



199.70 MW WIND PROJECT IN MAHARASHTRA BY BWDPL

Document Prepared By



Certification Pvt. Ltd.

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Summary:

M/s VKU Certification Pvt. Ltd. (here after referred as VKU) was commissioned by M/s EKI Energy Services Limited (here after referred as EKI), and has verified the greenhouse gas emission reductions for the project activity “199.70 MW Wind Project in Maharashtra by BWDPL.” (VCS ID 1447) in India, covering fourth verification under current monitoring period from 01-October-2021 to 30-September-2022 (Inclusive of both start and end dates) under 1st crediting period¹ from 17-May-2013 to 16-May-2023 (Inclusive of both dates) with regard to the relevant requirements for VCS Standard Version 4.3/5/.

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

The verification scope of the project is:

¹ Project activity adopts renewable crediting period of 10 years which can be renewed twice as per section 1.6 of registered VCS PD version 02 dated 16-May-2015/3/.

- To verify that the project is implemented as described in the registered VCS PD/3/.
- To assess the project's compliance with other relevant rules including the host country legislation.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation sheet/2/.
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the registered monitoring plan/3/;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- To verify that reported GHG emission data is sufficiently supported by evidence.

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Program Guide version 4.2/4/, VCS Standard Version 4.3/5/, VCS Validation and Verification Manual version 3.2/21/, CDM Validation and Verification Standard 3.0/22/ and applying standard auditing techniques.

VKU followed the rule-based approach to perform this verification. During the course of verification, related to operation, monitoring and GHG emission reduction calculation of the VCS project activity in relation to all relevant VCS requirements for the project activity and the applied baseline and monitoring methodology and a total of **06** findings were raised, which includes: **04 Corrective Action Request (CARs); 02 Clarification Requests (CLs) and 00 Forward Action Requests (FARs)**. All the raised findings were raised and successfully resolved by the PP. The same has been discussed in Appendix B of this verification report.

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

The GHG emission reductions were calculated on the basis of the approved methodology (ACM0002)"Grid Connected Electricity Generation from Renewable Sources" Version 16.0/7/ and "Tool to calculate the emission factor for an electricity system"- Version 4.0 /29/ and the monitoring plan included in the registered VCS PD version 02 dated 16-May-2015/3/.

In conclusion, it is VKU's opinion that the project activity "199.70 MW Wind Project in Maharashtra by BWDPL." (VCS ID 1447) in India, meets all relevant requirements for VCS standard and guidelines and correctly applies the baseline and monitoring methodology (ACM0002) "Grid Connected Electricity Generation from Renewable Sources"-Version 16.0/7/. The monitoring system is in place and the emission reductions are calculated without material misstatement.

Hence, VKU is able to certify that the emission reductions from the project during the periodic fourth verification for the monitoring period from **01-October-2021 to 30-September-2022** (Inclusive of both start and end dates) under 1st crediting period from 17-May-2013 to 16-May-2023 (Including both dates) amount to **365,432 tCO₂e**.

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1 INTRODUCTION

1.1 Objective

M/s EKI Energy Services Limited (hereafter referred as EKI) Commissioned M/s VKU Certification Pvt. Ltd. (here after referred as VKU) to carry out the fourth verification of the project “199.70 MW Wind Project in Maharashtra by BWDPL” (VCS ID 1447) project in India for the period from 01-October-2021 to 30-September-2022 (Inclusive of both start and end dates) under 1st crediting period from 17-May-2013 to 16-May-2023 (Inclusive of both dates).

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

The purpose of the verification is to have an independent evaluation of a project activity by an accredited validation and verification body against the requirements of the VCS Program Guide Version 4.2/4/, VCS Standard Version 4.3/5/ and GHG program applied, on the basis of the registered VCS PD version 02 dated 16-May-2015/3/.

This is the fourth periodic verification under the first crediting period for 365 days covering the monitoring period from 01-October-2021 to 30-September-2022 (inclusive of both start and end dates) under 1st crediting period from 17-May-2013 to 16-May-2023 (Inclusive of both dates).

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

- The project activity has been implemented and operated as per the registered VCS project description (PD) and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place;
- Monitoring report and other supporting documents are complete.
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan in registered VCS PD/3/.
- To confirm that the monitoring system is implemented and fully functional to generate Verified Carbon Units (VCUs) without any double counting.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation sheet/2/.

1.2 Scope and Criteria

The verification scope for the project activity is:

- To confirm that the monitoring system is implemented and fully functional to generate voluntary carbon units without any double counting.

- To assess the project's compliance with other relevant rules including the host country legislation.
- To verify that the project is implemented as described in the registered VCS PD/3/.
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation
- To verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the registered monitoring plan/3/;
- To evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement;
- To verify that reported GHG emission data is sufficiently supported by evidence
- To verify that the project is implemented as described in the registered VCS PD/3/

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

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

1.3 Level of Assurance

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

The technical review was performed by a technical reviewer qualified in accordance with VKU's qualification procedure.

The verification team and the technical reviewer team consist of the following personnels as presented in **Table 1** below: -

Role/Qualification	Last Name	First Name
VCS Team Leader & Technical Expert 1.2	Ahirwar	Vivek Kumar
Technical Reviewer & Technical Expert 1.2	Kumar	Sanjay
Validator/Verifier-Trainee	Chauhan	Shivani
Project Trainee	Apoorva	Tripathi

1.4 Summary Description of the Project

The project activity is a new Greenfield facility developed by Bothe Windfarm Development Pvt. Ltd. (BWDPL) and the electricity delivered by the project activity is exported to the unified Indian grid. The implementation of project activity ensures energy security, diversification of the grid generation mix and sustainable growth of the electricity generation sector in India.

The project activity involves utilization of wind energy to generate electricity and supply it to distribution licensees which is a part of the Unified Indian Grid. The project being a renewable energy generation activity, it leads to removal of fossil fuel dominated electricity generation. The project activity results in reductions of greenhouse gas (GHG) emissions that are real, measurable, and verifiable and also plays beneficial role in the mitigation of climate change.

The project activity envisages the implementation of **40 WTGs of individual capacity 2MW** each, and **57 WTGs of individual capacity 2.1 MW** each, in total **97 WTGs** in the state of Maharashtra. The technology employed is of Suzlon Energy limited (2.1 MW) and Vestas (2 MW).

The total installed capacity of the project is 199.7MW.

First WTG for this project activity was commissioned on **17-May-2013**.

