methodology aligns with the plan outlined in the registered VCS Joint PD&MR /3/, and that the monitoring data used to confirm reductions in human-caused emissions from sources is comprehensive, definitive, and transparently presented.

The verification scope of the project is:

- To verify that the project is implemented as described in the registered VCS Joint PD & MR /3/.
- To evaluate the project's adherence to relevant regulations, including the legislation of the host country (India).
- To verify the implementation and functionality of the monitoring system, ensuring the generation of Verified Carbon Units without any instances of double counting.
- To verify the accuracy, completeness, consistency, transparency, and absence of significant errors or omissions in the reported data by examining monitoring records and emissions reduction calculations.
- To ensure that the actual monitoring systems and procedures align with those described in the monitoring plan.
- To assess the GHG emission reduction data and provide a conclusion with a reasonable level of assurance regarding the absence of material misstatements.
- 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 4.4/8/, VCS standard version 4.5/10/, VCS Validation and Verification Manual version 3.2/11/, CDM M&P, the latest version of the CDM Validation and Verification Standard 3.0/12/, and relevant decisions of the COP/MOP and the CDM EB viz., the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country (India) legislation. Furthermore, standard auditing techniques were applied throughout the verification process.

The verification process included *inter alia* a desk review, on-site assessment and the resolution of outstanding issues and the issuance of the final verification report and certification. This comprehensive verification is aimed to ensure that the reported emission reductions are thorough and precise, aligning with the relevant VCS requirements, thus enabling the project to obtain

certification.

VKU diligently followed the rule-based approach during the verification process, ensuring strict adherence to the applicable VCS requirements. The verification encompassed a comprehensive assessment of the project activity's operations, monitoring procedures, and GHG emission reduction calculations.

During this eighth verification of fixed crediting period, it is to note that as a result, a total of **(05) findings were identified, comprising (02) Corrective Action Request (CARs); (03) Clarification Requests (CLs) and zero (00) Forward Action Requests (FAR)**. All the raised findings were successfully resolved/closed after necessary corrections/clarifications by the client. 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 by verifying 100% of the data with the supporting documents and evidences made available to the assessment team. This was performed during desk review and also during site visit by conducting personnel interviews and focussed group discussions along with verification of data present on-site in accordance with applicable VCS requirements to be certified therefore the verification team has detected no further uncertainties.

The GHG emission reductions were calculated based on the approved methodology ACM0002. Consolidated baseline methodology for grid connected electricity generation from renewable sources - Version 16 /13/ and Tool to calculate the emission factor for an electricity system; Version 05.0.0/19/ and the monitoring plan included in the registered VCS Joint PD & MR (version 02) dated 19-March-2016/3/.

Verification Conclusion:

Based on VKU's thorough assessment, it is their professional judgment that the project activity "Wind Project in Maharashtra, India by Kayathar and Jath." (VCS ID 1520) fully complies with the applicable requirements of VCS standard version 4.5 /10/ and associated guidelines. The project has successfully implemented the designated baseline and monitoring methodology outlined in ACM0002. Consolidated baseline methodology for grid connected electricity generation from renewable sources - Version 16 /13/.

The monitoring system in place is effective and reliable, ensuring reasonable level of measurement allowed by the methodology and the VCS standards without any significant discrepancies. As a result, VKU is able to objectively state that the project has achieved an emission reduction of **81,388 tCO₂e** during the eighth verification of fixed crediting period (30-March-2014 to 29-March-2024; Including both dates) which spans from **01-May-2022 to 31-December-2022 (Inclusive of both start and end dates)**. This certification affirms the project's substantial contributions towards mitigating greenhouse gas emissions.

CONTENTS

1	Introduction	7
1.1	Objective	7
1.2	Scope and Criteria	8
1.3	Level of Assurance.....	9
1.4	Summary Description of the Project	10
2	Verification Process	13
2.1	Method and Criteria.....	13
2.2	Document Review	14
2.3	Interviews	18
2.4	Site Visits	19
2.5	Resolution of Findings	20
2.5.1	Forward Action Requests	21
2.6	Eligibility for Validation Activities	21
3	Validation Findings	22
3.1	Participation under Other GHG Programs	22
3.2	Methodology Deviations.....	24
3.3	Project Description Deviations.....	24
3.4	Grouped Project	24
4	Verification Findings	25
4.1	Project Implementation Status	25
4.2	Safeguards	42
4.2.1	No Net Harm	42
4.2.2	Local Stakeholder Consultation	43
4.3	AFOLU-Specific Safeguards	44
4.4	Accuracy of GHG Emission Reduction and Removal Calculations	44
4.5	Quality of Evidence to Determine GHG Emission Reductions and Removals	47
4.6	Non-Permanence Risk Analysis.....	76
5	VERIFICATION OPINION	77
	APPENDIX A: ABBREVIATIONS	80

APPENDIX B: AUDIT FINDINGS	82
APPENDIX C: COMPETENCE STATEMENT	97

1 INTRODUCTION

1.1 Objective

NSL Wind Power Company (Kayathar) Pvt. Ltd¹. (hereafter referred as PP) commissioned VKU Certification (here after referred as VKU) to carry out eighth verification of the project “Wind Project in Maharashtra, India by Kayathar and Jath” (VCS ID 1520) project in India for the period from 01-May-2022 to 31-December-2022 (Inclusive of both start and end dates) under fixed crediting period from 30-March-2014 to 29-March-2024 (Inclusive of both dates).

The objective 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 4.4 /8/, VCS standard version 4.5 /10/ and GHG program applied, on the basis of the registered VCS Joint PD & MR Version 02 dated 19-March-2016/3/.

This is the eighth periodic verification of **fixed crediting period (30-March-2014 to 29-March-2024)**, (Inclusive of both dates) for a period of eight months or 245 days i.e., from 01-May-2022 to 31-December-2022 (Inclusive of both start and end dates). The project activity adopts fixed crediting period of 10 years period as mentioned in section 1.6 of VCS Joint PD & MR Version 02 dated 19-March-2016/3/.

Table No 01: Number and time period of Verification under fixed crediting period:

1 st Crediting Period Audit Trail			
Audit Type	GHG Programme	Monitoring Period (Inclusive of both dates)	Number of years
Joint Validation and 1 st Verification	VCS	<u>30-March-2014 to 31-January-2016</u>	1 year, 10 months, 2 days
2 nd Verification	VCS	<u>01-February-2016 to 30-September-2017</u>	1 year, 8 months
3 th Verification	VCS	<u>01-October-2017 to 31-August-2018</u>	11 months
4 th Verification	VCS	<u>01-September-2018 to 31-October-2019</u>	1 year, 2 months
5 th Verification	VCS	<u>01-November-2019 to 31-October-2020</u>	1 year 00 months 00 days

¹ The project activity is a bundled project of total capacity 67.5 MW developed by two project participants i.e., Jath Wind Energy Private Limited & NSL Wind Power Company (Kayathar) Pvt. Ltd. and the bundle has been represented by only one project proponent, i.e., NSL Wind Power Company (Kayathar) Pvt. Ltd.

6 th Verification	VCS	<u>01-November-2020 to 31-August-2021</u>	00 Years 10 months 00 days
7 th Verification		01-September-2021 to 30-April-2022	00 Years 8 months 00 days
8 th Verification (Current Monitoring Period)	VCS	01-May-2022 to 31-December-2022	00 Years 8 months 00 days
Total	VCS	—	8 years, 9 months, 2 days

The verification will be performed by review of evidences & documents submitted to the VKU Assessment Team by PP, for the registered project activity to establish that:

- The project activity has been implemented and operated in strict adherence to the registered VCS Joint PD & MR Version 02 dated 19-March-2016 /3/ & MR /1/. Furthermore, all essential physical aspects (technology employed, technical specifications of the WTGs, project equipment's, metering and monitoring protocols) of the project have been diligently implemented.
- The monitoring report/1/ and accompanying documentation have been meticulously compiled and are comprehensive in nature.
- The data has been methodically recorded and stored in accordance with the prescribed monitoring methodology outlined in ACM0002. Consolidated baseline methodology for grid connected electricity generation from renewable sources - Version 16 /13/ and approved monitoring plan.

The verification process aimed to confirm the seamless implementation and full functionality of the monitoring system, ensuring the accurate generation of Verified Carbon Units (VCUs) without any instances of double counting/28/. Additionally, meticulous scrutiny of the monitoring records and emissions reduction calculations has been carried out to guarantee the completeness, consistency, transparency and absence of any material errors or omissions in the reported data. This aims to establish the reliability and integrity of the data.

1.2 Scope and Criteria

The scope of this verification was the independent, objective review and ex-post determination of the monitored reductions in GHG emissions from the project i.e., “Wind Project in Maharashtra, India by Kayathar and Jath”. The verification of this project was based on the validated & registered VCS Joint PD & MR Version 02 dated 19-March-2016/3/ & monitoring report/1/ along with supporting documents submitted by the project proponent to the VKU verification team. The documents thus submitted to the VKU Assessment Team were reviewed against the following guidance & protocols:

- VCS Programme Guide (Version 4.4) /8/
- VCS Standard (Version 4.5) /10/

- iii) VCS Program Definitions (Version 4.4) /6/
- iv) VCS Registration & Issuance Process (Version 4.4) /7/
- v) VCS Validation and Verification manual version 3.2/11/
- vi) CDM Approved methodology ACM0002 Version 16.0 /13/
- vii) Tool to calculate the emission factor for an electricity system (Version 05.0.0)/20/
- viii) Tool for the demonstration and assessment of additionality, Version 07.0.0/21/
- ix) CDM Validation and Verification Standard version 3.0/12/

The steps involved are as follows:

- To assess the project's compliance with other relevant rules including the host country (India) legislation.
- To confirm that the monitoring system is implemented and fully functional to generate verified carbon units without any double counting
- 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 is sufficiently supported by evidence.
- The verification process ensures that the reported emission reductions are comprehensive and accurate in order to obtain certification.

The verification method and criteria encompassed several phases, including

- (i) Desk review of VCS Project Description & Monitoring Report, registered under (Version 02) dated 19-March-2016/3/ and other supporting documents listed in **Table-04:**
- (ii) Onsite interviews & Focussed Group Discussions Stakeholders & PP representatives involved in project's implementation.
- (iii) VKU's Completeness/Quality Check, and
- (iv) The Final issuance of the verification report.

Outstanding issues were resolved, leading to the issuance of the final verification report and the relevant VCS Verification Deed of Representation.

It is important to note that the verification process does not involve providing consultancy to the project proponents. However, requests for clarifications and corrective actions may have contributed to improvements in the monitoring processes.

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, as per section 04 clause 4.1.2, 4.1.10 and clause 4.1.24 of the VCS Standard version 4.5/10/.

The verification report is based on the Monitoring report/1/, registered VCS Joint PD & MR Version 02 dated 19-March-2016/3/ & supporting documents that were made available to the

VKU's assessment team references in table-04 and information collected through performing interviews with PP Representatives/Local Stakeholders during on-site visit /36/

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

Table No 02: The Assessment Team comprises of

Role/Qualification of Assessment Team	Last Name	Middle Name	First Name
VCS Team Leader, Technical Expert TA 1.2 (Local Expert- Country: India)	Kumar	NA	Barun
Validator/Verifier	Kaushik	NA	Niharika
Validator/Verifier - Trainee	Dhankar	NA	Anil
Project Trainee	Kumari	NA	Komal

Table No 03: The Technical Reviewer Team comprises of:

Role/Qualification of Technical Team	Last Name	Middle Name	First Name
Technical Reviewer & Technical Expert TA 1.2	K	Kumar	Sanjay

1.4 Summary Description of the Project

Project Overview:

The project activity involves electricity generation by renewable source (Wind energy) and supplying the generated electricity to the state grid system i.e., Maharashtra State Electricity Distribution Company Limited (MSEDCL), which falls under the Northern, Eastern, Western and North-Eastern regional grids (NEWNE) grid of India, now Unified Indian Grid. The spatial extent of the project boundary is the NEWNE² (Now Unified Indian Grid) located in Jath Taluka, Sangli district of Maharashtra State, India.

² Before April 2016, the Indian electricity system was divided into two grids, the NEWNE and Southern Grid. These are now integrated as a single "Indian Grid" covering all the states.

Project Nature & Energy Source:

This is a greenfield project activity i.e., there was no renewable energy-based electricity generation facility at site of this project and equivalent amount of electricity would have been supplied by fossil-fuel dominated grid – which is pre-project scenario as well as baseline scenario for this project activity. The project activity ensures the reduction of greenhouse gas (GHG) emissions that are real, measurable and verifiable and also plays beneficial role in the mitigation of climate change

The project activity is grid-connected bundled wind energy generation project located in Jath Taluka, Sangli district of Maharashtra State, India. M/s NSL Wind Power Company (Kayathar) Pvt. Ltd. is the Project Proponent of the project activity. The total capacity of the project activity when it got commissioned was 67.5 MW. The 1st machine (WTG) was commissioned on 30-March-2014 and is functioning successfully since then and dates are verified against registered VCS Joint Project Description and Monitoring Report version 02 dated 19-March-2016/3/ and commissioning certificates/29/. PP is also developing the project under CDM³ and received HCA with two sub projects with project title i.e., Wind Power Project by M/s Jath Wind Energy Private Limited in Maharashtra, India and Kayathar Wind Power Project in Maharashtra, India respectively. The further details are added in section 3.1 of this report.

This activity involves installation and operations of 40 numbers of two type Wind turbine generators (WTGs). The 25 WTGs are of Vensys V87 type with rated capacity of 1500 kW each, supplied by ReGen Power Tech Pvt. Ltd. and the 15 WTGs are of WT 2000 DF type with rated capacity of 2000kW each, supplied by INOX WIND Ltd. The entire project is in continuous operation since its date of commissioning of the respective machines with some scheduled and unscheduled breakdowns for this monitoring period defined in section 4.1 of this report, as witnessed by the assessment team during onsite visit, & which was verified against the registered VCS Joint PD & MR/03/ previous Verification report /05/ and commissioning certificates/29/ which were submitted by the PP to the assessment team as a response to the feedback raised by the assessment team during verification assessment as per section 3.26 and clause 3.26.3 of the VCS Standard version 4.5/10/ it is an obligation for the project proponent to make available to the validation/verification body the required supporting documents.

Hence VKU in adherence to the section 3.1, clause 3.1.8 of the VCS Standard version 4.5/10/ conforms that the capacity of the project was verified from the commissioning certificates/29/ and later verified during site visit while cross checking the certificates/name plates of the WTGs installed at site & also by interviewing the site personnels regarding the project commissioning and supply of generated electricity to grid and hence declare that the project capacity is in line with the defined methodology ACM0002 version 16.0.

³ CDM: Project Activities (unfccc.int)

Start date of this project activity is earliest date of commissioning of the 1st machine (WTG) of project activity i.e., on 30-March-2014 and the project was fully commissioned on date of commissioning of last 02 machine (WTG ID ref. no. - NSL P1-171,172 & MV2T-37) i.e., 31-October-2015.

By implementing the project activity, the following GHG sources of emissions are reduced/avoided:

Baseline/Source	Generation of electricity by fossil fuel- dominated grid connected power plants
Project Equipment/Sink	The avoidance of GHG emission into the atmosphere is due to generation of electricity by renewable means i.e., Wind Turbine Generators of this project and exporting to Unified Indian Grid which is in line with 3.1.1 of ISO14064-2 /43/ Renewable Energy Projects do not create sinks, they avoid emissions through their technology i.e., Through installed Wind Power Project.
Baseline GHG emission source reduced/avoided	CO ₂ emissions from fossil fuels and other fuel fired grid connected plants/projects.

As per MR/1/, the electricity generated from the project is supplied to the grid system which is under the purview of the Unified Indian Grid which is confirmed from registered VCS joint Project Description and Monitoring Report version 02 dated 19-March-2016/3/, Group credit notes issued by MSEDCL (Maharashtra State Electricity Distribution Co. Ltd.) and Invoices raised by PP to MSEDCL (Maharashtra State Electricity Distribution Co. Ltd.) /27/ and last verification report/05/ and interview with PP/37/.

This information was verified during on site assessment /36/and found to be in line with the details provided in the registered VCS Project Description version 02 dated 19-March-2016/3/. The net electricity generated by the project activity that was evacuated to the grid during the current monitoring period (8th monitoring period) from 01-May-2022 to 31-December-2022 (inclusive of both the dates) is **83,330.46 MWh**. The total emission reductions achieved in this monitoring period i.e., from of 01-May-2022 to 31-December-2022 (first and last days included) is **81,388 tCO₂e**.

2 VERIFICATION PROCESS

The registered VCS project “Wind Project in Maharashtra, India by Kayathar and Jath” (VCS ID 1520) is undergoing eighth periodic verification of fixed crediting period under VCS with VKU Certification Pvt Ltd for monitoring period from 01-May-2022 to 31-December-2022, both dates included. The fixed crediting period from 30-March-2014 to 29-March-2024 (both dates included)

The approach adopted to ensure the quality of emission reductions is described in the following sections.

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 4.4 /8/, VCS standard document version 4.5 /10/. The project activity does not fall under category “grouped projects”, hence no sampling methods was employed by the assessment team and during onsite visit /36/ verification team reviewed 100% data for all the Wind Turbine Generators involved in this project at site for the verification of GHG emission reductions or removals generated by the project.

- The GHG emission reductions are based on the approved Baseline and monitoring methodology ACM0002 “Grid-connected electricity generation from renewable sources” Version 16.0 /13/
- Sectoral Scope: 01 - Energy Industries (renewable /non-renewable sources)
- Project type: Type I - Renewable energy projects
- This is not a grouped and also a non-AFOLU project.

Tools used for GHG Calculations are as follows as per registered PD /3/:

- Tool to calculate the emission factor for an electricity system, Version 05.0.0 /20/

Keeping in line with ISO (14064-3; 2019, clause 06 & 14065-2020, clause 09) Standard guidelines assessment team has framed down the process for completing the verification and has followed the same throughout the execution of audit of the said project i.e., VCS 1520.

The verification consisted of the following phases.

- 1. Planning and Intimation to VERRA about site visit:** The assessment team identifies the need for site visit and it is planned either remote or physical inspection & team starts with a desk review. Assessment team also shared a NOVS Notice of Validation/Verification Services (NOVS) Form /44/ and submit it to auditing@verra.org, 15 business days before the initial meeting with the project proponent. The form for this project was shared on 16-June-2023 and confirmation for conducting site visit was received from VERRA on 19-June-2023. Decision to take site visit was based on independent risk assessment, as defined in section 4.1.13 of VCS

standard version 4.5/09/ and site visit dates finalised were 11-July-2023. More details are provided in [section 2.4](#) of this report.

2. **Strategic Analysis:** Assessment team performed strategic analysis to understand the activities and complexity of the project, and to determine the nature and extent of the verification activities. The results of the strategic analysis shall be used in the risk assessment.
3. **Risk Assessment;** Assessment team performed risk assessment of the GHG statement to identify the risk of a material misstatement or nonconformity with the criteria.
4. **Evidence Gathering Activities;** Using a risk-based approach assessment team prepared evidence gathering activities, to collect sufficient and appropriate evidence upon which to base the conclusion & determine whether the GHG statement conforms to the criteria, taking into account the principles of the standards or GHG programme that apply to the GHG statement.
5. **Audit and Sampling Plan:** An audit plan is prepared, including all sub-elements required for an integrated verification process aligned with the contract, scope, objectives, level of assurance and materiality, the same was documented in VKU.F24W. Audit and Sampling Plan_VKU.VER.73.22_VCS_1520 /40/.
6. **Evidence Gathering Plan;** The evidence-gathering plan is prepared based on the results of the VKU's Assessment Team's risk assessment. It was designed to lower the verification risk to an acceptable level. The evidence-gathering plan thus specify the type and extent of evidence-gathering activities.
7. **Client Confirmation and Approval:** The site visit audit plan is sent to the client for review and confirmation/approval via email.
8. **Document Review:** Relevant documents, such as the ER Sheet, Monitoring Report and supporting evidences i.e., JMRs. Invoices, calibration records with respect to monitoring plan, methodology, VCS PD and QA/QC procedures are thoroughly reviewed.
9. **On-Site Assessment:** This includes interviews and evaluation of the actual project scenario.
10. **Resolution of Discrepancies:** Any non-conformities identified during the assessment are addressed and resolved.
11. **Independent Review:** A technical reviewer provides an independent assessment.
12. **Final Verification:** After completeness checks, the verification report and certification are issued.