The project capacity and the date of installation are mentioned in the **Table-2** below:

S No.	WTG ID	Village Name	Commissioning Date	Turbine Type	Capacity	Feeder No.
1	I - 7	Khokade	17-May-2013	Vestas V100 - 2.0 MW		Feeder I
2	I - 23	Khokade	18-June-2013	Vestas V100 - 2.0 MW		
3	I - 25	Khokade	21-June-2013	Vestas V100 - 2.0 MW		
4	I - 29	Khokade	21-June-2013	Vestas V100 - 2.0 MW		
5	I - 68	Khokade	21-June-2013	Vestas V100 - 2.0 MW		
6	I - 21	Khokade	18-June-2013	Vestas V100 - 2.0 MW		
7	I - 27	Khokade	21-June-2013	Vestas V100 - 2.0 MW		
8	I - 3	Khokade	27-May-2013	Vestas V100 - 2.0 MW		
9	I - 39	Khokade	21-August-2013	Vestas V100 - 2.0 MW		
10	I - 49	Khokade	09-October-2013	Vestas V100 - 2.0 MW		
11	I - 30	Khokade	10-October-2013	Vestas V100 - 2.0 MW		
12	I - 48	Khokade	21-June-2013	Vestas V100 - 2.0 MW		Feeder II
13	I - 64	Khokade	21-June-2013	Vestas V100 - 2.0 MW		
14	I - 1	Khokade	27-May-2013	Vestas V100 - 2.0 MW		
15	I - 66	Khokade	20-September-2013	Vestas V100 - 2.0 MW		
16	I - 2	Khokade	27-May-2013	Vestas V100 - 2.0 MW		
17	I - 13	Ransingwadi	22-August-2014	Suzlon S97 - 2.1 MW		
18	I - 19	Katalgewadi	01-October-2014	Suzlon S97 - 2.1 MW		
19	I - 31	Katalgewadi	01-October-2014	Suzlon S97 - 2.1 MW		
20	I - 38	Katalgewadi	03-November-2014	Suzlon S97 - 2.1 MW		
21	I - 53	Katalgewadi	22-August-2014	Suzlon S97 - 2.1 MW		
22	I - 69	Katalgewadi	03-November-2014	Suzlon S97 - 2.1 MW		
23	I - 28	Shirawali	03-November-2014	Suzlon S97 - 2.1 MW		
24	I - 46	Shirawali	22-August-2014	Suzlon S97 - 2.1 MW		
25	I - 61	Shirawali	22-August-2014	Suzlon S97 - 2.1 MW		
26	I - 51	Katalgewadi	03-November-2014	Suzlon S97 - 2.1 MW		

27	I - 80	Shirawali	16-November-2014	Suzlon S97 - 2.1 MW	
28	I - 78	Shirawali	27-November-2014	Suzlon S97 - 2.1 MW	
29	I - 79	Shirawali	16-November-2014	Suzlon S97 - 2.1 MW	
30	I - 83	Shirawali	16-November-2014	Suzlon S97 - 2.1 MW	
31	I - 17	Shirawali	27-November-2014	Suzlon S97 - 2.1 MW	
32	I - 15	Bothe	10-October-2013	Vestas V100 - 2.0 MW	Feeder III
33	I - 52	Bothe	20-February-2014	Vestas V100 - 2.0 MW	
34	I - 8	Bothe	11-September-2013	Vestas V100 - 2.0 MW	
35	I - 35	Bothe	11-September-2013	Vestas V100 - 2.0 MW	
36	I - 37	Bothe	24-January-2014	Vestas V100 - 2.0 MW	
37	I - 5	Bothe	15-June-2013	Vestas V100 - 2.0 MW	
38	I - 42	Bothe	11-Septemebr-2013	Vestas V100 - 2.0 MW	
39	I - 40	Bothe	24-January-2014	Vestas V100 - 2.0 MW	
40	I - 43	Bothe	11-September-2013	Vestas V100 - 2.0 MW	
41	I - 45	Bothe	11-September-2013	Vestas V100 - 2.0 MW	
42	I - 33	Bothe	31-January-2014	Vestas V100 - 2.0 MW	
43	I - 73	Bothe	31-January-2014	Vestas V100 - 2.0 MW	
44	I - 75	Bothe	31-January-2014	Vestas V100 - 2.0 MW	
45	I - 76	Bothe	24-January-2014	Vestas V100 - 2.0 MW	
46	I - 22	Bothe	29-March-2014	Suzlon S97 - 2.1 MW	
47	I - 57	Bothe	26-March-2014	Suzlon S97 - 2.1 MW	
48	I - 16	Bothe	26-March-2014	Suzlon S97 - 2.1 MW	
49	I - 24	Bothe	26-March-2014	Suzlon S97 - 2.1 MW	

50	I - 26	Bothe	07-September-2013	Suzlon S97 - 2.1 MW	
51	I - 77	Bothe	24-January-2014	Suzlon S97 - 2.1 MW	
52	I - 47	Bothe	09-October-2013	Vestas V100 - 2.0 MW	Feeder IV
53	I - 59	Bothe	24-January-2014	Vestas V100 - 2.0 MW	
54	I - 56	Bothe	11-September-2013	Vestas V100 - 2.0 MW	
55	I - 41	Bothe	11-September-2013	Vestas V100 - 2.0 MW	
56	I - 63	Bothe	11-September-2013	Vestas V100 - 2.0 MW	
57	I - 6	Bothe	11-September-2013	Vestas V100 - 2.0 MW	
58	I - 60	Bothe	09-January-2013	Vestas V100 - 2.0 MW	
59	I - 4	Bothe	15-June-2013	Vestas V100 - 2.0 MW	
60	I - 71	Bothe	24-January-2014	Vestas V100 - 2.0 MW	
61	I - 72	Bothe	24-January-2014	Vestas V100 - 2.0 MW	
62	I - 34	Bothe	31-March-2014	Suzlon S97 - 2.1 MW	
63	I - 81	Bothe	26-March-2014	Suzlon S97 - 2.1 MW	
64	I - 82	Bothe	26-March-2014	Suzlon S97 - 2.1 MW	Feeder V
65	I - 18	Ransingwadi	30-March-2014	Suzlon S97 - 2.1 MW	
66	SP19	Ugalyachiwadi	26-December-2014	Suzlon S97 - 2.1 MW	Feeder VI
67	SP20	Ugalyachiwadi	16-December-2014	Suzlon S97 - 2.1 MW	
68	SP21	Ugalyachiwadi	30-December-2014	Suzlon S97 - 2.1 MW	
69	SP22	Khandyachiwadi	30-December-2014	Suzlon S97 - 2.1 MW	
70	SP26	Khandyachiwadi	30-December-2014	Suzlon S97 - 2.1 MW	
71	SP27	Khandyachiwadi	26-December-2014	Suzlon S97 - 2.1 MW	
72	SP41	Garudachiwadi	26-December-2014	Suzlon S97 - 2.1 MW	

73	SP24	Garudachiwadi	26-December-2014	Suzlon S97 - 2.1 MW	
74	SP28	Garudachiwadi	30-December-2014	Suzlon S97 - 2.1 MW	
75	SP25	Garudachiwadi	30-December-2014	Suzlon S97 - 2.1 MW	
76	SP29	Khandyachiwadi	26-December-2014	Suzlon S97 - 2.1 MW	Feeder VII
77	SP30	Khandyachiwadi	26-December-2014	Suzlon S97 - 2.1 MW	
78	SP31	Khandyachiwadi	26-December-2014	Suzlon S97 - 2.1 MW	
79	SP32	Khandyachiwadi	26-December-2014	Suzlon S97 - 2.1 MW	
80	SP33	Khandyachiwadi	26-December-2014	Suzlon S97 - 2.1 MW	
81	SP34	Khandyachiwadi	30-December-2014	Suzlon S97 - 2.1 MW	
82	SP35	Khandyachiwadi	30-December-2014	Suzlon S97 - 2.1 MW	
83	SP36	Khandyachiwadi	30-December-2014	Suzlon S97 - 2.1 MW	
84	SP37	Khandyachiwadi	30-December-2014	Suzlon S97 - 2.1 MW	
85	SP38	Khandyachiwadi	30-December-2014	Suzlon S97 - 2.1 MW	
86	SP39	Khandyachiwadi	30-December-2014	Suzlon S97 - 2.1 MW	
87	I - 84	Khandyachiwadi	30-December-2014	Suzlon S97 - 2.1 MW	
88	SP40	Shripalwan	11-December-2014	Suzlon S97 - 2.1 MW	Feeder VIII
89	SP05	Shripalwan	11-December-2014	Suzlon S97 - 2.1 MW	
90	SP06	Shripalwan	11-December-2014	Suzlon S97 - 2.1 MW	
91	SP07	Shripalwan	11-December-2014	Suzlon S97 - 2.1 MW	
92	SP08	Shripalwan	11-December-2014	Suzlon S97 - 2.1 MW	
93	SP09	Shripalwan	11-December-2014	Suzlon S97 - 2.1 MW	
94	SP10	Shripalwan	11-December-2014	Suzlon S97 - 2.1 MW	

95	SP12	Shripalwan	25-December-2014	Suzlon S97 - 2.1 MW	
96	SP13	Shripalwan	25-December-2014	Suzlon S97 - 2.1 MW	
97	SP17	Shripalwan	25-December-2014	Suzlon S97 - 2.1 MW	

The project was commissioned on 17-May-2013 which is the earliest date of commissioning of the windmill of the project activity and runs satisfactorily since then. Although the commissioning dates of the following WTG Numbers- SP29, SP30, SP31, SP32 AND SP33 have been changed to 26-December-2014 in current monitoring period which are found to be now in line with commissioning certificates /13/. Hence it is accepted by assessment team.

The main purpose of this project activity is to generate clean form of electricity through renewable wind energy sources. The project activity aims to harness wind energy through installation of wind power projects. As per MR, the electricity generated from the project is supplied to the unified Indian Grid which is confirmed from registered VCS PD/3/, previous validation report /18/ and onsite interview with PP/26/.

All the above stated information was verified on-site and confirmed to be consistent with the information provided in the registered VCS PD/3/ and MR/1/. The overall emission reductions obtained during this monitoring period from 01-October-2021 to 30-September-2022 (Inclusive of both dates) are 365,432 tCO₂e. The net power generated by the project activity that was evacuated to the grid under current monitoring period from 01-October-2021 to 30-September-2022 (inclusive of both dates) is 374,035.26 MWh that leads to emission reductions of 365,432 tCO₂e.

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification was conducted using VKU's procedures in line with the requirements specified in the VCS Requirements, i.e., VCS Program Guide 4.2/4/, VCS standard version 4.3/5/. The GHG emission reductions are on the basis of the **approved Baseline and monitoring methodology (ACM0002) "Grid-connected electricity generation from renewable sources - Version 16.0/7/**.

Scope: 01 Energy Industries (renewable- and non-renewable sources)

Title: "Grid Connected Renewable Electricity Generation" (version 16) /7/.

During onsite visit/23/ verification team reviewed 100% data for all the WTGs involved in this project at site and hence no sampling is involved. the verification consisted of the following three phases

The verification consisted of the following three phases

- Document review;

- On-site assessment including Interviews and actual project scenario;
- Resolution of any material discrepancy and the issuance of the final verification report and certification.

The following sections outline each step of verification in more detail.

2.2 Document Review

The monitoring report (MR) version 1.0 dated 29-September-2022, version 2.0 dated 25-November-2022, version 3.0 dated 02-January-2023, version 4.0 dated 10-February-2023 and final MR version 5.0 dated 20-March-2023 /1/, the emission reduction calculation spreadsheet version 1.0 dated 29-September-2022 and final version 2.0 dated 25-November-2022/2/, were assessed as part of the verification. In addition, the registered VCS PD/3/ in particular the baseline estimations and the monitoring plan for the project were reviewed.

The following **Table-3** lists the documentation that were reviewed during the current verification:

/1/	EKI: VCS monitoring report for “199.70 MW Wind Project in Maharashtra by BWDPL” • Version 1.0 dated 29-September-2022 • Version 2.0 dated 25-November-2022 • Version 3.0 dated 02-January-2023 • Version 4.0 dated 10-February-2023 • Final MR Version 5.0 dated 20-March-2023
/2/	EKI: Emission Reduction Calculation Spreadsheet, version 1.0 dated 29-September-2022 and final version 2.0 dated 25-November-2022
/3/	EKI: Registered VCS PD for the project “199.70 MW Wind Project in Maharashtra by BWDPL” Version 02 Dated 16-May-2015
/4/	VCS: VCS Program Guide, version 4.2 of 22-June-2022
/5/	VCS: VCS Standard, version 4.3 of 22-June-2022
/6/	VCS: Monitoring report Template VCS Version 4.1
/7/	CDM Executive Board: Baseline and Monitoring Methodology (ACM0002).” Grid-connected electricity generation from renewable sources - Version 16.0
/8/	UNFCCC: Project search: https://cdm.unfccc.int/Projects/projsearch.html
/9/	Gold Standard Foundation: https://registry.goldstandard.org/projects?q=&page=1
/10/	Monthly JMRs issued by state utility for the current monitoring period from 01-October-2021 to 30-September-2022 (Inclusive of both start and end dates).
/11/	Certificates of Calibration for all the meters that belongs to project activity for the current monitoring period from 01-October-2021 to 30-September-2022 (Inclusive of both start and end dates)
/12/	Invoices issued by PP to state utility for the current monitoring period from 01-October-2021 to 30-September-2022 (Inclusive of both start and end dates)
/13/	Commissioning certificate of all the WTGs of the project activity issued by MSEDCL; state electricity authority
/14/	Power Purchase Agreements between BWDPL and MSEDCL
/15/	Letter of declaration from PP regarding not having created or sought any other form of environmental credit for the current monitoring period
/16/	Monthly generation reports issued by O&M contractor (Suzlon and Vestas)