The following sections outline each step in more detail.

2.2 Document Review

During the document review, VKU has applied standard auditing techniques to assess the quality of information provided. The verification was performed primarily based on the review of VCS monitoring report for "Wind Project in Maharashtra, India by Kayathar and Jath." version 1.0 of 14-March-2023, Version 2.0 of 20-October-2023 & **final Version 3.0 of 30-October-2023/1/** and the emission reduction calculations spreadsheet version 1.0 of 14-March-2023, Version 2.0 of 20-October-2023 & **final version 2.1 on 30-October-2023 /2/** were assessed as part of the verification. In addition, the registered VCS Joint Project Description and Monitoring

Report- version 03 dated 19-March-2016/3/in particular the baseline estimations and the monitoring plan for the project was reviewed. The following **table-04** lists the documentation that was reviewed during the verification.

As per section 3.26 and clause 3.26.3 of the VCS Standard version 4.5/10/ it is an obligation for the project proponent to make available to the assessment team the required supporting documents and data needed to support statements and data as documented in the monitoring report. Thus, the assessment team reviewed the following documents during verification:

Table No: 04; Lists of the documentation that were reviewed during the current verification:

Current Verification Reference Documents	
/1/	M/s. NSL Renewable Power Private Limited: VCS monitoring report for “Wind Project in Maharashtra, India by Kayathar and Jath.” in India, - Version 1.0 of 14-March-2023 - Version 2.0 of 22-October-2023 - Version 3.0 of 30-October-2023
/2/	M/s. NSL Renewable Power Private Limited: Emission Reduction Calculation Spreadsheet, - Version 1.0 of 14-March-2023 - Version 2.0 of 22-October-2023 - Version 2.1 of 30-October-2023
Background Documents/Weblinks	
/3/	<u>Registered VCS Joint PD & MR- for the project ‘Wind Project in Maharashtra, India by Kayathar and Jath.’ version 02 dated 19-March-2016</u>
/4/	<u>LGAI Technological Center, S.A (Applus+ Certification): VCS Joint Validation and verification- Report: Wind Project in Maharashtra, India by Kayathar and Jath., Version 01, dated 21-March-2016</u>
/5/	VKU Certification Pvt. Ltd.: Verification Report: Wind Project in Maharashtra, India by Kayathar and Jath., Version 1.1, dated 14-October-2023
/6/	<u>VCS program Definitions (Version 4.4) of 29-August-2023</u>
/7/	<u>VCS Registration & Issuance Process (Version 4.4) of 31-August-2023</u>
/8/	<u>VCS: VCS Program Guide, version 4.4 of 29-August-2023</u>
/9/	<u>VCS Standard, version 4.4 dated 17-January-2023</u>
/10/	<u>VCS: VCS Standard, version 4.5 of 4-October-2023 (Latest)</u>
/11/	<u>Validation and verification manual version 3.2 dated 19-October-2016</u>
/12/	<u>CDM Validation and Verification Standard version 3.0 dated 09-September-</u>

	<u>2021</u>
/13/	<u>CDM Executive Board: Baseline and Monitoring Methodology “ACM0002: Grid-connected electricity generation from renewable sources- Version 16.0</u>
/14/	<u>VERRA: Project search</u>
/15/	<u>UNFCCC: Project search</u>
/16/	<u>Renewable Energy Certificate Registry of INDIA - Registered RE Generator List (recregistryindia.nic.in)</u>
/17/	<u>I-REC Standard - The International REC Standard Foundation (irecstandard.org)</u>
/18/	<u>Gold Standard Foundation</u>
/19/	<u>EIA NOTIFICATION dated 14-September-2006</u>
/20/	Tool to calculate the emission factor for an electricity system, Version 05.0
/21/	<u>Tool for the demonstration and assessment of additionality, Version 07.0.0</u>
/22/	<u>CO₂ Baseline Database for the Indian Power Sector</u>
/23/	<u>Ministry of Environment, Forest and Climate Change (MoEF&CC) Notification dated 14-September-2006 (S.O. 1533(E)</u>
Reference/Supporting documents submitted by PP to VVB	
/24/	Wind Energy Purchase Agreement between M/s NSL Wind Power Company (Kayathar) Pvt. Ltd. and by Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL)
/25/	Certificates of Calibration for all the energy meters for the project activity active during current monitoring period (01-May-2022 to 31-December-2022, inclusive of both start and end dates) issued by Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL). Meter Replacement Certificates Dated 01-May-2022
/26/	JMRs Issued by Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL) to PP i.e., NSL Wind Power Company (Kayathar) Pvt. Ltd.
/27/A	Invoices issued by PP to DISCOM i.e., Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL)
/27/B	LCS Meter Readings
/28/	Letter of declaration dated from PP regarding not having created or sought any other form of environmental credit for the current verification period (01-May-2022 to 31-December-2022, inclusive of both start and end dates)
/29/	Commissioning Certificates of all 40 Machines (Wind Turbine Generators) of the project activity issued by Maharashtra State Electricity Distribution Co. Ltd.

	(MSEDCL).
/30/	Technical Specifications of Wind Turbine Generators (WTGs) of “Wind Project in Maharashtra, India by Kayathar and Jath.” project as specified by manufacturer ReGen Power Tech Private Limited and INOX Wind Private Limited.
/31/	Grievance Register/Grievance-Resolution Letters present on project implemented site; more information related to the same has been included in <u>Section 4.2.2</u> of this report
/32/	Tripping/Breakdown Details
/33/	Monthly Generation Reports/PLF Details from SCADA
VWB Documents used during Current Verification	
/34/	GPS Google earth software used for Location; <u>Google Earth Pro</u>
/35/	<u>GPS Map Camera: Geotag Photos & Add GPS Location</u>
/36/	Onsite visit on 11-July-2023 to Project implemented site i.e. Jath Taluka, Sangli district of Maharashtra State, India. On-site Visit Photographs/Evidences
/37/	Personnel Interviews and Focussed Group Discussions during onsite visit dated 11-July-2023 detailed in <u>section 2.3</u> of this report.
/38/	VKU-Attendance Sheet of Onsite Audit_ VKU.VER.73.22_VCS_1520
/39/	VKU-Audit and Sampling Plan_ VKU.VER.73.22_VCS_1520
/40/	<u>ISO 14064-3:2019: Greenhouse gases – Part 3: Specification with guidance for the verification and validation of greenhouse gas statements</u>
/41/	<u>ISO 14065:2020: General principles and requirements for bodies validating and verifying environmental information</u>
/42/	<u>ISO/IEC 17029:2019: Conformity assessment – General principles and requirements for validation and verification bodies</u>
/43/	<u>ISO 14064-2:2019: Greenhouse gases: Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements</u>
/44/	Notice of Validation/Verification Services Form- VKU.VER.73.22_VCS 1520

2.3 Interviews

An on-site inspection/36/ was performed by the assessment team. The representatives of the PP were interviewed personally by assessment team on 11-July-2023; i.e., Tables 05 & 06 provide a comprehensive overview of the onsite interview process/37/ conducted during the verification. These tables outline the personnel involved in the interviews, along with their respective roles. The interviews specifically targeted individuals responsible for monitoring the project activity, data collection and management, as well as those involved in the quality assurance and quality control (QA/QC) procedures. The tables serve to identify the individuals interviewed and provide relevant information regarding their roles within the project. The key personnel interviewed during the opening meeting and closing meeting session of the onsite audit, and the main topics of the interviews are summarized in the table below:

Table no: 05: Details of Personnel Interview/Focussed Group Discussion

S.no	Name	Gender	Designation	Topic of Discussion
1	Shaikh Ferze	Male	Manager NSL Power	Implementation of the project, Baseline emission,
2	Pramod	Male	Site In Charge NSL Power	Emission reduction calculation,
3	Pravin Mandave	Male	Asst. Manager ReGen Energy Services Pvt. Ltd.	Technical description of the project and monitoring along with QA/QC
4	Janu Hanjafi	Male	S.M.W.P.D Operator NSL Power	SCADA, Breakdown details and maintenance of generation records
5	Irshad Shaikh	Male	Asst. Manager NSL Power	Data recording, 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, emergency procedures, internal audit and archiving procedures. The assessment was based on the feedback received during onsite interview/37/ coupled with the documentation.

During Onsite Visit/36/, Assessment team also interviewed the local stakeholders/37/ involved in the projects to verify the implementation of grievance mechanism and process of grievance resolution mentioned in the Monitoring report/1/ (refer section 1.11, & 2.2 of

MR/1/) by the PP. The assessment team confirmed the sustainable development claims and assessed the socio-economic impact of the project on the local community. Assessment team also checked the records and observed that the PP provided opportunities for the locals to express their opinions and grievances, with efforts to resolve any issues through consultation with stakeholders. Assessment team thus verified all the above statements via focussed group discussions and personal interview/37/ with stakeholders as tabulated below:

Table no: 06: Details of Personnel Interview/Focussed Group Discussion with Stakeholders

S.no	Name	Gender	Designation	Category	Topic of Discussion
1	Bandu Nayeshwer Yadav	Male	Driver	Local Stakeholder	Execution of Project activity and its impact on the economic, social and environmental parameters on the local people of the area & around the situated project activity
2	Vithal Nana Salunkhe	Male	Security Guard		The ongoing communication procedure and the address of their grievance mechanism followed by the project proponent Scope and generation of employment in the locality due to the implementation of said project activity in the area. The ongoing trainings provided to the locals for self-employment.

The VKU Assessment Team meticulously documented the information obtained during the interview with site personnel /37/. This data was recorded using VKU's dedicated form, specifically VKU.F46W, known as the Attendance Sheet of Onsite Audit/38/. Through a comprehensive process involving documentation, desk review, document verification, and interviews with site personnel and local stakeholders, the VKU Assessment Team affirms that no negative comments were received during the on-site interviews conducted by the team. For further details, please refer to [section 4.2.2](#) of this report.

2.4 Site Visits

Site Location visited:

Location: Jath Taluka, Sangli district of Maharashtra State, India. Further the location along with longitude and latitude is mentioned in [section 4.1](#) of this report.

Decision to take site visit was based on independent risk assessment, as defined in section 4.1.13 of VCS standard version 4.5/10/

An On-site visit was undertaken by the verification team to the project location identified in the MR/1/ at Jath Taluka, Sangli district of Maharashtra State, India on 11-July-2023/36/, 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 Version 02 dated 19-March-2016/3/ and VCS MR/1/.
- A review of information flows used to generate, aggregating and reporting the monitoring parameters.
- Interviews/37/ with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the registered VCS Project Description and monitoring report (Joint PD&MR) version 02 dated 19-March-2016/3/.
- A cross check between information provided in the monitoring report and data from other sources such as plant generation log books, inventories, purchase records or similar data sources.
- A check of the monitoring equipment including LCS meter & calibration meter performance and observations of monitoring practices against the requirements of the VCS Joint PD & MR Version 02 dated 19-March-2016/3/ 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 aim of this verification phase is to address any remaining issues that require clarification to enable VKU to reach a favourable conclusion regarding the project description. In the interest of transparency, a customized verification protocol has been developed specifically for this project. This protocol transparently outlines the requirements, methods of verification, and the outcomes of verifying the specified criteria. The verification protocol is organized into three tables, each containing various columns, which are described as follows:

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 previous assessment i.e., in validation or verification report to be cross 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.

A forward action request is also raised in cases where any required deviation/information is not fulfilled in current verification and thus needs to be taken up in consequent verification for better transparency thus holding the applicability of the methodology eligible to the project activity and there is no impact of the same on additionality, baseline scenario & emission reduction calculation of project.

Keeping in line with the Clauses 4.1.21 of the VCS Standard Version 4.5, Assessment team has documented a summary of total **05 findings** that include, **00 FARs, 03 CLs and 02 CARs** were raised during this verification which were closed successfully and details are provided under Appendix B of this report.

2.5.1 Forward Action Requests

Based on the review of the VCS Joint Validation and Verification Report/04/ and previous VCS Verification Report /04/ assessment Team confirms that no FAR was raised during Validation and previous Verification which needs to be closed during this verification and **no FAR has been raised during current verification, (01-May-2022 to 31-December-2022; Inclusive of both start and end dates).**

2.6 Eligibility for Validation Activities

VKU has not undertaken any validation activities as part of the verification and does not possess accreditation for validating any pertinent sectoral scope. Therefore, this section does not apply. It is important to emphasize that during the current verification, no validation assessment has been carried out either by VKU or concurrently by other certification bodies. This information has been confirmed through focussed group discussions and interview with the Project Proponent (PP), as documented during the site visit.

Assessment team assessed the VERRA's website at the time of submission 30-October-2023: <https://verra.org/validation-verification/vku-certification-pvt-ltd/#vcs> wherein the scope of services of VKU Certification Pvt. Ltd. is mentioned as verification and not validation. VKU Certification Pvt. Ltd is currently undergoing validation accreditation with ANAB for which witness audit has already been conducted. Thus, ensuring that the accreditation details mentioned in FVR is consistent and correct.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

Project's GHG Program Status:

The project has not applied under any other GHG program except VCS for current monitoring period, 01-May-2022 to 31-December-2022 (inclusive of both dates). The project is registered under VCS with project ID 1520⁴ and also applied for registration under CDM⁵ as follows:

However, both the sub-projects applied under CDM and both the sub-projects are listed as part of CDM project individually as follows;

Project developer	Project Title under CDM	Current status
Jath Wind Energy Private Limited	Wind Power Project by M/s Jath Wind Energy Private Limited in Maharashtra, India.	Under validation https://cdm.unfccc.int/Projects/Validation/DB/1JU4YW3E0JCGD1JXRBXP6R5J1CIBV6/view.html
NSL Wind Power Company (Kayathar) Pvt. Ltd.	Kayathar Wind Power Project in Maharashtra, India.	Under validation https://cdm.unfccc.int/Projects/Validation/DB/MG4859IX02P81CP1ALZXH05Q9H01K2/view.html

However, as can be checked from the CDM website the projects were not taken ahead under CDM beyond the initial public listing. Hence, project is no longer valid under CDM, have been continuously been verified under VCS since beginning.

The project has not been registered under any GHG program. Furthermore, double counting issue has also been assessed and the project verification team has also checked the following registries:

- I-REC Registry (<https://evident.services/device-register>)
- Gold Standard project database (<https://registry.goldstandard.org/projects?q=&page=1>)
- VCS project database (<https://registry.terra.org/app/search/VCS/All%20Projects>)
- Bio Carbon registry (<https://biocarbonregistry.com/en/projects/>)
- ICR registry (<https://www.carbonregistry.com/explore/projects>)

⁴ <https://registry.terra.org/app/projectDetail/VCS/1520>

⁵ CDM: Project Activities (unfccc.int)

- Social Carbon registry (https://wilder.earth/social_carbon)
- UCR registry (<https://www.ucarbonregistry.io/>)
- Cercarbono registry (<https://www.ecoregistry.io/>)

All above stated websites were checked and this assessment team confirms that project isn't available within any of the above stated databases, at the time of this report date and the project hasn't been listed in any of them.

Verification through Declaration:

Thus, the PP declares through the declaration /28/ that Net GHG emission reductions or removals generated by the Project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions in any Emission Trading program or other binding limits any specific monitoring period under two mechanisms.

Cross-Verification of GHG Benefits:

This was confirmed by checking VERRA registry website and CDM registry website and similar exercise was performed for GS/GCC/UCR/CRI registries with similar project title/capacity and Project Proponents but the assessment team was not able to trace any such project registered under any of the above stated registries or under any other similar mechanisms. This was supported from the declaration/28/ submitted by PP in which they claimed that same GHG emission reductions of the project from VCS for the current monitoring period will not be claimed under other registries except VCS. Similarly, an exercise of independently searching for such project registration or claim for current monitoring period was performed for other GHG related benefits such as REC/16/ and I-REC/17/ benefits and based on both independent assessment and declaration submitted by PP/28/, the assessment team accepted the claim that there is no double counting from this project activity for current monitoring period.

Issuance Records Confirmation:

The assessment team has also cross-checked the issuance records available on the Verra website and thus confirmed & ensured that the emission reduction generated from the project activity are not & will not be double counted hence accepted by the assessment team.

The assessment team has also cross-checked the issuance records available on the Verra website and thus confirmed & ensured that the emission reduction generated from the project activity are not & will not be double counted hence accepted by the assessment team.

Non-Rejection by Other GHG Programs:

The Project is not rejected by other GHG programs. A declaration/28/ for the same is checked and found correct by the assessment team. Also, assessment team independently verified with the following registries and checked projects from the PP matching the same project design and found that no such project either exists or were rejected by the registries.

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) [I-REC Standard - The International REC Standard Foundation \(irecstandard.org\)](http://www.irecstandard.org/)
- 5) <https://cri.nccf.in/>
- 6) [International Carbon Registry - International Carbon Registry](http://www.internationalcarbonregistry.org/)
- 7) [GCC PROJECTS PORTAL \(globalcarboncouncil.com\)](http://www.gccprojectsportal.com/)
- 8) [VCU Issuance Records](http://www.vcuissuance.com/)
- 9) <https://biocarbonregistry.com/en/projects/>
- 10) https://wilder.earth/social_carbon
- 11) <https://www.ucarbonregistry.io/>
- 12) <https://www.ecoregistry.io/>

3.2 Methodology Deviations

No instances of methodology deviation have been identified throughout the current monitoring period from 01-May-2022 to 31-December-2022 (Inclusive of both start and end dates), signifying the adherence and compliance of the project to the prescribed methodologies. Furthermore, it is noteworthy that no methodology deviations were observed during the Joint Validation and Verification & and previous VCS Verification processes which were confirmed from the VCS Joint Validation & Verification report /4/ and previous VCS Verification report/5/ submitted by PP, affirming the project's steadfast commitment to upholding the designated methodologies and ensuring accurate and reliable results.

3.3 Project Description Deviations

During the current monitoring period from 01-May-2022 to 31-December-2022 (Inclusive of both start and end dates), no discrepancies or deviations in the project description have been identified. This finding aligns with the absence of any deviations tracked during the VCS Joint Validation-Verification /4/ and previous Verification/5/. To ensure accuracy and compliance, the assessment team cross-references the [project webpage](#) /14/ VCS Joint Validation-Verification Report/4/ and previous Verification Report submitted by PP /5/ to verify the consistent and accurate representation of the project's description.

3.4 Grouped Project

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

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

Based on the onsite audit conducted with the project proponent (PP) representative, it was determined that the project is implemented as per the requirement outlined in the registered VCS Joint PD & MR /3/ and approved monitoring plan. The project activity is a wind energy project with total installed 40 WTGs with total capacity of 67.5 MW, comprising of 25 Wind Turbine Generators (WTGs) of rated capacity 1.5 MW each of Regen Powertech make and 15 Wind Turbine Generators (WTGs) of rated capacity 2 MW each INOX WIND make, commissioned in the period from 30-March-2014 to 31-October-2015/29/.

Wind is the main source of power generation. The power generated from the wind turbine generators (WTGs) was exported to regional grid which falls now under Unified under Indian Grid system. The Project WTGs are currently operational and during the current monitoring period (01-May-2022 to 31-December-2022; Inclusive of both the days) under fixed crediting period, no unforeseen incidents or events occur that could significantly impact the operation of the project activity were identified, with the exception of scheduled maintenance and service breakdowns.