/17/	Central Electricity Authority (Installation and Operation of Meters) Regulations Notified on 17/03/2006 No. 502/70/CEA/DP&D Amendments Notified on 26-June-2010 No. 502/6/2009/DP&D/D-I
/18/	EPIC Sustainability Services Pvt. Ltd.: Validation report “199.70 MW Wind Project in Maharashtra by BWDPL” version 1.0 dated 16-May-2015
/19/	Site Visit Photographs videos and attendance sheet dated 07-November-2022 and 08-November-2022
/20/	VERRA: https://registry.verra.org/app/projectDetail/VCS/1447
/21/	Validation and verification manual version 3.2 dated 19-October-2016
/22/	CDM Validation and Verification Standard version 3.0 dated 09-September-2021
/23/	Breakdown Details for the current monitoring period from 01-October-2021 to 30-September-2022 (Inclusive of both start and end dates)
/24/	Technical Specifications of both type of WTGs
/25/	Grievance Register photographs and grievance box photograph present on-site for the current monitoring period from 01-October-2021 to 30-September-2022 (Inclusive of both start and end dates)
/26/	On site personnel interviews conducted on 7-November-2022 by Assessment team with site personnels and local stakeholders
/27/	Goggle Earth: https://www.google.com/intl/en_in/earth/ Google Earth Pro: https://earth.google.com/intl/earth/download/ge/agree.html
/28/	REC website Renewable Energy Certificate Registry of INDIA https://www.recregistryindia.nic.in/index.php/publics/faqs
/29/	Previous Verification reports: • TÜV SÜD South Asia Pvt. Ltd: Third verification report covering monitoring period dated (01-December-2020 to 30-September-2021) • TÜV SÜD South Asia Pvt. Ltd: Second verification report covering monitoring period dated (02-April-2016 to 30-November-2020) • LGAI Technological Center S.A.: First Second verification report covering monitoring period dated (17-May-2013 to 01-April-2016)
/30/	Previous Monitoring reports • Third VCS monitoring report for “199.70 MW Wind Project in Maharashtra by BWDPL”, version 02 of 22-October-2021 • Second VCS monitoring report for “199.70 MW Wind Project in Maharashtra by BWDPL”, version 02 of 01-March-2021 • First VCS monitoring report for “199.70 MW Wind Project in Maharashtra by BWDPL”, version 02 of 29-June-2016
/31/	EIA NOTIFICATION dated 14-September-2006; https://moef.gov.in/wp-content/uploads/2018/03/so1533.pdf

2.3 Interviews

An on-site inspection has been performed by the assessment team from Maharashtra site on **07-November-2022 to 08-November-2022** respectively. During site visit the representatives of the PP and O&M contractors were interviewed personally by assessment team i.e., personnel responsible for monitoring of the project activity, data collection and management, and QA/QC procedure.

Interviews with Site personnels by assessment team are listed in Table-4 below:

S. No.	Name	Designation	Topic
1	Vijay Karale	BWDPL Sr. Manager	- Project Implementation, data management, recording, monitoring and archiving. - Project Implementation and technical details of the Project like breakdown details, calibration of meters and monitoring of required monitored parameters and implementation of QA/QC Procedure. - Data archiving, breakdown details and maintenance generation records
2	Prahlad Patil	BWDPL Sr. Manager	
3	Nathuram	AM - HSE	
4	Sachin Pawar	Sr. Officer Admin	
6	Dattalroy Jadhaw	Sr. Engineer	
7	Devanand Thorat	Sr. Engineer	
8	Arul Murugan	Site In-charge (Vestas)	
9	Kishor.S bhosle	Site In-charge (Suzlon)	

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

Interviews with Local Stakeholder by assessment team are listed in Table-5 below:

S. No.	Name	Designation	Category	Topic
1	Jalindar Kashiq	Store Department	Local Stakeholder	- Project activity implementation and its impact on social, economic and environmental condition of the local people. - The ongoing communication procedure and the address of their grievance by the project proponent - The employment generation due to project activity implementation.
2	Mangesh Khuspe	O/P		
3	Jawji Kadum	Office Boy		
4	Bhanudash	Security		
5	Vidule	Security		

There were no negative comments received during the stakeholder consultation interview conducted on site and more detail is enlisted in the section 4.2 below.

2.4 Site Inspections

An On-site visit was undertaken by the verification team on 07-November-2022 and 08-November-2022 at the Project site in **Satara District in the state of Maharashtra** to carry out the following;

- An assessment of the implementation and operation of the registered project activity as per the registered VCS PD/3/ and VCS MR/1/;
- A review of information flows for generating, aggregating and reporting the monitoring parameters;
- Interviews/26/ with relevant personnel to determine whether the operational and data collection procedures are implemented in accordance with the monitoring plan in the VCS PD/3/
- A cross check between information provided in the monitoring report and data from other sources such as plant logbooks, inventories, purchase records or similar data sources;
- A check of the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the PD, the applied methodology including applicable tool(s), and, where applicable, the applied standardized baseline;
- A review of calculations and assumptions made in determining the GHG data and emission reductions;
- An identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

2.5 Resolution of Findings

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

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

- Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impair the estimate of emission reductions;
- Issues identified in FAR during validation /18/and previous verifications /29/ to be verified during verification have not been resolved by the project participants.

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

In summary, **2CLs, 4 CARs** and **00 FARs** were raised as findings during this verification which were closed successfully and details are given under Appendix B of this report.

2.5.1 Forward Action Requests

This is fourth periodic verification of the project activity and no FAR was raised during Validation/18/ and previous Verifications /29/.

2.6 Eligibility for Validation Activities

VKU has not undertaken any validation activities as a part of the verification and does not hold holds the accreditation for Validation of projects under this or any relevant Sectoral Scope. Hence this section is not applicable for current verification.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The project is neither registered nor seeking registration under any GHG program and it is only registered under VCS with project ID: 1447. Assessment Team has verified the same from Verra Registry and similar exercise was performed for other GHG programs such as CDM/GS/GCC/UCR 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 further confirmed through a declaration/15/ submitted by the PP in which they have mentioned that they will not claim same GHG emission reductions of the project from any other GHG program thus ensuring emission reduction generated from the project activity for current monitoring period from 01-October-2021 to 30-September-2022 (Inclusive of both start and end dates) will not be double counted hence accepted by the assessment team. Assessment team also checked the REC Mechanism database of India and found that the project activity is not accredited / registered under REC mechanism of India which was also verified from the REC website (Renewable Energy Certificate Registry of India) ([Renewable Energy Certificate Registry of INDIA - Registered RE Generator List \(recregistryindia.nic.in\)](http://recregistryindia.nic.in/) /29/ Further, declaration/15/ for the same is also submitted by PP which was examined by the assessment team and found correct.

The details of the registries checked are as follows:

- <https://www.recregistryindia.nic.in/>
- <http://cdm.unfccc.int/>
- <http://www.goldstandard.org/>
- <https://verra.org/verra-standards-and-programs/>
- <https://www.ucarbonregistry.io/>
- <https://projects.globalcarboncouncil.com/>

The Project is not rejected by other GHG programs. A declaration/15/ for the same is checked and found correct by the assessment team. Also, assessment team 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:

- <https://www.recregistryindia.nic.in/>
- <http://cdm.unfccc.int/>
- <http://www.goldstandard.org/>
- <https://verra.org/verra-standards-and-programs/>
- <https://www.ucarbonregistry.io/>
- <https://projects.globalcarboncouncil.com/>

3.2 Methodology Deviations

No methodology deviation was observed in current monitoring period and also no methodology deviation was observed during Validation/18/ and previous Verifications /29/.

3.3 Project Description Deviations

No Project description deviation was observed in current monitoring period and also no methodology deviation was observed during Validation/18/ and previous Verifications /29/.