It is important to note that these breakdowns did not have any considerable impacts on the project activity's reduction of greenhouse gas (GHG) emissions or the monitoring methodology employed. Since the rise in ER from the estimated ER for the MP is **+4.98%** that is mainly accounted for high PLF & high grid availability during the current monitoring period.

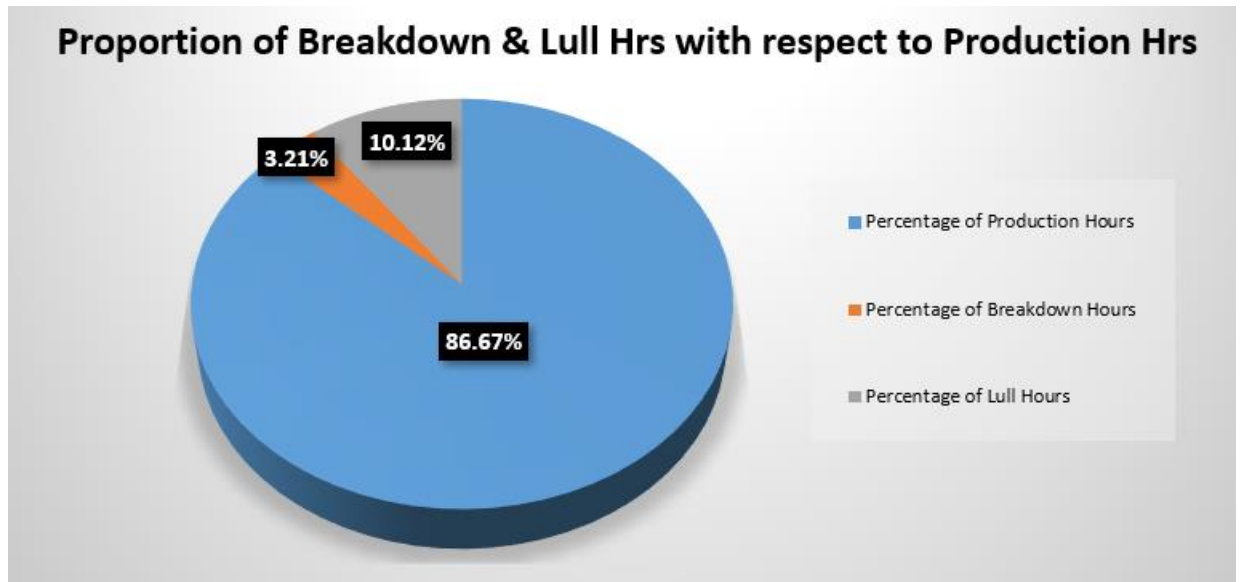
During the monitoring period, the project activity experienced no unexpected incidents or events that could have had a significant impact on its operation. However, there were some scheduled/unscheduled breakdowns amounting to **7,547.18 hours** for the purpose of plant maintenance and service. Additionally, there were Lull Hours lasting **23,812.4 hours**.

This downtime including (**Breakdown and Lull Hours**) is approx. **13.33%** of total available hours of operation of the WTGs, during the current monitoring period.

Breakdown Hours = **7,547.18**

Total Operational Hours of WTGs = **235,200**

Breakdown % of Total Operational Hours = $(7,547.18/235,200) * 100 = 3.21\%$



It's crucial to highlight that these breakdowns had not any substantial impact on both the project activity's reduction of greenhouse gas (GHG) emissions and the employed monitoring methodology.

**Table no: 07: Breakdown Hours for the current Monitoring Period
(01-May-2022 to 31-December-2022)**

Site	Start Date	End Date	Total no of Days	No. Of WTGs	Hours In a day	Total Hours for all the WTGs Ex-Ante	Total Production Hours	Total Breakdown Hours	Lull Hours
Jath	01-05-2022	31-12-2022	245	15	24	88,200	76,086.22	2,883.38	9,230.40
Kayathar	01-05-2022	31-12-2022	245	25	24	147,000	127,754.9	4,663.8	14,582
						Total	235,200	203,841.12	7,547.18
						Percentage	100%	86.67%	3.21%

The breakdowns were attributed to various minor reasons, which may include:

- Generator failure
- External/Internal grid failure
- Machine servicing and repairing
- External/Internal grid maintenance
- Error profonde 20 Dig (IGBT got failed)
- Blade tip damaged
- Electrical yearly maintenance

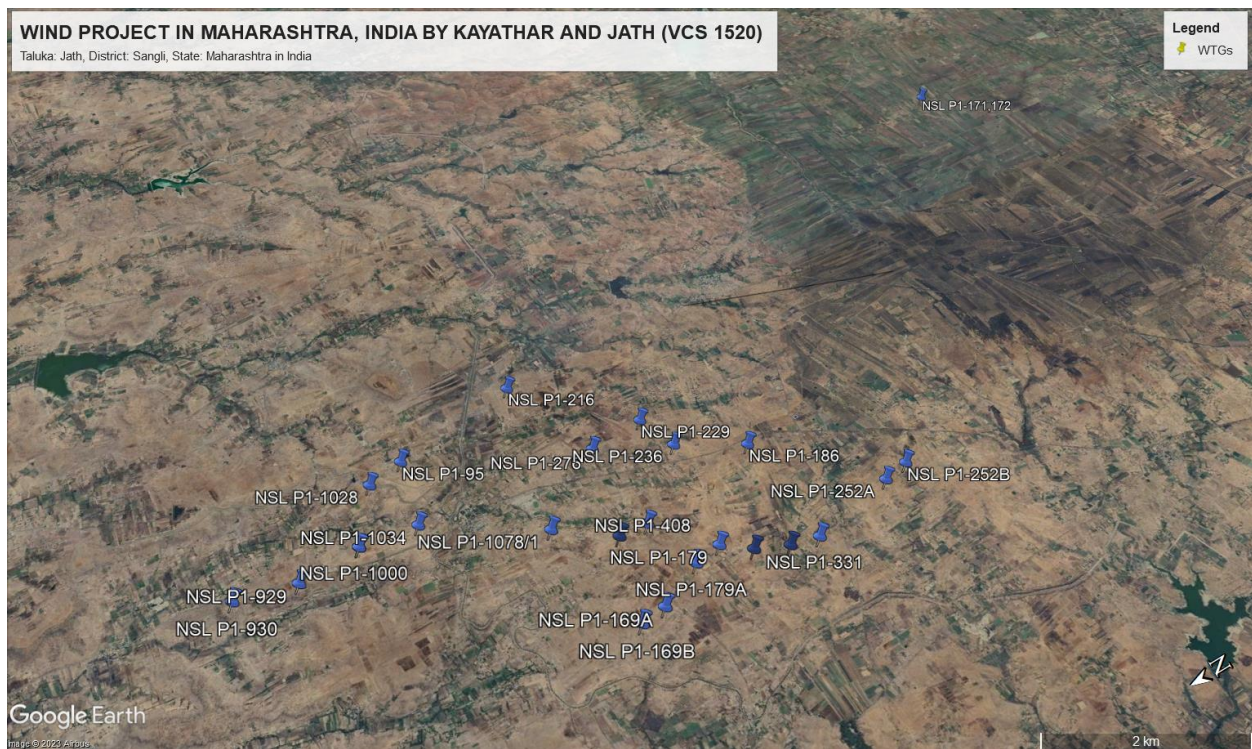
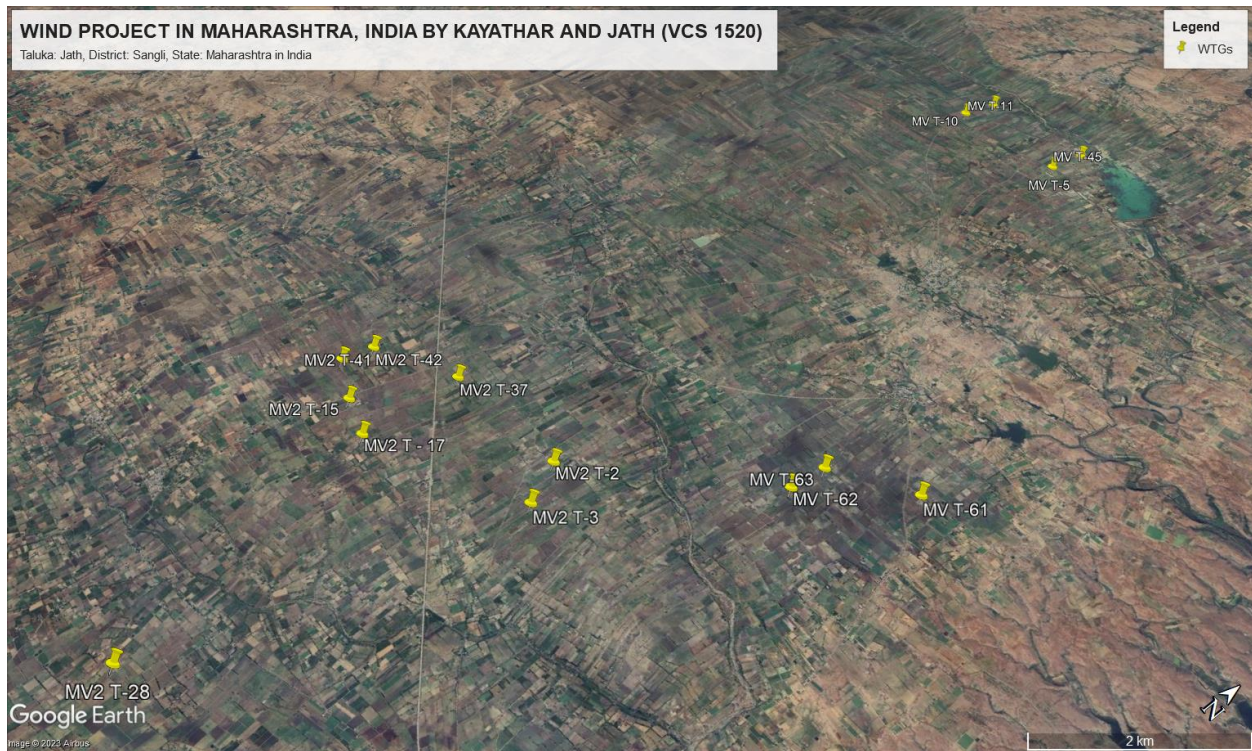
The loss of generation hours as a percentage of total operating is 3.21 %

The total WTGs project activity was operational for a total of 235,200 hours, representing 245 days. The breakdown due to scheduled maintenance is as per the manufacture's specification. Moreover, it is important to note that all the forty WTGs was not entirely shut down during these breakdown hours; only the affected WTGs were temporarily taken out of operation.

The verification process involved reviewing the monthly generation records/33/ and breakdown excel sheet /32/ provided by the project proponent (PP). Additionally, an onsite visit to the project site/36/ was conducted, where it was confirmed that only the affected WTGs were shut down while the rest of the WTGs remained operational. This information is consistent with the details mentioned in Section 3.1 and Appendix 2 of the MR/01/. The assessment team also conducted interviews with key personnel from the PP, including senior engineers, junior engineers, and an assistant manager/37/. These interviews took place on 11-July-2023 during the onsite visit /36/. The assessment team has concluded that the breakdowns and the resulting partial shutdown of the project activity do not have a significant impact on the calculation of emission reductions (ER). The project underwent continuous operation, with only the affected parts being temporarily shut down. This approach is deemed acceptable by the assessment team and is verified to align with the methodology. Furthermore, no unforeseen incidents were identified that would affect the applicability of the methodology.

it was observed through monthly generation records, breakdown log sheet records present on project site and tripping details for each month submitted to VKU Assessment/Verification Team by PP that the plant supplied **83,330.46 MWh** of electricity, and thus contributing to **81,388 tCO₂e** GHG reductions. The emission reduction for this monitoring period pro rata comparing with registered VCS Joint PD & MR is 77,530 tCO₂e, whereas actual emission reductions achieved are **81,388 tCO₂e**, which is **+4.98%** higher than the estimated emission reductions for the current verification period. Further explanation is provided [section 4.5](#) of this report The ERs achieved in this monitoring period is basically due to high wind, higher PLF and minor service breakdowns during this monitoring period.

Figure 1.: Project implemented Location verified and mapped down WTG-wise



The project location was verified by the assessment team through [Google earth pro/34/](#) during desk review and GPS map camera software/35/ during onsite visit /36/. Moreover, assessment team confirm that the latitude and longitude as mentioned in the registered VCS Joint PD & MR dated 19-March-2016/3/, VCS Joint Validation and Verification Report/04/, VCS MR/1/

Table no 08: The WTG wise commissioning dates, latitudes and longitudes are confirmed below:

25 WTGs from ReGen Power (By NSL Wind Power Company (Kayathar) Pvt. Ltd.)						
S. No.	WTG No.	UTM (Universal Transverse Mercator) format		DD-MM-SS (Degree/minutes/Seconds) format		Location
		Easting (m)	Northing (m)	Latitude N	Longitude E	
1	NSL P1-332	524859	1894452	17° 8' 4.29"	75°14' 1.35"	Village : Wayphal Teshil : Jath District : Sangli
2	NSL P1-408	525895	1895627	17° 8' 42"	75°14' 36.46"	Village : Wayphal Teshil : Jath District : Sangli
3	NSL P1-186	526238	1894037	17° 7' 50.73"	75°14' 48.01"	Village : Banali Teshil : Jath District : Sangli
4	NSL P1-331	524784	1894116	17° 7' 53.36"	75°13' 58.8"	Village : Banali Teshil : Jath District : Sangli
5	NSL P1-179A	525198	1895440	17° 8' 36.43"	75°14' 12.87"	Village : Banali Teshil : Jath District : Sangli
6	NSL P1-179	525260	1895102	17° 8' 25.43"	75°14' 14.95"	Village : Banali Teshil : Jath District : Sangli

7	NSL P1-310	525023	1894815	17° 8' 16.1"	75°14' 6.92"	Village : Banali Teshil : Jath District : Sangli
8	NSL P1-1001	527255	1898405	17° 10' 12.83"	75°15' 22.62"	Village : Wayphal Teshil : Jath District : Sangli
9	NSL P1-1000	527255	1898405	17° 10' 25.2"	75°15' 26.4"	Village : Wayphal Teshil : Jath District : Sangli
10	NSL P1-1028	527971	1897996	17° 9' 59.49"	75°15' 46.84"	Village : Wayphal Teshil : Jath District : Sangli
11	NSL P1-95	528098	1897567	17° 9' 45.52"	75°15' 51.12"	Village : Wayphal Teshil : Jath District : Sangli
12	NSL P1-930	527308	1899768	17° 10' 57.18"	75°15' 24.47"	Village : Wayphal Teshil : Jath District : Sangli
13	NSL P1-229	527201	1894912	17° 8' 19.16"	75°15' 20.64"	Village : Wayphal Teshil : Jath District : Sangli
14	NSL P1-929	527156	1899108	17° 10' 35.71"	75°15' 19.303"	Village : Wayphal Teshil : Jath District : Sangli
15	NSL P1-276	527115	1895607	17° 8' 41.79"	75°15' 17.76"	Village : WayphalTeshil : Jath District : Sangli
16	NSL P1-1034	527184	1897750	17° 9' 51.51"	75°15' 20.19"	Village : Wayphal Teshil : Jath District : Sangli

17	NSL P1-1078/1	526377	1896547	17° 9' 12.41"	75°14' 52.82"	Village : Wayphal Teshil : Jath District : Sangli
18	NSL P1-169A	524926	1896003	17° 8' 54.76"	75°14' 3.68"	Village : Banali Teshil : Jath District : Sangli
19	NSL P1-169B	524882	1896306	17° 9' 4.62"	75°14' 2.21"	Village : Banali Teshil : Jath District : Sangli
20	NSL P1-252A	525005	1893004	17° 7' 17.16"	75°14' 6.23"	Village : Banali Teshil : Jath District : Sangli
21	NSL P1-252B	525073	1892655	17° 7' 5.81"	75°14' 8.52"	Village : Banali Teshil : Jath District : Sangli
22	NSL P1-407	525915	1895958	17° 8' 53.25"	75°14' 37.16"	Village : Wayphal Teshil : Jath District : Sangli
23	NSL P1-216	528475	1896022	17° 8' 55.23"	75°16' 3.81"	Village : Wayphal Teshil : Jath District : Sangli
24	NSL P1-236	526679	1894772	17° 8' 14.63"	75°15' 2.96"	Village : Wayphal Teshil : Jath District : Sangli
25	NSL P1-171,172	530643	1887491	17° 4' 17.52"	75°17' 16.76"	Village : Valsang Teshil : Jath District : Sangli

15 WTGs from INOX (By: "Jath Wind Energy Private Limited")						
1	NSL P1-332	524859	1894452	17° 8' 4.29"	75°14' 1.35"	Village : Wayphal Teshil : Jath District : Sangli
2	NSL P1-408	525895	1895627	17° 8' 42"	75°14' 36.46"	Village : Wayphal Teshil : Jath District : Sangli
3	NSL P1-186	526238	1894037	17° 7' 50.73"	75°14' 48.01"	Village : Banali Teshil : Jath District : Sangli
4	NSL P1-331	524784	1894116	17° 7' 53.36"	75°13' 58.8"	Village : Banali Teshil : Jath District : Sangli
5	NSL P1-179A	525198	1895440	17° 8' 36.43"	75°14' 12.87"	Village : Banali Teshil : Jath District : Sangli
6	NSL P1-179	525260	1895102	17° 8' 25.43"	75°14' 14.95"	Village : Banali Teshil : Jath District : Sangli
7	NSL P1-310	525023	1894815	17° 8' 16.1"	75°14' 6.92"	Village : Banali Teshil : Jath District : Sangli
8	NSL P1-1001	527255	1898405	17° 10' 12.83"	75°15' 22.62"	Village : Wayphal Teshil : Jath District : Sangli
9	NSL P1-1000	527359	1898787	17° 10' 24.84"	75° 15' 26.61"	Village : Wayphal Teshil : Jath District : Sangli

10	NSL P1-1028	527971	1897996	17° 9' 59.49"	75°15' 46.84"	Village : Wayphal Teshil : Jath District : Sangli
11	NSL P1-95	528098	1897567	17° 9' 45.52"	75°15' 51.12"	Village : Wayphal Teshil : Jath District : Sangli
12	NSL P1-930	527308	1899768	17° 10' 57.18"	75°15' 24.47"	Village : Wayphal Teshil : Jath District : Sangli
13	NSL P1-229	527201	1894912	17° 8' 19.16"	75°15' 20.64"	Village : Wayphal Teshil : Jath District : Sangli
14	NSL P1-929	527156	1899108	17° 10' 35.71"	75°15' 19.303"	Village : Wayphal Teshil : Jath District : Sangli
15	NSL P1-276	527115	1895607	17° 8' 41.79"	75°15' 17.76"	Village : WayphalTeshil : Jath District : Sangli

The implemented project activity is a Greenfield wind power generation activity. The project activity involves installation of 40 Wind Turbine Generators of total 67.5 MW capacity wind power generation project by M/s NSL Wind Power Company (Kayathar) Pvt. Ltd. (Project Participant).

Start date of the project activity was 30-March-2014. Which is commissioning/commercial operation of the 1st set of nine machine (WTG IDs: NSL P1-332, NSL P1-408, MVT-10, MVT-11, MVT-45, MVT-61, MVT-62, MVT-63 and MVT-05) and the project activity was fully commissioned on 31-October-2015 which is the date of commissioning/commercial operation of the last set of two machines (WTGs ID: NSL P1-171,172 and MV2T-37). Assessment team checked the commissioning certificate/28/ and confirmed that the dates of Commission for all the WTGs are correct. The dates of commissioning were also verified by Assessment team during the onsite audit/36/ that there is no change in project design with reference to previous verification/05/and VCS standard version 4.5 /10/ in section 3.3 of the report. The project is implemented as per the description provided in the registered VCS Joint PD & MR- /3/.

The power rating of the WTGs has been verified with the name plates as well as with the technical specifications of WTGs submitted to VKU Assessment Team by PP and also cross checked from the technical manual of the Manufactures/30/. The same could be verified from the VCS Joint Validation & Verification Report/04/ 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:

Table no 09: Technical specifications of wind turbine generator:

ReGen Turbines technical Specifications:

ReGenPowertech - MODEL VENSYS 87	
No. of WTGs	15
Parameters	Units
OPERATING DATA	
Rated power	1500 kW
Cut-in wind speed (10 min. mean)	3 m/s
Rated Wind Speed (10 min. mean)	approx. 13 m/s
Cut-out wind speed (10 min. mean)	22 m/s
Survival wind speed	52.5 m/s
Generator	Variable Speed, Multi-pole Synchronous with Permanent Magnet Excitation
ROTOR	
Diameter	87
Swept area	5942 sq.m
Speed range (variable)	9 to 17.3 rpm
Number of blades:	3
Power control	Pitch
TOWER AND FOUNDATION	
Hub height	85 m
Design	Tubular, Four sections
Foundation type	Floating foundation

CONTROL AND SAFETY SYSTEMS	
Control of output	Pitch Regulation
Speed control	Variable, Micro-controller based
Low Voltage Ride Through (LVRT)	3 seconds
Primary brake system	Aerodynamic Brake, Single Pitch Control/triple redundant
Pitch System	Electromechanical, Maintenance Free Toothed Belt Drive (Patented)
Remote Monitoring	VPN, Visualization via web-browser
TYPE CLASSES	
Wind turbine type class	GL III B

INOX WIND Turbines technical Specifications

INOX WIND - MODEL ⁶ WT 2000 DF	
No. of WTGs	15
Parameters	Units
OPERATING DATA	
Rated power	2000 kW
Cut-in wind speed	3 m/s
Rated wind speed	11.5m/s
Cut-out wind speed	20 m/s
Survival wind speed	52.5 m/sec
Hub height	80 meters
Type class	TC IIIB
Rotor speed	15.9 RPM
Operational mode	Variable speed
Design Standards	Germanischer Lloyd
ROTAR	

⁶<http://www.inoxwind.com/technical-data.html>

Pitch system	Pitch control- electrical, variable speed inverters, power back up with ultra capacitor
Diameter	93 meters
Swept area	6785 sq meters
Blade material type	Epoxy glass fibre
GENERATOR	
Type	Double fed induction generator
Rated power	2000 kW
Rated voltage	690 V AC, 3 Phase
Frequency	50 Hz
Cooling system	Water Cooled
Insulation	Class H
BRAKING SYSTEM	
Aerodynamic brake	Full span independent blade pitching
Mechanical brake	Disc brakes
DRIVE TRAIN	
Drive train	Patented integral drive train with rotor shaft and drive train as single unit
Rated drive torque	1280 kNm
Maximum static torque	2235 kNm
Type of gearing	Two planetary and one parallel shaft gear
Transmission ratio	1: ~ 114.7
Gear lubrication	Forced lubrication
Connection gear / generator	Flexible coupling
YAW SYSTEM	
Type	Driven by 4 gear motors
Bearings	Slide bearings
TOWER	
Type	Conical tubular steel tower
Tower Height	78 meters
Corrosion protection	Protective paint

Average Lifetime	20 years (Reference – CA letter & Technology Provider Specification)
------------------	--

- **Voltage generated at the hub and transformer details INOX machines.**
 - Hub - 440Volt
 - Generator output - 690Volt
 - Transformer- 690 Volt/33KV
- **Voltage generated at the hub and transformer details ReGen machines.**
 - Hub – 440 Volt
 - Generator output - 620Volt
 - Transformer- 620Volt/33KV

The assessment team confirmed through onsite visit 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 ACM0002, Version 16.0 /13/. 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 MR/1/ are followed onsite and no discrepancies were found regarding the same.

The operational team's primary duty is to closely oversee the day-to-day functioning of the wind turbines. In the event of adverse grid conditions or a grid failure, the turbines will automatically halt operation and restart once conditions stabilize. However, there may be occasions when faults necessitate a thorough examination of the machinery before restarting. Furthermore, the operational team is responsible for recording downtime, operational hours for each turbine, and the causes of any downtime.

Every month, the operational team compiles the logbook data and submits it to the head office. To minimize machine breakdowns, ReGen/INOX, the O&M service provider(s), deploys maintenance staff at the plant. They also ensure the availability of critical spare parts and necessary consumables, which are stocked at the project site to reduce machine repair downtime. The O&M service provider maintains a comprehensive collection of tools and equipment on-site, which is accessible to the project site staff.

The site in-charge and the staff work together to conduct routine maintenance checks on major components such as gearboxes, generators, rotor blades, control panels, transformers and other vital elements. This proactive approach guarantees the smooth and efficient operation of the wind turbines.

The daily operation of the Wind Turbine Generators (WTGs) is overseen by the operator on-site. The operator reports to the Assistant Engineer (AE) - Wind Farm, who is tasked with gathering necessary data from the operator. The AE - Wind Farm records daily generation data for each

service connection point and communicates the cumulative generation figures to the management.

Assessment team concludes the following:

- a) There are no material discrepancies between project implementation and the project description provided in the registered Joint PD & MR /3/.
- b) The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analysing 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 fixed crediting period of project description/3/ and the applied methodology/13/.
- d) Materiality threshold applied is 05% as per 4.1.10 of VCS Standard v4.5, It was concluded that the materiality threshold applicable to the project activity based on the type of project i.e., Project is 05%. This effectively means that there is uncertainty inherent in the estimation of emission reduction of 05%. This is consistent with the section 4.1.10 of VCS standard v4.5 which is equal to 4,069.4 tCO₂e.
- 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/28/.
- f) Complying with clause 3.24.5 of the VCS Standard version 4.5 /10/ Assessment Team confirms that the project has not received or pursued any other form of environmental credit, nor has it become eligible to do so since VCS Validation/04/ or previous VCS Verification/05/
- g) The project Activity is a wind power project and does not involve any supply chain in the project such as manufacturers, wholesalers, distributors and retailers. So, no indirect upstream and downstream GHG emissions are involved in the project activity. Thus, the **Scope 3 emissions are not applicable in this project activity.**
- h) The project is registered under VCS⁷ and CDM⁸⁹ and PP is claiming GHG emission reductions from VCS only for current monitoring period, however PP has submitted the declaration/28/stating, they will not claim same GHG emission reductions of the project from any other GHG programme for the current monitoring period when project is seeking to get GHG emission reduction from VCS. Audit team also checked the REC/16/ Mechanism database of India and I-REC/17/ mechanism database found that the project activity is not accredited / registered under REC or I-REC mechanism

⁷ <https://registry.terra.org/app/projectDetail/VCS/1520>

⁸ CDM: Kayathar Wind Power Project in Maharashtra, India (unfccc.int)

⁹ CDM: Wind Power Project by M/s Jath Wind Energy Private Limited in Maharashtra, India (unfccc.int)

which was verified from the (Renewable Energy Certificate Registry of India) REC/16/ (International-Renewable Energy Certificate Standard Standard) I-REC/17/ website and same was verified by checking in other GHG programs including GS Registry, GCC, UCR & CR-I, however PP has submitted the declaration/28/ for the same.

- i) The project activity complies with indicators for **sustainable development** 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/36/ and found all the indicators to be effective and applicable for the project activity.

As per the VCS standard version 4.5¹⁰ Page no 79, Appendix 03: Document History and Effective dates, For V4.2, serial number 04 states that “it is required by project proponents to demonstrate contributions to a minimum of three SDGs in all monitoring reports verified after the effective date. Effective immediately for all projects that request registration on or after 20-January-2023. Projects that request registration before 20-January-2023 shall demonstrate contributions to at least three SDGs by 20-January-2025”. This is project's eighth Verification of fixed crediting period for the Monitoring Period 01-May-2022 to 31-December-2022 (Inclusive of both start and end dates), Since this project is registered before 20-January-2023, so the Project Proponent (PP) must demonstrate contributions to at least three SDGs by 20-January-2025.

For the current monitoring period, the PP is voluntarily showing contributions to three SDGs, as indicated below but has only claimed two SDGs i.e.,

- **SDG no 7.2: (Renewable energy share in the total final energy consumption)**
- **SDG no 8.5 i.e. (Employment Generation from the project Activity):**
- **SDG no 13.2 (13.2.1: Tonnes of greenhouse gas emissions avoided or removed)**

The project activity has implemented activities that results in 3 SDG Contributions; 7.2, 8.5 & 13.2

1. **7.2 i.e. (Renewable energy share in the total final energy consumption)** As a part of this project activity lifetime $(38,819.85^{11} + 83,330.46^{12} = 122,150.31)$ MWh Net renewable electricity has been exported to Indian grid that helps to strengthen the renewable energy share in the energy mix. VKU has referred previous verification reports /05/ monitoring report for current monitoring period/1/ & emission reduction sheet/2/ which were cross

¹⁰ <https://verra.org/documents/vcs-standard-v4-5/>

¹¹ Contribution of Renewable energy share in the total final energy consumption to current MP i.e., 7th Verification Period.

¹² Contribution of Renewable energy share in the total final energy consumption to current MP i.e., 8th Verification Period.

- checked from JMRs/26/ & Invoices/27/ submitted to the VKU Assessment/Verification Team for current monitoring period and thus found the above claimed renewable electricity supplied to Indian grid is correct.
2. **8.5 i.e. (Employment Generation from the project Activity):** Due to installation of the project activity PP has provided direct employment to more than 10 people in project implemented area. VKU Assessment/Verification Team has referred the employment records submitted by the PP and focused group discussions/interviews/37/. However, project proponent is not claiming this SDG benefit. Hence, PP did not quantify the same in MR/1/ which is found to be correct by VKU.
 3. **13.0 i.e. (Tonnes of greenhouse gas emissions avoided or removed)** Due to installation of this project activity i.e., Wind Turbine generators (WTGs) PP has prevented the release of $(37,914^{13} + 81,388^{14} = 119,302)$ tCO₂e into the atmosphere till the end of current monitoring period i.e., 01-May-2022 to 31-December-2022 (Inclusive of both the days). It proves that the project generates eco-friendly, GHG free power which contributes to sustainable development of the region. VKU Assessment/Verification Team has referred previous verification reports /05/ monitoring report for current monitoring period/1/ & emission reduction sheet/2/ which were cross checked from JMRs/26/& Invoices/27/A submitted. VKU Assessment/Verification Team now conclude that the above claimed greenhouse gas emissions avoided or removal is correct for current monitoring period.

Since the project is continuation of activity as per the registered joint PD & MR, it is a regulatory surplus activity. The green energy target of the Govt of India does not include green energy generated from wind turbines from private parties. This was assessed as the TL is an expert of local regulations and statutes of country India and thus in view of the information as verified above the VKU assessment team by interviewing site personnels during onsite visit & is able to conclude that the project has been implemented as described in the registered VCS Project Description and Monitoring Report version 02 dated 19-March-2016/3/and MR /1/.

All the above stated information was verified by VKU Certification assessment team during onsite visit/36/ at the project implemented site and also by interviewing the site personnel and by conducting focussed group discussion with them /37/.

There are no potential harmful socio-economic and environmental effects in the project activities. VKU Assessment/Verification Team has assessed the project activity on site and confirms that there were no negative environmental and socio-economic impacts observed during current monitoring period as all necessary measures were found in place which was confirmed during site visit /36/.

¹³ Contribution of Renewable energy share in the total final energy consumption to current MP i.e., 7th Verification Period.

¹⁴ Contribution of Tonnes of greenhouse gas emissions avoided or removed to current MP i.e., 8th Verification Period.

As per the section 1.1 of the MR/01/, PP has provided the audit history as below:

Audit Type	Period	Program	VVB Name	Number of years
Joint Validation-Verification	30-March-2014 to 31-January-2016 (Inclusive of both the days)	VCS	<u>LGAI Technological Center, S.A.</u> (Applus)	01 year, 10 months, 02 days including the end date
Verification	01-February-2016 to 30-September-2017 (Inclusive of both the days)	VCS	<u>Earthood Services Private Limited</u>	01 year, 08 months, 00 days including the end date
Verification	01-October-2017 to 31-August-2018 (Inclusive of both the days)	VCS	<u>Earthood Services Private Limited</u>	00 year, 11 months, 00 days including the end date
Verification	01-September-2018 to 31-October-2019 (Inclusive of both the days)	VCS	<u>Earthood Services Private Limited</u>	01 year, 02 months, 00 days including the end date
Verification	01-November-2019 to 31-October-2020 (Inclusive of both the days)	VCS	<u>LGAI Technological Center, S.A.</u> (Applus)	01 year, 00 months, 00 days including the end date
Verification	01-November-2020 to 31-August-2021 (Inclusive of both the days)	VCS	<u>LGAI Technological Center, S.A.</u> (Applus)	00 year, 10 months, 00 days including the end date
Verification	01-September-2021 to 30-April-2022 (Inclusive of both the days)	VCS	VKU Certification Private Limited	00 year, 08 months, 00 days including the end date
	01-May-2022 to 31-December-		VKU Certification	00 year, 08 months, 00 days including

Verification	2022 (Inclusive of both the days)	VCS	Private Limited	the end date
Total	30-March-2014 to 31-December-2022 (Inclusive of both the days)	VCS	-	08 years, 09 months, 02 days including the end date

This has been checked by the verification team through joint validation and verification/04/ and previous verification reports /05/ already approved and uploaded on [Verra's webpage](#) which is deemed accurate and satisfactory to VKU's assessment team.

4.2 Safeguards

4.2.1 No Net Harm

The project activity involves implementation of WTGs as a voluntary measure to strengthen the national grid (Now Unified Indian Grid) of India through exploitation of wind power generation potential available to India and in accordance with the Ministry of Environment, Forest and Climate Change (MoEF&CC) Notification dated 14-September-2006 (S.O. 1533(E) ¹⁵ as amended in 2009/23/ and as per the report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects " prepared by MNRE dated September-2013¹⁶, Since the project involves wind-based activities and the project activity operations do not result in direct air pollution, noise pollution therefore it is exempt from Environmental Impact Assessment (EIA) submission and it is not required to obtain clearance from the Pollution Control Board.

Throughout the monitoring period, the project operation had no negative impacts on air, water, soil quality, surroundings, or socio-economic factors. Moreover, there were no anticipated adverse environmental or socio-economic effects, eliminating the need for mitigation measures. The use of wind energy as a renewable resource not only preserved natural resources but also promoted environmental well-being without any detrimental consequences for the local environment.

Additionally, the Monitoring Report MR/1/ explicitly confirmed that the project proponent (PP) ensured that the operational and maintenance phases had no adverse effects on air, water or ecological aspects. The project's commitment to eco-friendly power generation has resulted in sustainable development within the region, as highlighted in MR/1/.

¹⁵ <http://www.environmentwb.gov.in/pdf/EIA%20Notification.%202006.pdf>

¹⁶ <https://smartnet.niua.org/sites/default/files/resources/report-on-developmental-impacts-of-RE.pdf>

Furthermore, the project activity has positively impacted the local community by creating job opportunities during construction and operation phases, as verified through on-site interviews/37/ and visits /36/ by the VKU Assessment Team.

4.2.2 Local Stakeholder Consultation

The project in question i.e., VCS 1520: “Wind Project in Maharashtra, India by Kayathar and Jath” has undergone stakeholder consultation in compliance with the Verified Carbon Standard (VCS) and local regulations. Various stakeholder groups, including Local villagers, Local Gram Panchayat Members, Employees of NSL Wind Power Company (Kayathar) Pvt. Ltd, and Jath Wind Energy Pvt. Ltd were engaged through multiple phases using methods such as focus group discussions and social mapping.

A meeting was organized on dated 06-February-2014 for stakeholders at the Site in Jath Taluka, Sangli district, Maharashtra and they were invited through public notices on dated 23-January-2014 in local newspapers with sufficient notice to encourage their participation. As stated in the MR/1/ and verified through on-site interviews with site personnel, it was evident that local stakeholders recognized and appreciated the positive impacts of the wind power project. These positive impacts included increased employment opportunities, enhanced land value, and improved infrastructure in the region. The stakeholders expressed gratitude for the project proponent's efforts towards environmental welfare and acknowledged the project's contribution in generating employment locally.

To ensure open communication and address any concerns, a complaint register was established on-site for stakeholders to lodge their complaints. However, during the monitoring period, no complaints were received, as confirmed by the VKU assessment team during their on-site visit. Additionally, the VKU verification team did not come across any negative comments or feedback from local stakeholders during their on-site assessment, as summarized in section 2.2 of MR/1/.

Furthermore, the project team maintains regular communication with stakeholders by participating in community meetings and other relevant events. During these interactions, they facilitate a feedback exchange and assess any stakeholder requirements to ensure project alignment and address community needs. Thus, maintaining the on-going communication with the stakeholders.

During the on-site interviews, the verification team specifically examined the compilation of inputs and feedback from stakeholders, and they found that the project proponent had appropriately considered and accounted for them. As a result, the verification team concluded that the ongoing communication with local stakeholders complies with the established guidelines defined in section 3.18, clause 3.18.3, 3.18.4 of the VCS Standard version 4.5/10/. The project proponent's efforts in engaging with stakeholders have been deemed suitable and in line with the prescribed requirements.

The local stakeholders interviewed in [Interviews](#) section 2.3 of this report confirmed the same. Hence confirming that the project activity does not have a negative impact on the surrounding environment, thus promoting environmental wellbeing, hence complying with the guidelines set in section 3.19 of VCS standard version 4.5 /10/.

4.3 AFOLU-Specific Safeguards

As the project comes under the category of NON - AFOLU projects therefore this section does not apply for this verification. Hence Not Applicable.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The equations and choices provided in the methodology /13/ and all other methodological tools are correctly quoted in the MR /1/. The emission reductions of the project activity are calculated using the formulae mentioned in the applied methodologies i.e., ACM0002 Version 16.0 /13/. The verification team has reviewed the emission reduction spread sheets (ER sheets) /2/ and checked all the formulae and found they are correct and are in accordance with the monitoring plan of the PD /03/ and the applied monitoring methodology /13/.

The project monitoring plan involves total 04 parameter to be monitored;

- 1) **EG_{facility, y}** (Quantity of Net Electricity exported to the grid by the project WTGs (i.e., total 40 WTGs) to the grid during the year y.);
- 2) **EG_{JMR,Project,export,y}** (Quantity of Electricity exported by the Project WTGs connected to the feeder i to the grid during the year y.)
- 3) **EG_{JMR,Project,import,y}** (Quantity electricity imported by the Project WTGs connected to the feeder i from the grid during the year y)
- 4) **EG_{Controller,gen}** (Quantity electricity generated by the project activity WTGs recorded at respective controller meters)

All monitored parameters are according to the monitoring plan and monitoring report/1/.

The monitoring plan specified in the registered VCS joint Project Description and Monitoring Report (Joint PD & MR) version 02, dated 19-March-2016, is diligently being followed at the site. The assessment team has conducted a thorough verification of the entire information flow, starting from data generation and aggregation to recording, calculation and reporting of the relevant parameters in the Monitoring Report (MR/1/). The emission reductions are based on the net electricity generated and exported from the project.

The project proponent (PP) has provided all the necessary data for the current monitoring period, ensuring a comprehensive and accurate assessment. The values of the parameter "Quantity of Net Electricity exported to the grid by the project WTGs (i.e., total 40 WTGs) to the grid during the year y," which were used in deriving the greenhouse gas (GHG) emission

reduction, have been found to be well correlated between the data sets and the Emission Reduction (ER) spreadsheet provided by the PP.