3.4 Grouped Project

As per registered VCS PD version 02 dated 16-May-2015/3/, the project is not a grouped project. This can further be confirmed as per para 3.5.8 of VCS Standard Version 4.3/5/. Therefore, this section is not applicable.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

After conducting the desk review along with the onsite audit, it was concluded that the project is implemented as per the requirement of the registered VCS PD/3/ and approved monitoring plan. During the current monitoring period, it was observed that there was no unforeseen incident/event evolved which can impact the operation of the project activity except the scheduled maintenance and service breakdowns calculated as 77 hours 40 minutes. It is verified through breakdown log book records submitted by PP/23/ and also mentioned in section 3.1 and Appendix section of MR /1/. This does not have a significant impact on the ER calculation. The project underwent continuous operation and only scheduled maintenance as per the manufactures specification which is acceptable to the assessment team as verified during the interview with PP personnel/26/ such as Senior engineers/Junior engineer/Assistant manager present at site during onsite visit. Moreover, there is no unforeseen incident which can affect the applicability of the methodology and thus the same is acceptable to the assessment team.

During the current monitoring period, the project activity has supplied 374,035.26 MWh of electricity, and thus contributing to 365,432 tCO₂e GHG emission reductions.

Project location is confirmed by the assessment team through the GPS Map camera during site visit and Google Earth during desk review /27/ and Google earth Pro for assessment to confirm that all WTGs are present on the same location as per VCS PD/3/ and MR/1/ and actual project scenario. Moreover, assessment team confirms that the latitude and longitude mentioned in the registered VCS PD/3/ is in UTM format (Universal Transverse Mercator) and they have been updated to Horizontal coordinate systems (in decimal degrees) in current monitoring period by PP and verified by assessment team thoroughly with the help of Google earth Pro software/27/ and found that all WTGs are present at the right locations, hence accepted.

The Latitude and Longitude of the project activity are confirmed in **Table-6** below and can also be traced from link: - <https://coordinates-converter.com/en/decimal/17.816924,74.365075?karte=OpenStreetMap&zoom=17>.

S No.	WTG ID	Village Name	District	State	Latitude (N) (Northing)	Longitude (E) (Easting)
1	I - 48	Khokade	Satara	Maharashtra	17° 49' 0.92" (432715)	74° 21' 54.27" (1970045)
2	I - 64	Khokade			17° 48' 50.68" (432816)	74° 21' 57.73" (1969730)
3	I - 1	Khokade			17° 49' 4.17" (433203)	74° 22' 10.83" (1970143)
4	I - 66	Khokade			17° 48' 46.87" (433311)	74° 22' 14.56" (1969611)
5	I - 7	Khokade			17° 48' 33.08" (433073)	74° 22' 6.52" (1969188)
6	I - 23	Khokade			17° 48' 25.03" (433292)	74° 22' 13.99" (1968940)
7	I - 25	Khokade			17° 48' 18.57" (433388)	74° 22' 17.27" (1968741)
8	I - 29	Khokade			17° 48' 9.92" (433497)	74° 22' 21.01" (1968475)
9	I - 68	Khokade			17° 48' 6.11" (433145)	74° 22' 9.06" (1968359)
10	I - 2	Khokade			17° 48' 40.88" (432698)	74° 21' 53.76" (1969429)
11	I - 21	Khokade			17° 47' 57.83" (43388)	74° 22' 34.67" (196812)
12	I - 27	Khokade			17° 47' 49.61" (43397)	74° 22' 37.72" (196789)
13	I - 3	Khokade			17° 48' 12.61" (43396)	74° 22' 37.27" (196856)
14	I - 39	Khokade			17° 48' 35.76" (43349)	74° 22' 20.65" (196929)

15	I - 49	Khokade			17° 48' 35.19" (43392)	74° 22' 35.36" (196920)
16	I - 30	Khokade			17° 48' 32.35" (43454)	74° 22' 55.13" (196911)
17	I - 15	Bothe			17° 46' 11.81" (43374)	74° 22' 31.51" (196484)
18	I - 47	Bothe			17° 47' 39.05" (43561)	74° 23' 34.62" (196759)
19	I - 59	Bothe			17° 47' 18.51" (43534)	74° 23' 22.56" (196689)
20	I - 52	Bothe			17° 46' 41.57" (43369)	74° 22' 25.80" (196579)
21	I - 8	Bothe			17° 47' 9.87" (43324)	74° 22' 13.30" (196660)
22	I - 35	Bothe			17° 45' 51.15" (43590)	74° 23' 45.47" (196422)
23	I - 37	Bothe			17° 45' 39.20" (43550)	74° 23' 29.89" (196386)
24	I - 5	Bothe			17° 46' 55.30" (43347)	74° 22' 18.21" (196612)
25	I - 56	Bothe			17° 47' 18.05" (43431)	74° 22' 49.85" (196688)
26	I - 41	Bothe			17° 47' 34.34" (43453)	74° 22' 55.64" (196738)
27	I - 63	Bothe			17° 47' 32.05" (43508)	74° 23' 12.80" (196736)
28	I - 6	Bothe			17° 47' 39.09" (43533)	74° 23' 25.72" (196567)
29	I - 60	Bothe			17° 47' 26.47" (43545)	74° 23' 29.02" (196713)

30	I - 4	Bothe			17° 47' 5.07" (43559)	74° 23' 31.95" (196645)
31	I - 42	Bothe			17° 46' 8.21" (43513)	74° 23' 16.99" (196479)
32	I - 40	Bothe			17° 45' 48.75" (43541)	74° 23' 27.18" (196410)
33	I - 43	Bothe			17° 45' 26.38" (43496)	74° 23' 9.43" (196344)
34	I - 45	Bothe			17° 45' 24.69" (43558)	74° 23' 30.89" (196330)
35	I - 33	Bothe			17° 46' 56.26" (43295)	74° 22' 3.54" (196623)
36	I - 71	Bothe			17° 47' 21.96" (43472)	74° 23' 2.78" (196697)
37	I - 72	Bothe			17° 46' 36.89" (43497)	74° 23' 10.58" (196561)
38	I - 73	Bothe			17° 46' 57.70" (43388)	74° 22' 34.54" (196624)
39	I - 75	Bothe			17° 46' 7.97" (43446)	74° 22' 53.32" (196474)
40	I - 76	Bothe			17° 46' 3.41" (43584)	74° 23' 41.15" (196459)
41	I - 22	Bothe			17° 47' 7.88" (43291)	74° 22' 2.34" (196650)
42	I - 57	Bothe			17° 46' 31.41" (43328)	74° 22' 13.91" (196548)
43	I - 16	Bothe			17° 46' 13.82" (43316)	74° 22' 8.81" (196498)
44	I - 24	Bothe			17° 46' 24.75" (43397)	74° 22' 36.66" (196521)
45	I - 34	Bothe			17° 47' 8.53" (43505)	74° 23' 14.82" (196653)