The appropriateness of default values used in the monitoring report is elaborated below:

Table No: 10 Data and Parameters Available at Validation or Ex-ante parameters:

Parameter	Unit	Description	Value
$EF_{grid,CM,y}$	tCO ₂ e/MWh	Combined Margin CO ₂ Emission Factor in year y	0.9767 tCO ₂ e/MWh is consistent with the registered VCS PD Version 02 dated 19-March-2016/3/ Combined Margin Emission Factor ($EF_{grid,CM,y}$) is calculated as the weighted average of Operating Margin Emission Factor ($EF_{grid,OM,y}$) and Build Margin Emission Factor ($EF_{grid,BM,y}$) and tool to calculate the emission factor for an electricity system
$EF_{grid,OMsimple,y}$	tCO ₂ e/MWh	Simple operating margin emission factor of Indian Grid	0.9857 tCO ₂ e/MWh is consistent with the registered VCS PD Version 02 dated 19-March-2016/3/ Calculated from <u>CEA database, Version 10, December-2014/20/</u>
$EF_{grid,BM,y}$	tCO ₂ e/MWh	Combined Margin CO ₂ Emission Factor in year y	0.9495 tCO ₂ e/MWh is consistent with the registered VCS PD Version 02 dated 19-March-2016/3/ Calculated from <u>CEA database, Version 10, December-2014/20/</u>

The verification of each monitoring parameter has been discussed later in section 4.5.

According to applied methodology ACM0002; Version 16.0 /13/ the emissions are calculated as below:

According to applicable methodology ACM0002; Version 16.0¹⁷ under section 5 of Baseline Methodology Procedure with further description under section 5.4-page 12 about Project emissions & under section 5.6-page 18 about Leakage emissions that since project activity is a Wind power project and no other kind of fossil fuel has been used in the current monitoring period on site thus no leakage emission is considered according to the methodology used & since this is a renewable project activity no project emissions from the project activity are considered.

Leakage emissions: $LE_y = 0 \text{ tCO}_2\text{e}$

Project Emissions: $PE_y = 0 \text{ tCO}_2\text{e}$

Methods and formulae set out in the project description for calculating actual emissions for current monitoring period.

The calculation of emission reduction has been done in accordance with the applied methodology used i.e., ACM0002 Version 16.0 /13/. As per the applied methodology, the values of project emission and leakages are considered as zero for the project activity. The equation used for calculation of baseline emission is given below:

The calculation of $EG_{PJ,y}$ for Greenfield plants Equation (8)

$EG_{PJ,y} = EG_{facility,y}$		
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 exported to the grid by the project WTGs (i.e., total 40 WTGs) to the grid during the year y

GHG Emissions are calculated as follows: Equation (7)

¹⁷ [OX6IERWMG92J7V3B80TKFSL1QZH5PA \(unfccc.int\)](https://unfccc.int/ox6ierwmg92j7v3b80tkfsl1qzh5pa)

Where,

$BE_y = EG_{pj,y} \times EF_{grid,CM,y}$	
$BE_y =$	Baseline Emissions (tCO ₂ e/year)
$EG_{pj,y} =$	Quantity of Net Electricity exported to the grid by the project WTGs (i.e., total 40 WTGs) to the grid during the year y
$EF_{grid,CM,y} =$	Combined margin CO ₂ emission factor of NEWNE grid

As per calculation mentioned in section 3.4 of registered Joint PD & MR Version 02 dated 19-March-2016

Estimated Emission Reduction as in VCS PD for the equivalent period of the current Monitoring period, 01-May-2022 to 31-December-2022 (Inclusive of both the days):	
Monitoring Period Start Date	01-May-2022
Monitoring Period End Date	31-December-2022
Days in Current Monitoring period	245
Annual VCUs as per VCS PD	115,504 (tCO ₂ e)
Estimated Emission Reduction as in VCS PD for the equivalent period of the current Monitoring period	= (Annual Estimated GHG emission reductions as per revised VCS PD/Total days in a year) * days in current monitoring period = (115,504 /365) * 245 = 77,530 (tCO ₂ e)
Actual Emission Reduction as per MR and ER during current Monitoring period	81,388 (tCO ₂ e)
Percent difference	+4.98 % Higher than the estimated

Section 5.4 of the Monitoring Report (MR/1/) presents detailed calculations, which have been cross-checked and verified through the compiled Emission Reduction (ER/2/) spreadsheet. The verification team ensured the accuracy of these calculations by referencing the Joint Meter Readings (JMRs/26/) and cross-checking the data with invoices /27/.

PP has submitted all the evidences like JMRs/26/ and Invoices /27/ to VKU Assessment Team for verification and assessment of ER Sheet/2/

Hence VKU Assessment Team can state that the calculation method and formulae used in calculating baseline emission is following the methodology used i.e., ACM0002: "Grid-connected electricity generation from renewable sources - version 16.0" /13/.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

When verifying the reported emission reduction, VKU ensured that there was a clear audit trail that contained the evidence and records that validate the stated figures. All source documents that form the basis for assumptions and other information underlying the GHG data are shown above.

When assessing the audit trails, VKU also examined:

1. Whether sufficient evidence was available, both in terms of frequency and in covering the full monitoring period
2. The source and nature of the evidence
3. If comparable information was available from sources other than that used in the monitoring report/1/, VKU cross-checked the monitoring report against the other sources to confirm that the stated figures were correct. The sources and the data referenced are shown in Section 2.2 above.

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.

There is total 04 parameters to be monitored;

- 1) **EG_{facility,y}** (Quantity of Net Electricity exported to the grid by the project WTGs (i.e., total 40 WTGs) to the grid during the year y.);
- 2) **EG_{JMR,Project,export,y}** (Quantity of Electricity exported by the Project WTGs connected to the feeder i to the grid during the year y.)
- 3) **EG_{JMR,Project,import,y}** (Quantity electricity imported by the Project WTGs connected to the feeder i from the grid during the year y)
- 4) **EG_{Controller,gen}** (Quantity electricity generated by the project activity WTGs recorded at respective controller meters) according to the monitoring plan and monitoring report/1/.

The below table describe how the parameter **EG_{facility,y}** (Quantity of Net Electricity exported to the grid by the project WTGs (i.e., total 40 WTGs) to the grid during the year y), that 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:-

Table No: 11 Assessment of Parameter EG_{facility,y} (Quantity of Net Electricity exported to the grid by the project WTGs (i.e., total 40 WTGs) to the grid during the year y)

Parameter	EG _{facility,y} (Quantity of Net Electricity exported to the grid by the project WTGs (i.e., total 40 WTGs) to the grid during the year y)	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	The parameter is calculated parameter and recorded at least monthly by energy meter. The quantity of net electricity exported to the grid by WTGs (Project WTGs along with non-project) is recorded with the aid of energy meter

		for each feeder (Total 04 Feeders) in MWh for cross check of import and export electricity. Quantity of Net Electricity exported to the grid by the project WTGs (i.e., total 40 WTGs) to the grid during the year y, is calculated as: $EG_{\text{facility},y} = \sum EG_{\text{JMR, Project, export}} - \sum EG_{\text{JMR, Project, import}}$ Where, $\sum EG_{\text{JMR, Project, export}} = EG_{\text{JMR, Project, export}, y} = \text{Quantity of Electricity exported by the Project WTGs connected to the feeder i to the grid during the year y.}$ $\sum EG_{\text{JMR, Project, import}} = EG_{\text{JMR, Project, import}, y} = \text{Quantity electricity imported by the Project WTGs connected to the feeder i from the grid during the year y}$
	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/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	No monitoring equipment is used as this parameter is calculated. However, the parameter $EG_{\text{JMR, Project, export}, y}$ and $EG_{\text{JMR, Project, import}, y}$ is calculated using measured values ($EG_{\text{JMR, Export}}$ and $EG_{\text{JMR, Import}}$), are continuously monitored, hourly measured 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	The accuracy of the monitoring equipment used to measure the input values ($EG_{\text{JMR, Export}}$ and $EG_{\text{JMR, Import}}$) which is used to calculate $EG_{\text{JMR, Project, export}, y}$ and $EG_{\text{JMR, Project, import}, y}$ is 0.2s, which is as per the registered VCS Joint PD & MR/01/ which is as per the norm defined in PPA /24/

	accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the accuracy is valid for the entire measuring range.
	Calibration frequency /interval:	The Calibration frequency /interval of the monitoring equipment used to measure the input values (EG _{JMR, Export} and EG _{JMR, Import}), which is used to calculate EG _{JMR, Project, export, y} and EG _{JMR, Project, import, y} is once in three years, which is as per section 4.3 of the registered Joint PD & MR/01/ which is as per the norm defined in PPA /24/
	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, it is in line with the monitoring plan & registered methodology. Outlined in the registered VCS Joint PD & MR dated 19-March-2016/3/ The calibration frequency is once in three years as per PPA/24/
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Since this is a calculated value, this section is not applicable. However, for monitoring equipment used to measure the input values (EG_{JMR, Export} and EG_{JMR, Import}), which is used to calculate EG_{JMR, Project, export, y} and EG_{JMR, Project, import, y}: Yes, Calibration of the measuring equipment's is carried out by State DISCOM i.e., Maharashtra State Electricity Distribution Company Limited.

		All the meters are tested by Maharashtra State Electricity Distribution Company Limited on a periodic basis.
	Is(are) calibration(s) valid for the whole reporting period?	Since this is a calculated value, this section is not applicable. However, for monitoring equipment used to measure the input values (EG_{JMR, Export} and EG_{JMR, Import}), which is used to calculate EG_{JMR, Project, export, y} and EG_{JMR, Project, import, y}. Yes, the calibration is valid throughout the reporting period i.e., from 01-May-2022 to 31-December-2022 (Inclusive of both the days).
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Since this is a calculated value, this section is not applicable. However, for monitoring equipment used to measure the input values (EG_{JMR, Export} and EG_{JMR, Import}), which is used to calculate EG_{JMR, Project, export, y} and EG_{JMR, Project, import, y}: Yes. The calibration is carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/11/& as per PPA/24/ The calibration is carried out for a measuring range i.e., CTR: 500/1A, PTR: 33kV/110V & MF: 1500 with accuracy class 0.2s.
	How were the values in the monitoring report verified?	Cumulative value of EG_{facility,y} for entire monitoring period 01-May-2022 to 31-December-2022 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in MWh. The monthly values were verified from the JMRs/26/ and cross checked from invoices/27/ thus found to be consistent. Value of this parameter for the current monitoring period was verified as 83,330.46 MWh.

	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of EG_{facility,y} in JMRs/26/ were further cross checked with the monthly invoices /27/ raised by the PP to Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL) which is found to be consistent with the PPA/24/
	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/37/ 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. Every month these meter readings will be recorded by MSEDCL representative and plant personnel. The meters at the substation will be two-way meters and will be in the custody of MSEDCL. The quantity of net electricity supplied is cross-verified from the invoice raised on MSEDCL by the project proponent
	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	CL#02 & CAR#02 were 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 project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

The below table describe how the parameter **EG_{JMR,Project,Import,y}** (Quantity electricity imported by the Project WTGs connected to the feeder i from the grid during the year y), that 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:-

Table No: 12 Assessment of Parameter EG_{JMR,Project,Import,y} (Quantity electricity imported by the Project WTGs connected to the feeder i from the grid during the year y)

Parameter	EG _{JMR,Project,Import,y} (Quantity electricity imported by the Project WTGs connected to the feeder i from the grid during the year y)	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	The parameter is calculated from measured parameter i.e., Quantity of electricity import would be calculated using the apportioning procedure The parameter is reported monthly in the credit note, which is prepared for each project developer separately. The electricity imported by each WTG is recorded with the aid of energy meter for individual feeders in kWh for cross check of export and net export supplied to the grid.
	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 PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Monitoring equipment is not utilized since this particular parameter is derived through calculation. Nonetheless, the input values essential for determining this parameter are continually under observation; they are gauged on an hourly basis and documented on a monthly basis.

		The wind turbine generators (WTGs) associated with the project are linked to various distribution feeders and each feeder has its own distinct metering setup situated at the project site. It's worth noting that the WTGs from other projects, not part of this activity, are also interconnected with these same feeders. All generated electricity, originating from both the WTGs within the project and those external to it, is channelled into the Indian grid. On a monthly basis, the electricity output of all WTGs linked to each feeder is meticulously recorded. This documentation occurs during Joint Meter Reading (JMR) sessions, which involve representatives from MSEDCL and officials from the Operations and Maintenance (O&M) contracting party, ensuring transparency. Using the data amassed from the JMRs and the individual WTG controller meter readings, the electricity contributed to the grid exclusively by the WTGs associated with the project is calculated by MSEDCL. This computation employs an allocation procedure to fairly distribute the electricity production among all WTGs connected to the feeders. Subsequently, MSEDCL compiles credit notes for each developer participating in the project, detailing their respective contributions based on the calculated electricity supply.
	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	Since this is a calculated value, this section is not applicable. However, for monitoring equipment used to measure the input values ($EG_{JMR, Import}$), which is used to calculate $EG_{JMR, Project, import, y}$: The accuracy of the monitoring equipment used to measure the input values i.e., $EG_{JMR, Import}$, which is used to calculate $EG_{JMR, Project, import, y}$ is 0.2s, which is as per the registered VCS Joint PD

	as per the manufacturer's specification?	& MR/01/ which is as per the norm defined in PPA.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes, the accuracy is valid for the entire measuring range.
	Calibration frequency /interval:	The Calibration frequency /interval of the monitoring equipment used to measure the input values i.e., EG _{JMR, Import} , which is used to calculate EG _{JMR, Project, import, y} is once in three years, which is as per section 4.3 of the registered Joint PD & MR/01/ which is as per the norm defined in PPA /24/
	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, it is in line with the monitoring plan & registered methodology. Outlined in the registered VCS Joint PD & MR dated 19-March-2016/3/ The calibration frequency is once in three years as per PPA/24/.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Since this is a calculated value, this section is not applicable. However, for monitoring equipment used to measure the input values (EG_{JMR, Export} and EG_{JMR, Import}), which is used to calculate EG_{JMR, Project, export, y} and EG_{JMR, Project, import, y}: Yes, Calibration certificates /25/ of the measuring equipment's is carried out by State DISCOM i.e., Maharashtra State Electricity Distribution Company Limited.

	Is(are) calibration(s) valid for the whole reporting period?	Since this is a calculated value, this section is not applicable. However, for monitoring equipment used to measure the input values Yes, the calibration is valid throughout the reporting period i.e., from 01-May-2022 to 31-December-2022 (Inclusive of both the days).
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Since this is a calculated value, this section is not applicable. However, for monitoring equipment used to measure the input values ($EG_{JMR, Export}$ and $EG_{JMR, Import}$), which is used to calculate $EG_{JMR, Project, export, y}$ and $EG_{JMR, Project, import, y}$: Yes. The calibration is carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/11/& as per PPA/24/ The calibration is carried out for a measuring range i.e., CTR: 500/1A, PTR: 33kV/110V & MF: 1500 with accuracy class 0.2s.
	How were the values in the monitoring report verified?	Cumulative value of $EG_{JMR, Project, Import, y}$ for entire monitoring period 01-May-2022 to 31-December-2022 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in kWh. The monthly values were verified from the JMRs/26/ and cross checked from invoices/27/ thus found to be consistent. Value of this parameter for the current monitoring period was verified as 91.93 MWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of $EG_{JMR, Project, Import, y}$ were verified from JMRs issued to PP by state entity i.e., MSEDCL which were further cross checked with the monthly invoices /27/ raised by the PP to respective captive user as specified in PPA/24/ and thus 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/37/ 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 electricity imported by the WTGs is recorded. The electricity imported is adjusted against the export by the project activity to the grid. To be cross-checked with monthly invoices or receipts of payments.
	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	CL#02 & CAR#02 were 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 project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

The below table describe how the parameter **EG_{JMR,Project,Export,y}** (Quantity electricity exported by the Project WTGs connected to the feeder i from the grid during the year y), that 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:-

Table No: 13 Assessment of Parameter EG_{JMR,Project,Export,y} (Quantity electricity exported by the Project WTGs connected to the feeder i from the grid during the year y)

Parameter	EG _{JMR,Project,Export,y} (Quantity electricity exported by the Project WTGs connected to the feeder i from the grid during the year y)	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	The parameter is calculated parameter. The parameter is reported monthly in the credit note, which is prepared for each project developer separately. The electricity exported by each WTG is recorded with the aid of energy meter for individual feeders in kWh for cross check of export and net export supplied to the grid.
	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 PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	Monitoring equipment isn't used. Input values are continuously monitored, hourly measured, and monthly recorded. Project WTGs share feeders with non-project WTGs. All generated electricity is fed to the grid, with monthly readings taken. MSEDCL calculates project electricity supplied using JMR and WTG data, preparing credit notes for developers.
	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	Since this is a calculated value, this section is not applicable. However, for monitoring equipment used to measure the input values ($EG_{JMR, Export}$ and $EG_{JMR, Import}$), which is used to calculate $EG_{JMR, Project, export, y}$ and $EG_{JMR, Project, import, y}$: The accuracy of the monitoring equipment used to measure the input values i.e., $EG_{JMR, Export}$,

	local/national standards, or as per the manufacturer's specification?	which is used to calculate ($EG_{JMR, Project, Export, y}$) is 0.2s, which is as per the registered joint PD & MR/01/ which is as per the norm defined in PPA.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Since this is a calculated value, this section is not applicable. However, for monitoring equipment used to measure the input values ($EG_{JMR, Export}$ and $EG_{JMR, Import}$), which is used to calculate $EG_{JMR, Project, export, y}$ and $EG_{JMR, Project, import, y}$: Yes, the accuracy is valid for the entire current monitoring period i.e., 01-May-2022 to 31-December-2022 (Inclusive of both the days)
	Calibration frequency /interval:	Since this is a calculated value, this section is not applicable. However, for monitoring equipment used to measure the input values ($EG_{JMR, Export}$ and $EG_{JMR, Import}$), which is used to calculate $EG_{JMR, Project, export, y}$ and $EG_{JMR, Project, import, y}$: The Calibration frequency /interval of the monitoring equipment used to measure the input values i.e., $EG_{JMR, Export}$, which is used to calculate $EG_{JMR, Project, export, y}$ is once in three years, which is as per section 4.3 of the registered Joint PD & MR/01/ which is as per the norm defined in PPA /24/
	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, it is in line with the monitoring plan & registered methodology. Outlined in the registered VCS Joint PD & MR dated 19-March-2016/3/ The calibration frequency is once in three years as per PPA/24/

	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, Calibration certificates /25/ of the measuring equipment's is carried out by State DISCOM i.e., Maharashtra State Electricity Distribution Company Limited. All the meters are tested by Maharashtra State Electricity Distribution Company Limited on a periodic basis. In case of any faulty readings observed appropriate corrective action will be taken. If the error is found beyond the permissible limits, the PP will inform the respective agency so as to immediately rectify the error in the instrument, which was confirmed during onsite visit while interviewing/37/ the site personnel at project site/PP/Consultant.
	Is(are) calibration(s) valid for the whole reporting period?	Yes, the calibration is valid throughout the reporting period i.e., from 01-May-2022 to 31-December-2022 (Inclusive of both the days).
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Since this is a calculated value, this section is not applicable. However, for monitoring equipment used to measure the input values (<i>EG_{JMR, Export}</i> and <i>EG_{JMR, Import}</i>), which is used to calculate <i>EG_{JMR, Project, export, y}</i> and <i>EG_{JMR, Project, import, y}</i>: Yes. The calibration is carried out appropriately for current monitoring as per the registered monitoring plan and VCS VVS manual version 3.2/11/& as per PPA/24/ The calibration is carried out for a measuring range i.e., CTR: 500/1A, PTR: 33kV/110V & MF: 1500 with accuracy class 0.2s.
	How were the values in the monitoring report verified?	Cumulative value of EG_{JMR, Project, Export, y} for entire monitoring period 01-May-2022 to 31-December-2022 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in kWh. The monthly values were verified from the JMRs/26/ and cross checked from invoices/27/

		thus found to be consistent. Value of this parameter for the current monitoring period was verified as 83,422.39 MWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of EG JMR,Project,Export,y were verified from JMRs issued to PP by state entity i.e., MSEDCL which were further cross checked with the monthly invoices /27/ raised by the PP to respective captive user as specified in PPA/24/ and thus 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/37/ 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 electricity imported by the WTGs is recorded. The electricity imported is adjusted against the export by the project activity to the grid. To be cross-checked with monthly invoices.
	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	CL#02 & CAR#02 were 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 project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.
--	---

The below table describe how the parameter **EG_{Controller, gen}** (Quantity electricity generated by the project activity WTGs recorded at respective controller meters), that 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: -

Table No: 14 Assessment of Parameter EG_{Controller, gen} (Quantity electricity generated by the project activity WTGs recorded at respective controller meters)

Parameter	EG _{Controller, gen} (Quantity electricity generated by the project activity WTGs recorded at respective controller meters)	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	The parameter will be monitored continuously and recorded at least monthly by LCS meter (Controller meter). The electricity generated by each individual wind turbine generator (WTG) is recorded using an LCS meter, which measures the gross electricity generated in kilowatt-hours (kWh). This data is used for cross-checking the export and net electricity supplied to the grid, ensuring accurate monitoring of the project's electricity generation.
	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 PD/3/ and monitoring methodology/13/. Also, in current monitoring period there is no deviation from the stated procedures in the registered monitoring plan. This was verified by assessment team during desk review and by Team Leader during onsite visit and interviews/37/ with site personnel.
	Monitoring equipment	This parameter is measured through LCS meter (Controller meter) integrated with WTG and monitored via online monitoring system (SCADA) used for continuously measuring, and recording

		the Gross electricity generated by each WTG details are provided in section 4.3 of MR/1/.
	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?	Not Applicable for this parameter.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Not Applicable for this parameter.
	Calibration frequency /interval:	Not Applicable for this parameter.
	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?	Not Applicable for this parameter.
	Is the calibration of measuring equipment carried out by an accredited person or institution?	It is not possible to calibrate controller because it is integral part of WTG cannot be removed during operation. Same has been confirmed through personal interviews of site personnel during on site assessment.

	Is(are) calibration(s) valid for the whole reporting period?	Not Applicable for this parameter.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Each WTG is equipped with a precise microprocessor-based multi-function relay (MFR) LCS meter. This relay utilizes software to accurately sample and process generated electricity data. The recorded information is automatically entered into the SCADA system, ensuring minimal likelihood of data misinterpretation. The O&M contractor generates daily reports from SCADA-recorded data, which then serve as the foundation for monthly generation reports. The robust monitoring procedures ensure accurate data transmission.
	How were the values in the monitoring report verified?	Cumulative value of EG_{Controller, gen} for entire monitoring period 01-May-2022 to 31-December-2022 (inclusive of both dates) is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/ in kWh. The monthly values were verified from the Monthly generation reports recorded in electronic format by O&M contractor thus found to be consistent. Value of this parameter for the current monitoring period was verified as 87,208.53 MWh .
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of EG_{Controller, gen} in logged electronically on a monthly basis by O&M contractor on its online portal. The value of this parameter shall be compared with the value of EG_{facility, y} .
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes	Yes, on a monthly basis, this data parameter is electronically logged by the O&M contractor on its online portal. The value of this parameter is compared with the value of EG_{facility, y} , and the conservative approach is taken by the PP for

	in place?	estimating the net electricity supplied value for the calculation of emission reduction. This was confirmed by the assessment team during on-site personnel interview/37/ with the site personnel of the project activity & thus confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable.
	In case project proponents have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	CL#02 & CAR#02 were 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 project. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors taken as 05 % as per VCS Standard Guidelines.	

Calibration of meters/24/:

During the verification assessment of the project activity, accuracy of all the metering have been checked and found appropriate by assessment team during onsite visit/36/. The installation and working conditions of the meters were checked during the site inspection/36/ and were found to be satisfactory as compared to the provision of calibration/testing frequency, prescribed under the VCS PD/3/, the meters are supposed to undergo testing/calibration once three years. The meter calibration is not under the purview of PP. MSSEDCL is the sole authority to conduct the meter calibration. It is to note that during this monitoring period calibrated meter replacement occurred for Feeder 03 Check meter and Feeder 04 Main and Check meter on 01-May-2022, the replacement/calibration of meters is solely the responsibility of state electricity authority i.e., Maharashtra State Electricity Distribution Company Limited.

Table No: 15 Calibration details of Feeder meters: The calibration details of meters installed by MSSEDCL (Maharashtra State Electricity Distribution Company Limited) for measurement of $EG_{facility,y}$, are as below.

For NSL Wind Power Company (Kayathar) Pvt. Ltd.:

Metering Points	Meter Details				Previous Calibration date	Due Date of Last calibration	Recent Calibration date	Due Date of Calibration
	Serial no	Make	Type	Accuracy class				
FEEDER No. 5	Main meter – HT01131245	WALLABY	MK6E	0.2s	20/09/2019	19/09/2022	03/02/2022	02/02/2025
	Check meter – HT01131246	WALLABY	MK6E	0.2s	20/09/2019	19/09/2022	03/02/2022	02/02/2025
FEEDER No.6	Main meter – HT01131248	WALLABY	MK6E	0.2s	20/09/2019	19/09/2022	03/02/2022	02/02/2025
	Check meter – HT01131249	WALLABY	MK6E	0.2s	20/09/2019	19/09/2022	03/02/2022	02/02/2025

For Jath Wind Energy Private Limited:									
Metering Points	Meter Details					Due Date of Last calibration	Recent Date of Calibration	Replacement/Installation/Calibration Date	Due date
	Serial no	Make	Type	Accuracy class	Previous Date of Calibration				
FEEDER No. 3	Main meter – HT01140155	WALLABY	MK6E	0.2s	20/09/2019	19/09/2022	03/02/2022	Not Applicable	02/02/2025
	Old Check meter – HT01140156	WALLABY	MK6E	0.2s	20/09/2019	19/09/2022	03/02/2022	Meter has been replaced on 01/05/2022	NA Since meter has been replaced
	New Check meter – 02874789	Elster	A1800	0.2s	NA Since meter has been replaced on 01/05/2022	Not Applicable	NA Since meter has been replaced on 01/05/2022	01/05/2022	30/04/2025
FEEDER No. 4	Old Main meter – HT01140157	WALLABY	MK6E	0.2s	20/09/2019	19/09/2022	03/02/2022	Meter has been replaced on 01/05/2022	NA Since meter has been replaced
	Old Check meter – HT01140158	WALLABY	MK6E	0.2s	20/09/2019	19/09/2022	03/02/2022		
	New Main Meter - 02862952	Elster	A1800	0.2s	NA Since meter has been replaced on 01/05/2022	Not Applicable	NA Since meter has been replaced on 01/05/2022	01/05/2022	30/04/2025
	New Check Meter - 02862957	Elster	A1800	0.2s					

Note: Please note that meter calibration is not under purview of PP. MSEDCL (Maharashtra State Electricity Distribution Company Limited) is the sole authority to conduct the meter calibration and as per CEA order dated 17-March-2006; It is evident that "all the meters shall be tested once in five years."

Meter Replacement has occurred on 01-May-2022 for Feeder 03 Check Meter and Feeder 04 Main and Check Meters for Jath Wind Energy Private Limited. Assessment Team has cross-verified the meter replacement certificates and also witnessed the meters at site during physical inspection and confirmed the meter replacement.

It is to note that calibration for the existing meters was done on 03-February-2022, hence assessment team confirms that no delay in meter calibration has happened during the current monitoring period. As per registered PD the frequency of meter calibration was **"Once in three years"** and the existing meters calibration is already in-line with the calibration frequency therefore no error factor for calibration delay is applied. Assessment team confirmed the same during site visit by physically inspecting the meters installed at site and by cross checking the calibration certificates and meter replacements certificates /25/

The energy meter calibration certificates/25/ are checked and found that the calibration details provided in the MR /1/ 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-May-2022 to 31-December-2022, including both the start and end dates.

The meters in use are two-way devices that measure both electricity import and export, providing the net electricity consumption data. According to the Power Purchase Agreement with the electricity distribution utility, there are four set (Each Contain a main meter and a check meter) of energy meters. Both function as two-way export-import meters, calculating both exported and imported electricity to the grid.

If the meters operate outside allowable limits (As per technical standards it is 0.2% accuracy class), they will either be replaced or calibrated. When the main meter malfunctions, the consumption recorded by the check meter is used. If both metering systems fail, malfunction details, timestamps, parameters, and load survey data will be retrieved from the main meter. The nature of the malfunction is then determined and the recorded consumption in the main meter is adjusted accordingly.

The daily generation schedule is prepared by the plant team and the Power is sold to the Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL) according to the (PPA/24/). The operational and Maintenance teams of ReGen Power Tech Private Limited (O&M Entity) is responsible for monitoring the generation of the 25 Wind Turbine Generators (WTGs) of Regen Make and INOX Wind Private Limited (O&M Entity) is responsible for monitoring the generation of the 15 Wind Turbine Generators (WTGs) of INOX wind Make respectively on daily and maintains a log book recording daily generation details for each WTG within the project, as

measured at the wind farm. The VKU assessment team verified these records during their on-site visit /36/.

The electricity generated by both the project activity WTGs and non-project WTGs is metered at a feeder-wise common metering point. This metering point comprises a main meter and a check meter, both having an accuracy of 0.2s. These meters measure parameters such as export and import for all connected WTGs. As specified in the registered VCS Project Design (PD+MR)/3/ and MR/1/, the net electricity supplied to the grid is calculated by summing up the net electricity export figures of individual WTGs. The difference is then multiplied by the applicable meter multiplication factor.

The monitoring and measurement of electricity at the project metering point are carried out continuously, while the recording is done on a monthly basis through Joint Meter Readings/Group Credit Notes, performed jointly by representatives of the State Utility and the project proponent (PP).

There are forty WTGs and four feeders at grid substation involved for measure the electricity import and export. The provision of calibration/testing frequency for all the meters shall be tested once in three years, prescribed under the VCS Joint PD & MR/3/. Thus, validity of the calibration is considered for three years. This is verified by assessment team from the calibration certificates/25/ submitted by the PP. As per VCS Joint PD+MR "The project adheres to all the mandatory regulatory and statutory requirements at the state as well as national level & hence acceptable to VKU assessment team.

Power is generated in individual WTG and step up at 33kV by using a step-up transformer placed near to each Individual WTG & directly sent to substation through a common transmission 33kV line (Common for project and non-project WTGs) connected to the particular feeder. Billing meters are installed at Grid Substation. The meter readings at the substations are taken jointly by the representatives of Project participant representative and Maharashtra State Electricity Distribution Company Limited (MSEDCL) representative and recorded in the JMR.

Calculation of net electricity export to the grid by project activity WTG:

To compute the net electricity supplied by individual wind turbines (WTGs), main meter readings are allocated based on Local Control Station (LCS) meter readings from each WTG. LCS meter readings for project activity WTGs are electronically archived continuously. Monthly joint meter readings are taken at the MSEDCL substation, using cumulative LCS meter readings for monthly allocation purposes. Both main and check meters undergo calibration every three years.

Apportioning Procedure followed:

The allocation of net electricity supplied to the grid by the project activity is determined using a specific apportioning procedure, which is outlined as follows:

$EG_{JMR, Export}$ = Electricity exported by all the WTGs (project WTGs & non-project WTGs), as recorded by the main meter at the substation

$EG_{JMR, Import}$ = Electricity imported by all the WTGs (project WTGs & non-project WTGs), as recorded by the main meter at the substation

$EG_{Controller, gen}$ = Electricity exported by a project WTG, as measured at the controller

$EG_{Controller, gen, total}$ = Electricity exported by all the WTGs (project activity & non project activity) connected to the main meter at the substation, measured at the controller of each WTG

$\sum EG_{Controller, gen}$ = Summation of electricity generated by the project activity WTGs recorded at respective LCS meters.

$EG_{JMR, Project, export}$ = Electricity exported by a WTG to the grid, calculated

$EG_{JMR, Project, import}$ = Electricity imported by a WTG from the grid, calculated.

Electricity exported by each WTG is apportioned on the basis of electricity exported recorded at the controller of each WTG and the electricity exported at the main meter and mentioned in the JMR. The export multiplication factor is calculated as follows-

$$\text{Export Multiplication Factor} = EG_{JMR, Export} \div EG_{Controller, gen, total} \dots\dots\dots (1)$$

Thus, the energy exported by a WTG to the grid is given by the equation-

$$EG_{JMR, NSL, export} = \text{Export Multiplication factor} \times \sum EG_{Controller, gen} \dots\dots\dots (2)$$

As the controller meter doesn't record import, the apportioning of energy imported by each WTG is also done on the basis of electricity exported recorded at the controller of each WTG and the electricity imported at the main meter and mentioned in the JMR. The import multiplication factor is calculated as follows-

$$\text{Import Multiplication Factor} = EG_{JMR, Import} \div EG_{Controller, gen, total} \dots\dots\dots (3)$$

Thus, the energy imported by a WTG to the grid is given by the equation-

$$EG_{JMR, Project, import} = \text{Import Multiplication factor} \times \sum EG_{Controller, gen} \dots\dots\dots (4)$$

The net electricity exported by the WTGs of the project is given by the equation-

$$EG_{facility, y} = \sum EG_{JMR, Project, export} - \sum EG_{JMR, Project, import} \dots\dots\dots (5)$$

$$\sum EG_{JMR, NSL, export} = EG_{JMR, Project, export, y}$$

$$\sum EG_{JMR, NSL, import} = EG_{JMR, Project, import, y}$$

Based on the above calculation, a monthly statement is prepared, signed by the Project Proponent (PP) representatives and endorsed by the state utility (MSEDCL). This statement includes three key figures: total electricity exported to the grid, total electricity imported from the grid and net electricity supplied. Net electricity supplied is calculated as the difference between electricity exported and imported by the project activity for that month.

Upon receiving the "Monthly Statement/credit note," the Project Participant generates invoices for the sale of electricity and submits them to the respective district-level MSEDCL office. MSEDCL then makes payments based on these invoices. The value of net electricity supplied, as stated in the monthly statement, can be cross-checked with the amounts specified in the monthly invoices, ensuring accuracy and transparency in the payment process.

Daily data at the project site is collected electronically, while monthly data is documented in hard copies. The Project Proponent is responsible for maintaining comprehensive and precise records of all this data as part of the monitoring process. These records must be retained for a minimum of 2 years after the end of the crediting period or the last issuance of Verified Carbon Units (VCUs) for the project activity, whichever comes later. This practice ensures the availability of historical project data for compliance and auditing purposes.

The project proponent has engaged with ReGen Power Tech Private Limited for 25 ReGen make Machines (WTGs) and with INOX Wind private limited for 15 Inox make machine (WTGs) under an "Operation and Maintenance" contract for ten years, starting from the commissioning date of each WTG. ReGen and Inox Wind oversees daily monitoring of respective WTGs generation, ensures operational safety, and manages scheduled and breakdown maintenance. They maintain a logbook that records daily generation details for each WTG within the project, as metered at the wind farm.

The registered VCS Joint Project Description & Monitoring Report (PD+MR) version 02 dated 19-March-2016/3/ & MR /1/ and site audit observations confirm that the metering equipment are sealed and maintained by the Maharashtra State Electricity Distribution Company Limited (MSEDCL).

Each WTG have a LCS meter (Controller meter) installed in electronical panel of WTG for recorded continuously by the online monitoring station. This reading can also be seen in the electronic panel installed inside the WTG tower. The LCS meter (Controller meter) do not require calibration as the energy readings of electricity generated at the LCS meter is cross verified by the energy calculated by inverting system installed in the WTGs. Each feeder has a dedicated set of main and check meter to record frequency quantities of active and reactive energy for energy exported to and imported from the grid during settlement periods. All meters are sealed in the presence of the Maharashtra State Electricity Distribution Company Limited (MSEDCL) (DISCOM) and the Company, with the seal remaining intact unless broken for testing and calibration by a testing laboratory. Measuring instrument accuracy class requirements are 0.2% for kWh measurement of meters, 0.2% for KVarh measurement of meters, and 0.5% for current and voltage transformers. The meter calibration is not under the purview of PP. MSEDCL is the sole authority to conduct the meter calibration.

During onsite visit /36/ the verification team checked all the meters and confirmed that the meters were working satisfactorily. Also, the calibration of meters is completely under purview of Maharashtra State Electricity Distribution Company Limited (MSEDCL) and PP has no control over the same as confirmed through interviews of site personnel /37/ and PPA /24/.

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 Validation and verification manual version 3.2/11/.

The assessment team has verified the JMRs /26/ issued by DISCOM to PP & Invoices/27/issued to DISCOM identified in the PPA /24/ by NSL Wind Power Company (Satara) Pvt. Ltd. confirmed that only the data recorded through main meters is used to calculate net electricity supplied to the grid consequently for ER calculations recorded in ER sheet /2/.

In view of the above discussion the VKU 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 (tCO ₂ e/yr)
$EG_{PJ,y}$	=	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the VCS project activity in year y (MWh/yr)
$EF_{grid,CM,y}$	=	Combined margin CO ₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (t CO ₂ /MWh)

Calculation of $EG_{PJ,y}$

The project activity being a greenfield project,

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

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 VCS project activity in year y (MWh/yr)
-------------	---	--

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

And

$$EF_{\text{Co2}} = EF_{\text{GridCM},y}$$

EF_{Co2} = CO₂ Emission Factor in year y (tCO₂e/MWh)

$EF_{\text{GridCM},y}$ = Combined margin CO₂ Emission Factor of Indian Grid (tCO₂e/MWh)

Parameter	Unit	Value
$EG_{PJ,y}$	MWh	83,330.46
EF_{Co2}	tCO ₂ e	0.9767
BE_y	tCO ₂ e	83,330.46 * 0.9767
	=	81,388 (Round down value)
PE_y	tCO ₂ e	0
LE_y	tCO ₂ e	0
Net GHG emission reductions or removals tCO ₂ e	tCO ₂ e	81,388 (tCO ₂ e)

For Year 2022 (from 01-May-2022 till 30-Decmeber-2022)
= 83,330.46 MWh * 0.9767 tCO ₂ e/MWh
= 81,388 tCO₂e (Round down Value)
The Total Emissions = 81,388 tCO₂e
The Net Electricity Generation = 83,330.46 MWh

The estimated emission reduction for the present monitoring period is **77,530** tCO₂e, however the achieved emission reductions are **81,388** tCO₂e (round down value), or around **4.98%** higher than the estimated emission reductions.

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 2022 (01-May-2022 to 31-December-2022)	81,388	0	0	81,388
Total	81,388	0	0	81,388

The verification team attests to the correctness of the formulas and methodologies used to compute baseline emissions. The applied default values, emission factors and assumptions in the calculations are all reasonable. 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 +4.98% higher than the estimated ERs in the registered PD/3/. We as VKU Assessment Team accepted this as this is mainly due to the high PLF, high wind speed and minor shutdown periods during the monitoring period. The assessment team further performed the analysis of the achieved PLF against the ex-ante PLF for current monitoring period using the PLF data made available by PP by providing the Monthly Generation Reports/SCADA/33/ data and calculation provided in the ER sheet. Hence based on the data provided by PP. the following deductions were made.

Table No: 16 Variation of PLF from ex-ante estimation for current monitoring period 01-May-2022 to 31-December-2022 (Inclusive of both start and end dates)

Monitoring Period	PLF achieved %	PLF ex ante
Jan-23	6.17%	20.00%
Feb-22	5.77%	20.00%
Mar-22	8.91%	20.00%
Apr-22	10.85%	20.00%
May-22	24.34%	20.00%
Jun-22	28.60%	20.00%
Jul-22	37.20%	20.00%
Aug-22	33.77%	20.00%
Sep-22	20.30%	20.00%
Oct-22	7.80%	20.00%
Nov-22	7.98%	20.00%
Dec-22	7.78%	20.00%
PLF achieved at Project level for current Monitoring Period: 21.00% Average PLF achieved for Year 2022: 16.71% Breaching Value is 23.90% *Above results clearly show that the PLF with breaching value is higher than actual PLF hence project is additional		

Since the data available for current monitoring period is from Jan-2022 to December-2022, assessment team plotted the graph for study the trend.