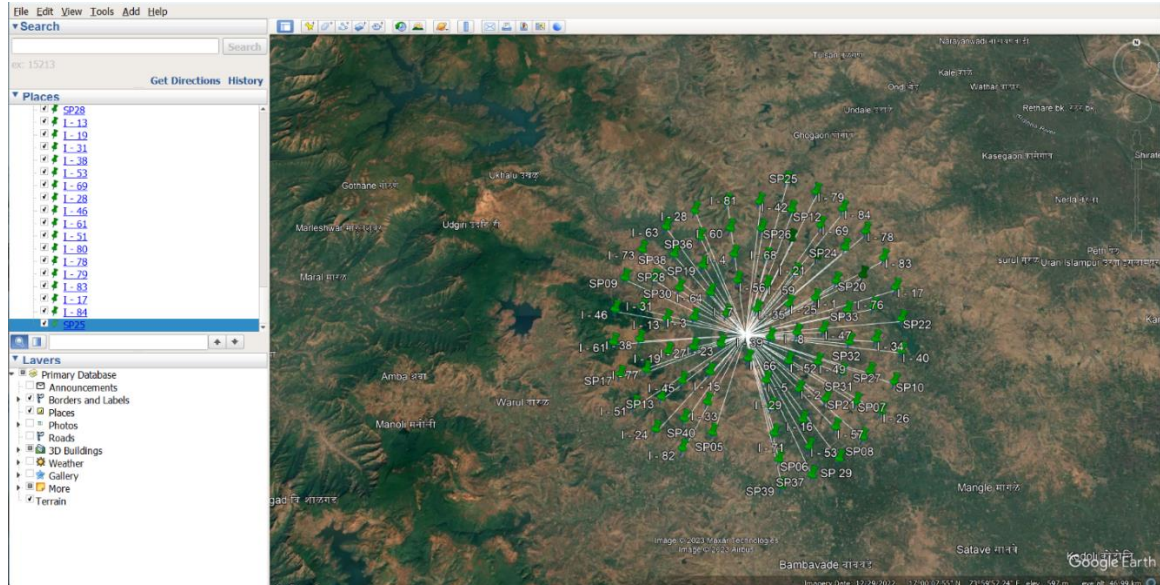
46	I - 26	Bothe			17° 45' 56.89" (43489)	74° 23' 6.03" (196432)
47	I - 77	Bothe			17° 45' 18.42" (43502)	74° 23' 15.43" (196319)
48	I - 81	Bothe			17° 46' 55.50" (43492)	74° 23' 10.68" (196613)
49	I - 82	Bothe			17° 45' 35.29" (43581)	74° 23' 41.15" (196375)
50	I - 18	Ransingwadi			17° 44' 50.90" (43515)	74° 23' 59.90" (196249)
51	SP40	Shripalwan			17° 50' 29.04" (43772)	74° 24' 43.38" (197277)
52	SP05	Shripalwan			17° 49' 58.71" (437652)	74° 24' 41.78" (1971805)
53	SP06	Shripalwan			17° 50' 9.74" (437635)	74° 24' 41.17" (1972144)
54	SP07	Shripalwan			17° 50' 18.48" (437525)	74° 24' 37.40" (1972413)
55	SP08	Shripalwan			17° 50' 22.75" (437221)	74° 24' 27.06" (1972545)
56	SP09	Shripalwan			17° 50' 17.90" (438792)	74° 25' 20.45" (1972391)
57	SP10	Shripalwan			17° 50' 25.19" (438573)	17° 50' 25.19" (1972616)
58	SP12	Shripalwan			17° 50' 22.27" (439547)	74° 25' 46.09" (1972523)
59	SP13	Shripalwan			17° 50' 30.22" (439328)	74° 25' 38.62" (1972768)
60	SP17	Shripalwan			17° 50' 51.56" (439689)	74° 25' 50.82" (1973423)

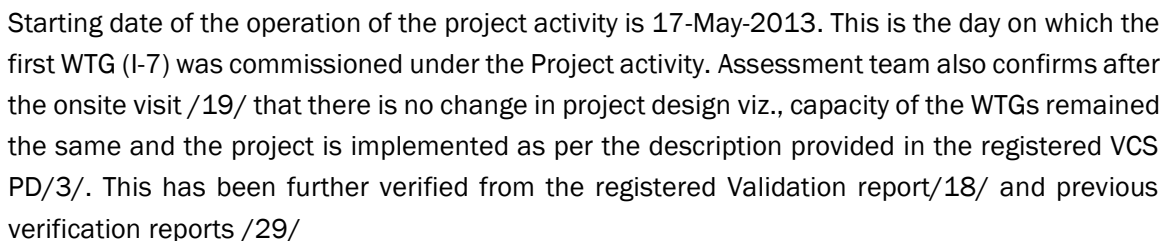
61	SP19	Ugalyachiwadi			17° 49' 25.13" (441226)	74° 26' 43.31" (1970762)
62	SP20	Ugalyachiwadi			17° 49' 35.32" (441217)	74° 26' 42.97" (1971075)
63	SP21	Ugalyachiwadi			17° 49' 44.51" (441113)	74° 26' 39.41" (1971358)
64	SP22	Khandyachiwadi			17° 49' 56.85" (441487)	74° 26' 52.08" (1971736)
65	SP26	Khandyachiwadi			17° 49' 51.04" (442326)	74° 27' 20.60" (1971555)
66	SP27	Khandyachiwadi			17° 50' 2.48" (441879)	74° 27' 5.38" (1971908)
67	SP29 ²	Khandyachiwadi			17° 48' 57.06" (444070)	74° 28' 20.01" (1969891)
68	SP30	Khandyachiwadi			17° 49' 7.86" (444028)	74° 28' 18.55" (1970223)
69	SP31	Khandyachiwadi			17° 49' 16.81" (444072)	74° 28' 20.02" (1970498)
70	SP32	Khandyachiwadi			17° 49' 24.59" (443768)	74° 28' 9.67" (1970738)
71	SP33	Khandyachiwadi			17° 49' 36.54" (443821)	74° 28' 11.43" (1971105)
72	SP34	Khandyachiwadi			17° 49' 43.52" (443637)	74° 28' 5.16" (1971320)
73	SP35	Khandyachiwadi			17° 49' 42.92" (443207)	74° 27' 50.55" (1971303)
74	SP36	Khandyachiwadi			17° 49' 56.46" (443201)	74° 27' 50.31" (1971719)
75	SP37	Khandyachiwadi			17° 49' 20.63" (444567)	74° 28' 36.82" (1970614)

76	SP38	Khandyachiwadi			17° 49' 26.69" (444335)	74° 28' 28.92" (1970801)
77	SP39	Khandyachiwadi			17° 49' 41.92" (445038)	74° 28' 52.76" (1971267)
78	SP41	Garudachiwadi			17° 50' 36.67" (441422)	74° 26' 49.75" (1972960)
79	SP24	Garudachiwadi			17° 50' 15.86" (440601)	74° 26' 21.92" (1972323)
80	SP28	Garudachiwadi			17° 50' 19.77" (441239)	74° 26' 43.58" (1972441)
81	I - 13	Ransingwadi			17° 44' 12.35" (434217)	74° 22' 46.28" (1961171)
82	I - 19	Katalgewadi			17° 44' 14.55" (434737)	74° 23' 3.93" (1961237)
83	I - 31	Katalgewadi			17° 44' 32.04" (435289)	74° 23' 22.62" (1961773)
84	I - 38	Katalgewadi			17° 44' 25.59" (435475)	74° 23' 28.95" (1961574)
85	I - 53	Katalgewadi			17° 44' 35.62" (436157)	74° 23' 52.08" (1961880)
86	I - 69	Katalgewadi			17° 44' 6.39" (434557)	74° 22' 57.85" (1960987)
87	I - 28	Shirawali			17° 44' 42.99" (435370)	74° 23' 25.33" (1962109)
88	I - 46	Shirawali			17° 44' 50.50" (435648)	74° 23' 34.74" (1962339)
89	I - 61	Shirawali			17° 44' 42.33" (435954)	74° 23' 45.16" (1962087)
90	I - 51	Katalgewadi			17° 44' 42.77" (436663)	74° 24' 9.24" (1962098)
91	I - 80	Shirawali			17° 44' 41.60" (436663)	74° 25' 5.67" (1962057)

				(438325)	
92	I - 78	Shirawali		17° 44' 36.14" (437099)	74° 24' 24.06" (1961893)
93	I - 79	Shirawali		17° 44' 33.52" (437872)	74° 24' 50.32" (1961810)
94	I - 83	Shirawali		17° 45' 4.10" (437163)	74° 24' 26.14" (1962752)
95	I - 17	Shirawali		17° 44' 34.81" (437427)	74° 24' 35.20" (1961851)
96	I - 84	Khandyachiwadi		17° 49' 33.63" (444824)	74° 28' 45.51" (1971013)
97	SP25	Garudachiwadi		17° 50' 29.34" (440644)	74° 26' 23.34" (1972737)

The following two photographs shows the result of the assessment of location of WTGs in Google earth pro software /27/- :





The major technical specifications of the WTG are as follows.

Table-7 presents the Key Technical Particulars of Vestas V-100 2.0 MW WTG³

Particulars	Specifications
Make	Vestas

³ <https://en.wind-turbine-models.com/turbines/1001-vestas-v100-2.0>

Model	V-100
Rated Capacity	2000 kW
Rotor Diameter	100 m
Hub height	95 m
Type of Tower	Steel Tube
Number of Blades	3
Geared/Gearless	Geared
Gear Box	One planetary stage and two helical stages
Cut-in Wind speed	3 m/s
Rated Wind speed	12 m/s
Cut-out Wind speed	22 m/s

Table-8 presents the Key Technical Particulars of Suzlon S- 97_ 90 2.1 MW WTG⁴

Particulars	Specifications
Make	Suzlon
Model	S-97
Rotor diameter	97 m
Hub height	90 m
Estimated service life	20 years
Rated power	2.1 MW
Rated wind speed	11 m/s (without turbulence intensity according to GL guideline)
Cut in wind speed	4.0 m/s (30-second average)
Cut out wind speed	20 m/s (10-minute average)
Controller type	Programmable Logic Controller with SUZLON CONTROL SYSTEM Software

The assessment team confirmed through onsite visit /19/ and interviews /26/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 PD/3/ and applied methodology (ACM0002), Version 16.0/7/. The assessment team has thoroughly checked all the data and verified the MR/1/ during desk review with all the supporting documents /10//11//12//13//14//15/16/18//23//24//25//29/ and confirms that the project is implemented as per the registered VCS PD/3/ and applied methodology (ACM0002), Version 16.0/7/. The organizational role and responsibility as mentioned in the VCS PD/3/ is followed onsite. Meters are calibrated as per calibration frequency in registered VCS

⁴ <https://www.oakland.edu/Assets/upload/docs/Energy/Wind-Project/07-Suzlon-2.1-MW-S97---Technical-Data.pdf>

PD/3/. All the emergency preparedness as mentioned in the registered VCS PD/3/ is followed onsite and no discrepancies were found regarding the same.

Assessment team concludes the following:

- (a) There are no material discrepancies between project implementation and the project description provided in the registered VCS PD/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 project description/3/ and the applied methodology/7/.
- (d) The project has not received or sought any other form of environmental credit in current monitoring period /15/, or has become eligible to do so since validation /18/ or previous verification/29/.
- (e) The GHG emission reductions or removals generated by the project have not been included in any other emissions trading program or any other mechanism that includes GHG allowance trading/15/.
- (f) The project is registered under VCS only and PP is seeking to get GHG emission reduction from VCS only.
- (g) The project activity complies with four indicators for sustainable development which are stipulated as economic, social, environment and technological well-being as per the internal approval guidelines for Clean Development Mechanism (CDM) projects from India as discussed under section 1.11 of MR/1/.

4.2 Safeguards

4.2.1 No Net Harm

Being a wind power project, it does not involve any significant impacts due to implementation of project activity on air, water, soil quality and ambience. The project activity does not even require any major construction activity as it only requires the installation of the WTGs, interfacing the generators with the State Electricity Board by setting up HT transmission lines and installation of other accessories, thus no major impacts are foreseen at this stage

Assessment team has confirmed the claims that there are no negative environmental and social impacts through onsite visit /19/ and interviews with the personnels and local stakeholders/26/. At the site the stakeholders' reviews were positive and the project has led to the development in the area and brought employment for the local people. As far as the environment is concerned, the project has been installed over the abandoned terrain which was of no use except for grazing of animals which has not been impacted even after implementation of project. Due to implementation of this project and maintenance by PP of land it can now be also used for other purposes and PP is doing lot of other activities to increase the fertility of land like planting trees around the area, digging pits for rainwater collection and storage and further use that land for other such activities. Thus, it was confirmed that there were no significant impacts on environment due to the implementation of this project.

The project activity has no significant impact on the environment. Wind power projects are not included in the Schedule I of the EIA notification S.O.1533 (E) dated 14-September-2006 /31/ and thus an EIA is not required. Ministry of Environment & forests vide their OM J-11013/41/2006 - IA II (I) dated 13-May-2011, has re-affirmed this and exempted wind power plants from EIA and Environmental Consent requirement.

Thus, there are no any significant impacts due to implementation of project activity on air, water, soil quality and ambience envisaged due to the project activity.

4.2.2 Local Stakeholder Consultation

The Project is already registered with VCS and registered VCS PD/3/; sections 2.2 describes the Local Stakeholder Consultation Process as in-line with VCS requirement. The Local Stakeholder Meetings were organized for local stakeholder consultation and informed local stakeholder regarding the meeting. The followings were the local stakeholders for the project activity:

- Local community
- Local village administration
- Technology suppliers
- Local vendors

Before implementation of the project activity, the project proponent did thorough consultation with stakeholders – identifying the different stakeholders, consultation with the stakeholders in number of phases and through number of media – focus group discussion, detailed social mapping and fieldwork, inclusion of local stakeholders from all sections of community , explanation of project activity – purpose and details to them and resolving the comments/ grievances along with seeking suggestions from them.