Figure 2.1: Trends of PLF from May 2022 to December 2022 (Current MP)

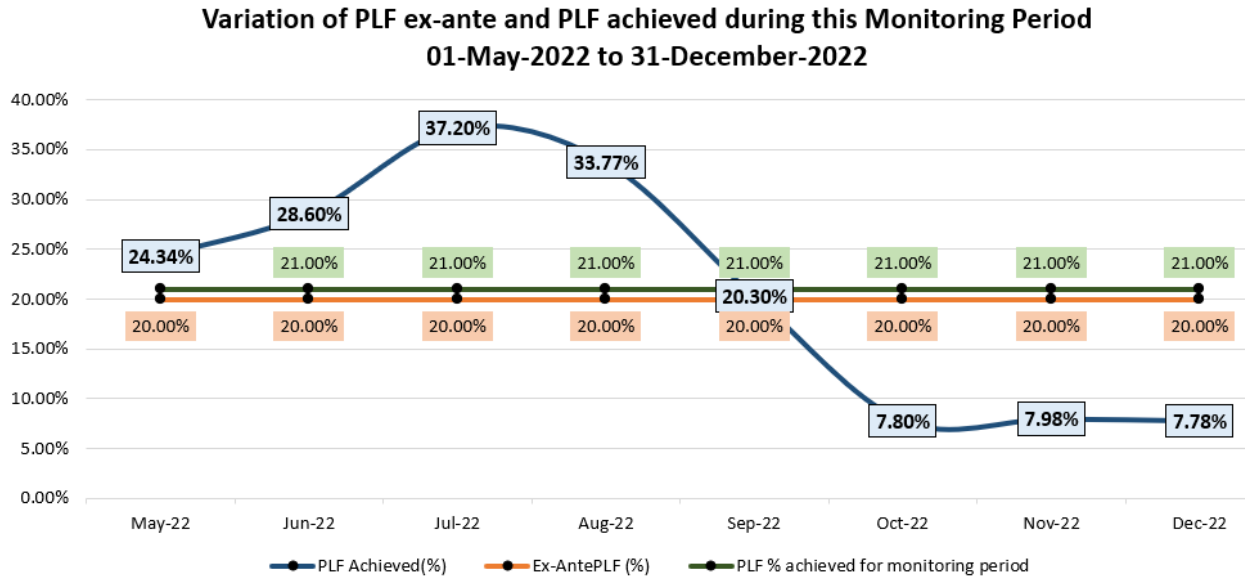
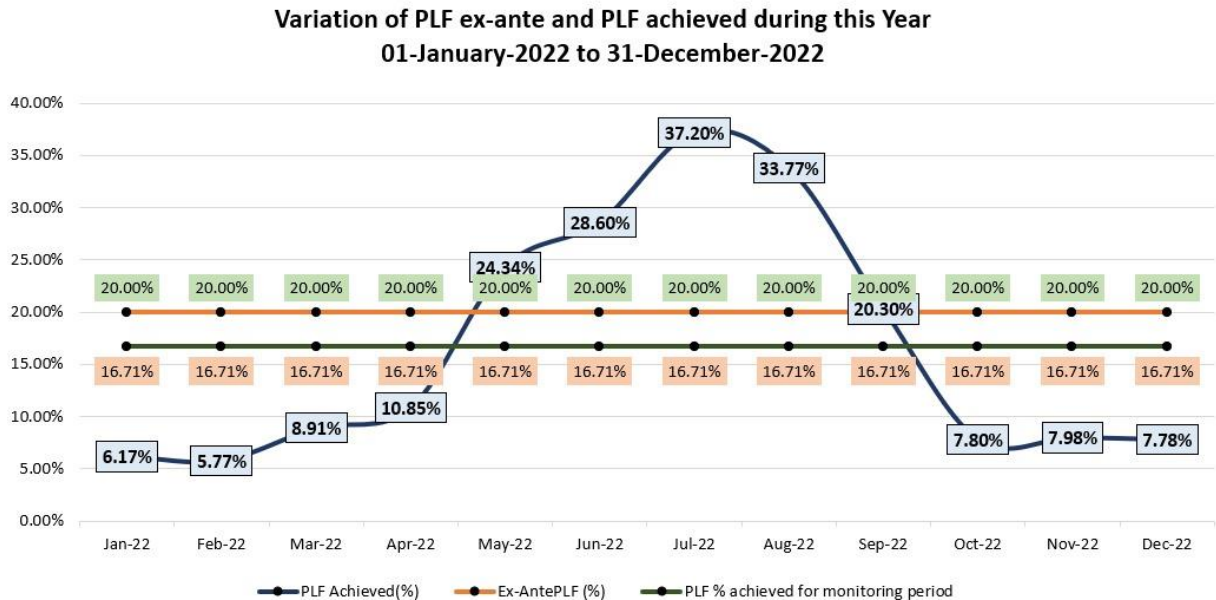


Figure 2.2: Trends of PLF from January 2022 to December 2022 (Year 2022)



Based upon the Figure 2.1 & 2.2, it is clear that the trend of PLF before April 2022 is lower than estimated from May-2022 till September-2022 the PLF is higher than the estimated and also after September-2022 the trend of PLF is lower than the estimated. Which is due to seasonal availability & variation in wind flow which is directly reflected in higher emission reductions for the current monitoring period at +4.98%.

The higher generation during the current verification period is hence due high wind flow, grid availability, high PLF & minor scheduled & unscheduled breakdown as verified and traced through evidences and calculative computation by VKU assessment team during desk review, onsite visit and interview with site personnel confirmed the reasons of higher emissions reduction as compared with registered VCS Joint PD & MR Version 02 dated 19-March-2016/3/ & hence acceptable to VKU.

It is to note that PLF achieved for current MP is **21%** and the breaching value of the PLF in the PDD is **23.90%**. It clearly shows that the PLF with breaching value is higher than actual PLF achieved in this Monitoring Period, hence project is additional and IRR stands untouched and project remains eligible. Hence the **+4.98%** actual higher emission reduction achieved during the current monitoring period neither cross the benchmark value, neither affects additionality nor there is any deviation from the registered monitoring plan, which was verified by the VKU Assessment/Verification Team during onsite visit.

The electricity produced by a wind plant relies on the amount of wind passing through it, and changes in wind availability can have an impact on its output. The flow of wind is a natural phenomenon and PP have no control over it, which can, in turn, affect the amount of electricity generated. The fluctuation in the wind flow is not under the control of the project proponent. Hence, it is acceptable to the VKU Assessment/Verification Team.

All the data were made available to the assessment team by PP during site visit/36/ and as supporting evidences which 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. The verification team has checked and confirmed the emission reduction calculations in the spreadsheet and found to be accurate. The monitoring report/1/ is supported by emission reduction spreadsheet/2/. The consistency and formula were verified and found to be accurate.

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 set out in section 3.15 of VCS Standard version 4.5 and that the verification of the GHG statement was conducted in accordance with ISO 14064-3; 2019.

4.6 Non-Permanence Risk Analysis

Since the project is not an AFOLU project hence this section is not applicable.

5 VERIFICATION OPINION

VKU Certification Pvt. Ltd. has performed the eighth verification of the fixed crediting period (30-March-2014 to 29-March-2024, which is inclusive of both dates) for the project activity “Wind Project in Maharashtra, India by Kayathar and Jath.” in India, VCS Registry Project ID 1520, for the monitoring period 01-May-2022 to 31-December-2022 (Inclusive of both start and end dates), with regard to the relevant requirements for VCS activities. The project proponents of the “Wind Project in Maharashtra, India by Kayathar and Jath” amounts to **81,388 tCO₂e** of carbon dioxide equivalent (tCO₂e). These reported reductions have been assessed in accordance with the relevant requirements outlined in the VCS Standard, version 4.5/10/.

The project proponents of the “Wind Project in Maharashtra, India by Kayathar and Jath” project is 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 19-March-2016 /3/
- 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 section 4.1 of VCS Standard version 4.5/10/ 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 version 2.0 of 19-March-2016 /3/
- The monitoring is in place as per the applied baseline and monitoring methodology; ACM0002. Consolidated baseline methodology for grid connected electricity generation from renewable sources Version 16/13/
- The monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS Standard version 4.5/10/ requirements;

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.

As per VCS Standard Version 4.5, clause 4.1.23, 4.1.24 and 4.1.25, VKU is of opinion that that GHG emission reduction stated in the **monitoring report version 3.0 of 30-October-2023** for the “Wind Project in Maharashtra, India by Kayathar and Jath” in India for the period 01-May-2022 to 31-December-2022 (Inclusive of both start and end dates) *are fairly and correctly stated*.

Table No 17: Opinion/Conclusion by Validation-Verification Body

Opinion	Final Documents	Monitoring Period	Emission Reductions achieved	Remarks
Positive opinion ☒ Negative Opinion ☐ Adverse Opinion ☐ Unmodified Opinion ☒ Modified Opinion ☐	Monitoring Report Version 3.0 of 30-October-2023 Emission Reduction Sheet Version 2.1 of 30-October-2023	01-May-2022 to 31-December-2022 (Inclusive of both the days)	81,388 tCO_{2e}	The GHG emission reductions are calculated on the basis of approved methodology ACM0002: Grid-connected electricity generation from renewable sources --- Version 16/13/ and the monitoring plan included in the registered VCS Joint PD & MR /3/
Hence VKU is able to certify that the emission reduction from the project during the current monitoring period 01-May-2022 to 31-December-2022 (Inclusive of both start and end dates) amounts to 81,388 tCO_{2e} assessed in line with the applicable VCS requirements set out in section 3.15 of VCS Standard version 4.5/10/ The VVB hereby issues a resolutely <i>positive and unmodified opinion</i> meticulously drafted in strict accordance with ISO 14064-3:2019, /41/ Section 09, and the precise provisions of Clause 9.7.1.6 & 9.7.2 of ISO 14065:2020. /42/ This opinion stands in full alignment with the exacting requirements delineated in ISO/IEC 17029:2019, Section 9.7./43/ Our verification process provides a robust and <i>reasonable level of assurance</i> regarding the veracity of the reported GHG emission reduction data. This data is devoid of any material misstatements and is steadfastly supported by the evidence furnished by the Project Proponent (PP), comprehensively presented in <u>Table 04</u> of this report.				

Verified GHG emission reductions and removals in the above verification period, broken down by calendar year:

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 2022 (01-May-2022 to 31-December-2022)	81,388	0	0	81,388
Total	81,388	0	0	81,388

Verified GHG emission reductions and removals in the above verification period, broken down by calendar year:

Year	Ex-ante emissions reductions/removals	Achieved emissions reductions/removals	Percent difference	Justification for the difference
Verification period: 01-May-2022 to 31-December-2022 (Inclusive of both start and end dates)	77,530	81,388	+4.98%	The actual Emission Reductions (ER) achieved during the monitoring period are higher than the originally estimated ER. This discrepancy is primarily attributed to a higher Plant Load Factor (PLF) experienced during the current monitoring period. High wind availability, grid availability and very low downtime, resulting in an increased overall PLF for the period, which in turn impacted the expected emissions reductions. It is to note that PLF achieved for current MP is 21% and the breaching value of the PLF in the PDD is 23.90% It clearly shows that the PLF with breaching value is higher than actual PLF achieved in this Monitoring Period, hence project is additional and IRR stands untouched and project remains eligible.

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
PPA	Energy Wheeling Agreement
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
MSEDCL	Maharashtra State Electricity Distribution Company Limited
NGO	Non-governmental Organization
ODA	Official Development Assistance
PDD	Project Design Document
PE	Project Emission
PP(s)	Project Proponent(s)

PPA	Power Wheeling Agreement
PSA	Power Sale Agreement
Ref.	Document Reference
SLDC	State Load Dispatch Centre
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.
VVS	Validation and Verification Standard

APPENDIX B: AUDIT FINDINGS

CL: Clarification Request 03

CAR: Corrective Action Request 02

FAR: Forward Action Request 00

Description of Clarification Requests (CLs) raised by VVB:

Type	Date	12-August-2023
CL#1	Reference	Section of Verification Protocol 01/DR/OSV Section of Verification Protocol 02/DR/OSV
Description of the Non-Conformance		
1. Section 1.1 of MR: a) PP has not provided a commissioning certificate to the assessment team to verify the commissioning date of the project. b) PP has not submitted a Power purchase agreement signed between PP and the Unified Indian grid. c) PP has not clarified i.e.; the project capacity is in AC or DC. 2. Section 1.9 of MR: a) PP has not submitted a declaration for the project has not been included in any emissions trading program or any other mechanism that includes GHG allowance trading. b) Also, the Assessment team has found that the PP has Not indicated in MR whether the project has sought or received another form of GHG-related environmental credit, including REC (renewable energy certificates) & I-REC (International- renewable energy certificates) during this monitoring period. c) Also, as per VCS guidelines to fill MR, provide a list of all and any other programs under which the project is eligible to create another form of GHG-related environment credit. 3. Section 1.10 of MR: a) PP has not submitted declaration regarding Project Activity that the project is not yet registered under any other GHG program. b) PP has not ensured that there will not be any double counting of emission reduction. Also, PP has not confirmed that credits generated the in current monitoring period do not form part of any other national or international scheme including Renewable Energy Certificates. c) PP has not elaborated the impacts due to the implementation of the project as applicable till the current monitoring period. 4. In Section 1.11 of MR Table 1: PP has not submitted the Employment record for SDGs Indicator 8.5.1 Employment generation from the project activity.		

5. In Section 1.11 of MR: PP has not submitted the Previous verification report to verify contribution over the project lifetime.
6. In Section 2.2 of MR: PP has not submitted the copy of the grievance registers.

1 st Response from PP	Date	20-October-2022
----------------------------------	------	-----------------

1. Section 1.1 of MR:
 - a. Commissioning certificates is submitted to the assessment team to verify the commissioning date of the project.
 - b. A power purchase agreement is submitted.
 - c. project capacity is in AC.
2. Section 1.9 of MR:
 - a. Declaration for the project has been submitted that the project is not a part of any other program or any other mechanism that includes GHG allowance trading.
 - b. It has been indicated in MR that the project has not sought or received another form of GHG-related environmental credit, including REC (renewable energy certificates) & I-REC (International- renewable energy certificates) during this monitoring period.
 - c. It has been stated in MR that no other credits and declaration has been submitted.
3. Section 1.10 of MR:
 - a. Declaration regarding that the project is not yet registered under any other GHG program is submitted
 - b. There has been no double counting of emission reduction & it is to hereby confirm that credits generated the in current monitoring period do not form part of any other national or international scheme including Renewable Energy Certificates.
 - c. The impacts due to the implementation of the project as applicable till the current monitoring period have been elaborated.
4. In Section 1.11 of MR Table 1: Employment record for SDGs Indicator 8.5.1 Employment generation from the project activity is submitted.
5. In Section 1.11 of MR: The previous verification report to verify contribution over the project lifetime is submitted.
6. In Section 2.2 of MR: A copy of the grievance register is submitted.

1 st Assessment by Audit Team	Status	Closed	Date	22-October-2022
--	--------	--------	------	-----------------

- 1) Section 1.1 of MR:
 - a) Commissioning certificates are submitted to the assessment team and the date of commissioning is found to be consistent, hence accepted by the verification team. **(Closed)**
 - b) PP has submitted Power purchase agreement which is also verified by the assessment team and found consistent, and hence accepted by the assessment team. **(Closed)**
 - c) PP has clarified that project capacity is in AC and the same has been incorporated in

MR same has been checked and found correct, hence accepted by the assessment team. **(Closed)**

2) Section 1.9 of MR:

- a) PP has submitted a Declaration that the project is not a part of any other program or any other mechanism that includes GHG allowance trading. Hence accepted by the assessment team. **(Closed)**
- b) It has been incorporated in MR that the project has not sought or received another form of GHG-related environmental credit, including REC (renewable energy certificates) & I-REC (International- renewable energy certificates) during this monitoring period. **(Closed)**
- c) It has been incorporated in MR that no other credits and declaration has been submitted and also confirmed by the assessment team **(Closed)**

3) Section 1.10 of MR:

- a) PP has submitted the Declaration regarding that the project is not yet registered under any other GHG program to the assessment team and the same has been verified and confirmed by the assessment team. **(Closed)**
- b) PP has Clarified that There has been no double counting of emission reduction & it is to hereby confirm that credits generated the in current monitoring period do not form part of any other national or international scheme including Renewable Energy Certificates same has been confirmed by the assessment team and found to be consistent. **(Closed)**
- c) The impacts due to the implementation of the project as applicable till the current monitoring period have been elaborated in the MR and the same has been checked in the MR and confirmed by the assessment team. **(Closed).**

4) In Section 1.11 of MR Table 1: The assessment team confirmed that PP has submitted an Employment record for SDGs Indicator 8.5.1 Employment generation from the project activity which is verified by the assessment team and found consistent and hence accepted by the assessment team. **(Closed)**

5) In Section 1.11 of MR: The previous verification report is submitted by the PP to the assessment team to verify contribution over the project lifetime and hence accepted. **(Closed)**

6) In Section 2.2 of MR: PP has submitted a copy grievance register. **(Closed)**

Hence CL#01 is Closed by the assessment team.

Type	Date	12-August-2023
CL#2	Reference	Section of Verification Protocol 03/DR/OSV Section of Verification Protocol 04/DR/OSV Section of Verification Protocol 05/DR/OSV Appendix /DR/OSV
Description of the Non-Conformance		
1) In Section 3.1 of MR: a) PP has not justified the statement for conversion of energy. b) PP has not submitted evidentiary documents to verify the Technical Specification of the WTGs involved in the project activity. 2) In Section 4.2 of MR: a) PP has not submitted Monthly generation reports for the current monitoring period. b) As per the VCS MR template version 4.2 requirement PP needs to specify if any standards or protocols are to be followed, and the person/entity responsible for the measurement. Include any relevant information regarding the accuracy of the measurements (e.g., accuracy associated with meter equipment or laboratory tests). 3) In Section 4.3 of MR: a) PP has not submitted the copy of plant logbooks. b) PP has not submitted the required evidence i.e., an attendance sheet regarding the training of the site personnel specific for operating and maintaining the plant will be provided by the technology suppliers 4) Section 5.4 of MR: PP to submit the PLF data for 2 years (if available) or at least 1-year PLF data prior to this MP. This data will allow the assessment team to assess the ER calculations in line with VCS MR template v 4.1 sections 3.1 and 5.4. 5) In APPENDIX 3: a) PP has not submitted the calibration certificates applicable to the current monitoring period. b) Assessment team could not trace down the reference of the breakdown details in any section of this report.		
1stResponse from PP	Date	20-October-2021
1) In Section 3.1 of MR: a. The statement for conversion of energy is not required in the section however added in section 4.3 b. The supporting document for Technical Specification of the WTGs involved in the project activity has been submitted. 2) In Section 4.2 of MR:		

- a. Monthly generation reports for the current monitoring period are submitted.
- b. State electricity board in the presence of the PP takes the reading, the PP has no control over it.

3) In Section 4.3 of MR:

- a. A copy of plant logbooks for the current monitoring period are submitted.
- b. The attendance sheet has been submitted.

4) Section 5.4 of MR: PLF calculation is provided in ER also PLF data is also provided.

5) In APPENDIX 3:

- a. Calibration certificates applicable to the current monitoring period are submitted.
- b. Breakdown Details have been added in Appendix 02 of MR.

1stAssessment by Audit Team	Status	Closed	Date	22-October-2023
---	---------------	--------	-------------	-----------------

1) In Section 3.1 of MR:

- a) The statement for conversion of energy is incorporated in section 4.3 and the same has been checked in MR and hence confirmed by the assessment team. **(Closed)**
- b) PP has submitted the supporting document for Technical Specification of the WTGs involved in the project activity. **(Closed)**

2) In Section 4.2 of MR:

- a) The assessment team confirmed that PP has submitted Monthly generation reports for the current monitoring period. **(Closed)**
- b) The PP has justified that the State electricity board in the presence of the PP takes the reading, the PP has no control over it and the same has been incorporated in MR and the same has been checked and found correct. **(Closed)**

3) In Section 4.3 of MR:

- a) The assessment team confirmed that PP has submitted a copy of plant logbooks for the current monitoring period. **(Closed)**
- b) The assessment team confirmed that PP has submitted the attendance sheet for the current monitoring period. **(Closed)**

4) Section 5.4 of MR: The assessment team has confirmed that PP has incorporated PLF calculation in ER and PLF data is also provided and hence accepted by the assessment team. **(Closed)**

5) In APPENDIX 3:

- a) The assessment team confirms that Calibration certificates applicable to the current monitoring period are submitted. **(Closed)**
- b) PP has incorporated the Breakdown details in Appendix 02 of MR and the same has been checked in MR and confirmed. **(Closed)**

Hence CL#02 is Closed by the assessment team.

Type	Date	26-October-2023
CL#3	Reference	Section of Verification Protocol 01/DR/TR Section of Verification Protocol 04/DR/TR Section of Verification Protocol 05/DR/TR
Description of the Non-Conformance		
1) As per TR estimate total number of years is coming to 8Y9M2D. 2) The units are not as per standard notations as per the methodology. 3) The grid is not updated to the latest data information available 4) The energy generation at the substation is happening through 4 feeders as stated in the appendix. However, the explanation is not provided here as part of monitoring plan 5) The details of the transformer at the WTG end is not mentioned and its voltage transformation. 6) PP to clarify the same based on the PLF and its impact on the IRR and subsequently additionality		
1 st Response from PP	Date	30-October-2023
1. The required changes in year estimation have been made. 2. The units are revised. 3. The grid id defined as per latest information. 4. The details of feeders and energy meter is mentioned in the registered PD & energy generation is provided in the monitoring plan. 5. The transformer details are incorporated in the MR. 6. The justification regarding PLF has been added.		
1 st Assessment by Audit Team	Status	Closed
	Date	30-October-2023
The assessment team confirms that all the above raised findings have been successfully closed. Hence the CL#03 is Closed by the assessment team.		

Description of Corrective Action Requests (CARs) raised by VVB:

Type	Date	12-August-2023
CAR#1	Reference	Section of Verification Protocol 01/DR/OSV
Description of the Non-Conformance		
1) Content of MR: a. The assessment team finds that Font (size, color, or & style) throughout the MR is inconsistent with the VCS MR template v4.2 requirement. b. PP has not revised revise the Table of content c. The assessment team found That pp has not provided page no in the footnote of every page of the report. 2) In Section 1.11 of MR: a. As per the specific guidelines mentioned in VCS MR template version 4.2 section 1.1; Bullet Point 1, a summary description of the implementation status of the technologies/ measure is not mentioned in the MR. b. As per the specific guidelines mentioned in VCS MR template version 4.2 section 1.1 The relevant implementation dates (e.g., dates of construction, commissioning, and continued operation period are not mentioned in the document. c. PP has not mentioned who is representative (PP) of this specific project, as the assessment team has found that two companies are involved as PP for the project. d. The assessment team has found PP has not mentioned the equipment used for the wind power generation project. e. The assessment team has found their futuristic sentences are used in the Document. f. The assessment team has found inconsistency in the writing of dates in the document. 3) In Table of Section 1.1 of MR: a) The assessment team has found that the calculation for the evaluating number of the year found wrong. b) The assessment team has found in this section PP has not mentioned that this data is for the current monitoring period. c) During Desk review Assessment team has found that the Table is incomplete as per guideline for filling MR template 4.2. PP is request to fill the table as per guidance provided in the VCS MR template version 4.2. 4) In Section 1.2 of MR: a) The assessment team has found unnecessary space in the document. b) The assessment team has found inconsistency in filling this section as per the		

guidelines of VCS Monitoring Report template version 4.2, PP has not mentioned that the Project Activity is AFOLU project category or not under the section.

- 5) **In Section 1.5 of MR:** The assessment team has found inconsistency in the writing of wind turbine generators/ wind electricity generators.
- 6) **In Section 1.6 of MR:** As per PD, PP has opted for a renewal crediting period for 10 years, but as per VCS standard 4.4, for non-AFLOU project RCP allowed is 7 years twice renewable. Please clarify how this is consistent with the clause 3.9.1 of the VCS standard 4.4.
- 7) **In Section 1.8 of MR:**
 - a) As per VCS template guideline version 4.2 to fill this section Verra has stated to only define: “Provide the title, reference and version number of the methodology or methodologies applied to the project. Include also the title and version number of any tools applied by the project” PP to modify this section as per the guidelines stated in VCS MR template version 4.2
 - b) The assessment team has found that a link is not provided for the tool used.
- 8) **In Section 1.9 of MR:**
 - a) The assessment team has found during desk review that provided link is not working. PP is requested to provide a working weblink.
 - b) The assessment team has found during desk review that provided link is not working. PP is requested to provide a working weblink.
- 9) **In Section 1.10 of MR:**
 - a) The assessment team has found that the section is inconsistent with the VCS Monitoring Report version 4.2 section 1.10 guideline provided.
 - b) It has a Lack of information as per the Requirement of VCS MR template version 4.2. PP is requested to update this section according to requirement of MR template Version 4.2.
 - c) The assessment team has not found the declaration.
- 10) **In Section 1.11 of MR:** The assessment team has found this section is inconsistent with the VCS MR template version 4.2 section 1.11 A summary description of project activities implemented during the monitoring period that result in SD contributions (i.e., technologies/measures implemented, activity location).
- 11) **In Table 1 of Section 1.11 of MR:** The assessment team has found that the filled information is inconsistent with the requirement mentioned above.
- 12) **In Table 1 of Section 1.11 of MR:** During desk review the assessment team found that the table is incomplete, as per Guidance to fill the MR Template version 4.2, PP is requested to fill the table as per guidance provide in template.

1stResponse from PP

Date

20-October-2023

1) **Content of MR:**

- a. size, color, or & style of font is updated.

- b. The table of content has been revised.
- c. Page number in the Monitoring report is added.

2) In Section 1.11 of MR:

- a. A summary description of the implementation status of the technologies/measures is now mentioned in the MR.
- b. The date of construction, commissioning, and continued operation period are mentioned now.
- c. The name of the PP representative has been mentioned.
- d. The equipment used for the wind power generation project is Wind Turbine Generators.
- e. The document has been Updated as per requirement.
- f. Consistency in the writing of dates in the document has made

3) In Table of Section 1.1 of MR:

- a. No of year recalculated.
- b. The section has been updated.
- c. The table has been updated as per requirement.

4) In Section 1.2 of MR:

- c) Space has been removed in the document.
- d) Section has been Updated to include that project is NON-AFOLU & Not a grouped project.

5) In Section 1.5 of MR: Name has been Corrected.

6) In Section 1.6 of MR: PP followed VCS standard version 3.5 at the time of validation at that time crediting period is fixed.

7) In Section 1.8 of MR:

- a. The title, reference, and version number of the methodology or methodologies applied to the project. Included also the title and version number of any tools applied by the project are Included.
- b. The link is provided for the tool used.

8) In Section 1.9 of MR:

- a. The working link is provided.
- b. The working link is provided.

9) In Section 1.10 of MR:

- a. The section has been updated.
- b. The section has been updated.
- c. The declaration has been provided.

10) In Section 1.11 of MR: The section has been updated.

11) In Table 1 of Section 1.11 of MR: The section has been updated.

12) In Table 1 of Section 1.11 of MR: The section has been updated.

1stAssessment by Audit Team	Status	Closed	Date	22-October-2023
---	---------------	--------	-------------	-----------------

1) Content of MR:

- a) PP has updated the font and format as per VCS MR Template Guidelines Version 4.2 same has been checked and found consistent. **(Closed)**
- b) The assessment team confirms by reviewing the MR that the Content table is updated and hence accepted. **(Closed)**
- c) The assessment team confirms by reviewing the MR that Page no is incorporated and hence accepted. **(Closed)**

2) In Section 1.11 of MR:

- a) PP has incorporated a summary description of the implementation status of the technologies measure in the MR same has been checked and verified by the assessment team. **(Closed)**
- b) PP has incorporated the date of construction, commissioning, and continued operation period are incorporated in the MR same has been checked and confirmed by the assessment team.
- c) The assessment team confirmed that the name of the PP representative has been mentioned same has been checked and confirmed. **(Closed)**
- d) PP has specified the equipment used for the wind power generation project is Wind Turbine Generators. **(Closed)**
- e) This Section has been Updated in the MR and the same has been checked and verified by the assessment team. **(Closed)**
- f) Consistency in the writing of dates in the document has been made by the PP same has been checked and verified by the assessment team. **(Closed)**

3) In Table of Section 1.1 of MR:

- a) The assessment team confirmed that the No of year recalculated and mentioned in MR which is found to be correct, hence accepted. **(Closed)**
- b) This Section has been Updated in the MR and same has been checked and verified by the assessment team. **(Closed)**
- c) The table has been Updated in the MR and same has been checked and verified by the assessment team. **(Closed)**

4) In Section 1.2 of MR:

- a) By reviewing the MR assessment team found that the extra Space has been removed in the document, hence accepted by the assessment team. **(Closed)**
- b) PP has indicated in the section that project is NON-AFOLU & Not a grouped project. **(Closed)**

5) In Section 1.5 of MR: By reviewing MR assessment team confirms that PP has made consistency about writing the word wind turbine generators, hence accepted. **(Closed)**

6) In Section 1.6 of MR: PP has provided appropriate justification which the assessment found correct and hence accepted. **(Closed)**.

7) In Section 1.8 of MR:

- a) The title, reference, and version number of the methodology or methodologies applied to the project. Included also the title and version number of any tools applied by the project are Included same has been checked and verified by the

assessment team. (Closed)
b) Methodology reference is added PP assessment team checked and found it working hence accepted (Closed)
8) In Section 1.9 of MR:
a) Methodology reference is added PP assessment team checked and found it working hence accepted (Closed)
b) Methodology reference is added PP assessment team checked and found it working hence accepted (Closed)
9) In Section 1.10 of MR:
a) The assessment team confirmed that the Section has been updated and the relevant information is incorporated in MR in accordance with the requirement of VCS MR template version 4.2. (Closed)
b) The assessment team confirmed that the Section has been updated and the relevant information is incorporated in MR in accordance with the requirement of VCS MR template version 4.2 (Closed)
c) The assessment team confirms that the declaration has been provided by the PP same has been verified and found correct. (Closed)
10) In Section 1.11 of MR: The section has been updated.
11) In Table 1 of Section 1.11 of MR: The assessment team confirmed that the Section has been updated and the relevant information is incorporated in MR in accordance with the requirement of VCS MR template version 4.2. (Closed)
12) In Table 1 of Section 1.11 of MR: The assessment team confirmed that the Section has been updated and the relevant information is incorporated in MR in accordance with the requirement of VCS MR template version 4.2. (Closed)
Hence the CAR#01 is Closed by the assessment team.

Type	Date	12-August-2023
CAR#2	Reference	Section of Verification Protocol 03 /DR/OSV Section of Verification Protocol 04/DR/OSV Section of Verification Protocol 05/DR/OSV
Description of the Non-Conformance		
1. In Section 3.1 of MR: a) As assessment team has found the date of commissioning is not incorporated in this section. b) As per VCS template guideline version 4.2 to fill this section Verra has stated PP has not indicated the operation of the project activity(s) during this monitoring period, including any information on events that may impact the GHG emission reductions or removals and monitoring.		

2. **In section 3.2 of MR:** As per VCS standard version 4.4 clause 3.20 PP is required to indicate whether any deviations were taken during the previous verification and validation processes.
3. **In Section 4.1 of MR:** PP has not defined the link for “CEA CO2 Baseline database Version 10”
4. **In Section 4.1 of MR:** PP has not defined the link for “Central Electricity Authority: CO2 Emission Database CEA CO2 Baseline Database Version 10
5. **In Section 4.1 of MR:** PP has not defined the link for “Central Electricity Authority: CO2 Emission Database CEA CO2 Baseline Database Version 10.
6. **In Section 4.3 of MR:**
 - a) PP has not defined the link for the methodology used.
 - b) PP has not specified the name of the substation from where the electricity is finally transported to grid lines & at what voltage. And PP is also requested to specify how the electricity generated at site is supplied to Unified Indian Grid.
 - c) As per VCS MR template version 4.2 PP has not specified and elaborated in MR the energy generation to conversion and then distribution to Grid.
 - d) PP has not included line diagrams to display the GHG data collection and management system.
 - e) Specify if the calibration certificates issued to PP have a NABL accreditation.
 - f) PP has not incorporated the QA/QC procedure in this section.
 - g) PP has not specified and elaborated in MR the energy generation to conversion and then distribution to Grid.
 - h) PP has not defined the emergency procedures as stated here.
 - i) As per VCS guidelines to fill MR template version 4.2, PP has not defined the procedures used for handling any internal auditing performed and any non-conformities identified.
7. **In Section 5.3 of MR:** PP has not defined the link for the methodology used
8. **In Section 5.4 of MR:** The assessment team has found that a table is missing in this section as per Section 5.4 in VCS MR template version 4.
9. **In Appendix “Technical Specification”:** PP has not updated the appendix number.
10. **In Appendix 03 of MR:** PP has not stated the total operating hours, Actual operating hours, total breakdown hours and also show difference between then and incorporate sufficient justification if there is change in operating hour. PP has also not provided the computed value of breakdown hours with the total production hours for the current monitoring period.

1 st Response from PP	Date	20-October-2023
1. In Section 3.1 of MR: a) The date of commissioning is updated. b) The section has been updated. 2. In section 3.2 of MR: No deviations were taken during the previous verification and validation processes.		

3. In Section 4.1 of MR: a link is provided.
4. In Section 4.1 of MR: a link is provided.
5. In Section 4.1 of MR: a link is provided.
6. In Section 4.3 of MR:
 - a) Provided a link for the methodology used.
 - b) The name of the substation is updated
 - c) The energy generation to conversion and then distribution to Grid is added.
 - d) Line diagrams added.
 - e) Certificate has NABL accreditation.
 - f) QA/QC procedure added.
 - g) The energy generation to conversion and then distribution to Grid is added.
 - h) The emergency procedures are added.
 - i) Handling internal auditing performed added.
7. In Section 5.3 of MR: Link is provided.
8. In Section 5.4 of MR: Section has been updated
9. In Appendix "Technical Specification": the appendix number is updated.
10. In Appendix 03 of MR: The total operating hours, Actual operating hours, total breakdown hours added.

1 st Assessment by Audit Team	Status	Closed	Date	22-October-2023
1) In Section 3.1 of MR: a) The assessment team confirmed that the Date of commissioning is incorporated in the section. (Closed) b) The assessment team confirms that PP has updated the section as per the requirement, same has been reviewed by the assessment team. 2) In section 3.2 of MR: PP has specified that No deviations were taken during the previous verification and validation processes. (Closed) 3) In Section 4.1 of MR: The assessment team confirmed that the working Link is incorporated. (Closed) 4) In Section 4.1 of MR: The assessment team confirmed that the working Link is incorporated. (Closed) 5) In Section 4.1 of MR: The assessment team confirmed that the working Link is incorporated. (Closed) 6) In Section 4.3 of MR: a) The assessment team confirmed that the working Link for the methodology used is incorporated. (Closed) b) The assessment team confirms that name of the substation is incorporated in MR the same has been checked and found correct. (Closed) c) The information regarding energy generation to conversion and then distribution to Grid is added is Incorporated in MR by PP same has been checked and confirmed by the assessment team. (Closed)				

- d) The Assessment team confirms that a Line diagram is added in the MR same has been verified by the assessment team. **(Closed)**
- e) PP has specified that the Lab is Certificated by NABL accreditation. **(Closed)**
- f) Assessment team confirms that QA/QC processes is incorporated the same has been checked and verified **(Closed)**
- g) PP has incorporated the energy generation to conversion and then distribution to Grid in the MR. **(Closed)**
- h) Assessment team confirms that Emergency procedures is incorporated the same has been checked and verified **(Closed)**
- i) Assessment team confirms that Handling internal auditing is incorporated the same has been checked and verified **(Closed)**
- 7) **In Section 5.3 of MR:** The assessment team confirmed that Link for the methodology used for this particular project activity is incorporated. **(Closed)**
- 8) **In Section 5.4 of MR:** The assessment team checked the MR and found that section is revised as per the guidelines to fill the MR template, Version 4.2. requirement hence accepted. **(Closed)**
- 9) **In Appendix “Technical Specification”:** Assessment team confirms that the appendix number is updated, hence confirmed **(Closed)**
- 10) **In Appendix 03 of MR:** The assessment team checked the MR and found that the total operating hours, Actual operating hours, total breakdown hours is incorporated same has been verified. **(Closed)**

Hence CAR#02 is Closed by the assessment team.

Description of Forward Action Requests raised by VVB:

Type		Date	~~DD Month YYYY~~	
~~FAR~~		Reference	~~Section of Val/Ver Protocol~~	
Description of the Non-Conformance				
~~1stResponse from PP~~		Date	~~DD Month YYYY~~	
~~1stAssessment by Audit Team~~	Status	~~Open/Closed~~	Date	~~DD Month YYYY~~

APPENDIX C: COMPETENCE STATEMENT

Team Leader



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Barun Kumar
Nationality	Indian
Countries of Experience	India, South Africa, Kenya, Uganda, DR Congo, Zambia
Education Qualification	B.Sc. (Environmental Science & Water Management) M.Sc. (Ecology & Environmental Sciences)
Year of Experience	12 Years +
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	TA 1.2 - Renewables TA 3.1 - Energy Demand TA 6.1 - Construction TA 7.1 - Transport

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	NO
Verifier	NO
Team Leader	YES
Technical Reviewer	YES
Local Expert (Country Wise)	YES
TA Expert (1.2, 3.1, 6.1, 7.1)	YES
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	06/12/2022
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	06/12/2022

Validator/Verifier



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Niharika Kaushik
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (Zoology Honours) M.Sc. (Environmental Sciences)
Year of Experience	2.5+ Years
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	NA

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	YES
Verifier	YES
Team Leader	NO
Technical Reviewer	NO
Local Expert	NO
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	09.05.2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	09.05.2023

Validator/Verifier Trainee



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Anil Dhankar
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (BCZ) M.Sc. (Environmental Science)
Year of Experience	9 months as Project Trainee in VKU
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	NA

Roles

Project Trainee	NO
Validator/Verifier Trainee	YES
Validator	NO
Verifier	NO
Team Leader	NO
Technical Reviewer	NO
Local Expert (Country Wise)	NO
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	07/07/2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	07/07/2023

Project Trainee



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Komal Kumari
Nationality	Indian
Countries of Experience	India
Education Qualification	M.Sc. (Environmental Science) B.Sc. (Zoology)
Year of Experience	Fresher (Done 3 months Internship in VKU)
Area of Expertise	NA
Eligible Sectoral Scope	NA

Roles

Project Trainee	YES
Validator/Verifier Trainee	NO
Validator	NO
Verifier	NO
Team Leader	NO
Technical Reviewer	NO
Local Expert (Country Wise)	NO
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	31/03/2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	31/03/2023

Technical Reviewer



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Sanjay Kumar K
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 1.2 - Renewables TA 3.1 - Energy Demand TA 6.1 - Construction

Roles

Project Trainee	NO
Validator/Verifier Trainee	NO
Validator	YES
Verifier	YES
Team Leader	YES
Technical Reviewer	YES
Local Expert (Country Wise)	YES
TA Expert (1.2, 3.1, 6.1)	YES
Financial Expert	YES

Reviewed by	Vandana Gupta (Quality Manager)	Date	03.03.2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	03.03.2023