PP has engaged a number of local NGOs for local stakeholder consultations by applying various strategies to engage them in project and for taking care of their complaints/grievances/suggestions. The Stakeholder Consultation Report is prepared which primarily deals with socio-economic impact of the project activity and provided an opportunity for the local population to express their viewpoints and comments with respect to the project.

Stakeholder meetings were organized at the time of registration of project activity in order to identify the major challenges around the area, stakeholders were invited well in advance through printed invitation, calls, meetings and a notice is placed around the local common areas. Various CSR activities around site were carried out. The stakeholders were requested to share their experiences and grievances on continuous basis. Grievance registers were kept to record the grievances and feedbacks from the local stakeholders.

The process is ongoing and continuous and this process is undertaken throughout the year.

PP has kept the dedicated grievance register and grievance box at the easily accessible location for local stakeholders to drop any grievances by the local stakeholders. During the current monitoring period, no grievances have been received by PP, hence no mitigation measures were applied and the same has been verified by assessment team through onsite interview with local stakeholders/26/ and also through the grievance register photograph and grievance box photograph submitted by PP/25/. For the global stakeholders as well, PP has kept a provision for the grievances to be taken through dedicated Email and the Email ID is- info@continuumenergy.in. Although no grievances have been found for the current monitoring period from any stakeholder thus no mitigation steps were taken by PP.

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

4.3 AFOLU-Specific Safeguards

The project activity deals with generation of electricity using wind energy by Wind Turbine Generator (WTG) and not from AFOLU projects. Hence not applicable.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The project monitoring has been carried in accordance with the registered VCS PD/3/ and the monitoring report/1/The monitoring plan laid in the registered VCS PD/3/ is being followed at the site/19/. The assessment team has verified the information flow (from data generation, aggregation, to recording, calculation and reporting for these parameters including the values) in the MR/1/ though desk review of the MR /1/ and ER/2/ with the help of supporting documents such as JMRs/10/, Invoices/12/, calibration certificates/11/, breakdown data of the plant/23/and registered monitoring plan/3/. The emission reductions are based on the net electricity exported to the grid. PP has provided all the sufficient data for current monitoring period such as JMRs/10/, Invoices/12/ and calibration certificates/11/. The values of the parameter net electricity generation supplied to the grid by each phase used in deriving the GHG emission reduction could be very well correlated between the data sets and ER spreadsheet/2/ provided by PP. The verification of **EGPJ**, y monitoring parameter has been discussed later in section 4.5 of this report.

The project activity was expected to reduce emissions by 364,217 tCO₂e for the present monitoring period, whereas the actual emission reductions were 3,65,432 tCO₂e. The actual emission reduction achieved are 0.33% higher than the estimated value, which is not a very significant increase in emission reductions and there is just a slight change in PLF from 21.31% in PD/3/ to 21.3099% actual achieved in current monitoring period which led to difference value of 0.0001% to the estimated PLF. Hence it can be concluded that such slight change in PLF is marginal and with in the variation range. Therefore, the higher emission reduction of 0.33% is acceptable.

In section 4.,5 of this report and section 5.4 of MR /1/ calculations has been stated and properly calculated in ER sheet /2/ which has been verified by the assessment team from Joint Meter Reading reports issued to PP by State Utility (MSEDCL)/10/& Invoices issued by PP to state electricity authority (MSEDCL) /12/ submitted to VVB by PP. As per section 4.3 of MR/1/ and section 4.3 of registered VCS PD/3/ apportioning procedure is there but during current monitoring period there has been no apportioning procedure involved in calculation of baseline emissions as all the WTGs connected to the feeders in the project activity are of single PP (BWDPL) who is the owner of this project activity. Hence no apportioning procedure was followed during current monitoring period. This was verified during site visit with the help of interviews with site personnels/26/ and verification of JMRs issued by MSEDCL as the procedure of Apportioning will be carried out by MSEDCL Officials & energy break-up sheet which will be issued by the MSEDCL Officials only. On verification of JMRs it was found that there was no break up found in JMRs for the current monitoring period as per the apportioning procedure mentioned in VCS PD/3/ and MR/1/. Hence it was accepted by assessment team.

Hence VKU confirms that the calculation method and formulae used in calculating baseline emissions is in compliance with the methodology used i.e., ACM0002 Version 16 /7/ and PP have applied the error factor of 0.2% appropriately for the calibration delay of 7 days from 20-June-2022 to 27-June-2022 in calibration observed under current monitoring period as mentioned is section 4.5 below in this report and properly calculated in ER sheet/2/ submitted by PP to assessment team and found to be correct when verified against calibration certificates of energy meters /11/submitted by PP to assessment team.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

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

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

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

The below **Table-9** describe how the parameter $EG_{PJ,y}$, is to be measured according to the monitoring plan, has been verified to confirm that the actual monitoring complies with the monitoring plan, monitoring data has been thoroughly assessed and that the calibration requirements are met.

Parameter	Quantity of net electricity generation supplied by the project (Wind) plant/unit to the grid in year y: $EG_{PJ,y}$ (MWh)	
Means of verification		
	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	The parameter is calculated and recorded on monthly basis. Net electricity generated and supplied by the project to the grid is the simple difference between the Electricity Export to the grid and Electricity Import from the grid as per the JMRs/10/ and invoices/12/ submitted by PP.
	Is measuring and reporting frequency in accordance with the	Yes. The reporting frequency is in line with the monitoring plan as outlined in

	monitoring plan and monitoring methodology? (Yes / No)	the registered VCS PD /3/ and monitoring methodology/7/. This was verified by assessment team during desk review and during onsite visit and interviews with site personnel /26/
	Monitoring equipment	Monitoring Equipment: Tri vector energy meter is used Data type: Measured Type of meter: Static type meter (Main & Check). Both are Bidirectional meters Class of meter: 0.2s
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer's specification?	The accuracy of the monitoring equipment used to measure the input values such as import and export to calculate net electricity generation value is 0.2s, which is as per the registered VCS PD/3/ which is as per the norm defined in the PPA/14/.
	Is the accuracy valid for the entire measuring range or do different accuracy levels apply to different measuring ranges?	Yes. The accuracy of monitoring equipment's is valid for the entire range which is as per registered VCS PD/3/.
	Calibration frequency /interval:	Calibration frequency of the meters is once in year as per the registered VCS PD monitoring plan /3/.
	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	Yes. The calibration frequency is annual as outlined in the registered VCS PD/3/.

	per the manufacturer's specifications?	
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Calibration of the measuring equipment's is carried out by Maharashtra State Electricity District Company Limited.
	Is(are) calibration(s) valid for the whole reporting period?	Calibration of energy meters is valid for the entire current monitoring period except the delay of 7 days from 20-June-2022 to 27-June-2022 in calibration as verified from MR/1/ and calibration certificates /11/ submitted by PP.
	Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out appropriately which is within the range of 11KV to 110V as per the calibration certificates submitted by PP/11/ and the test results were found satisfactory for all the energy meters as verified from the calibration certificates/11/
	How were the values in the monitoring report verified?	Cumulative value of $EG_{P,J,Y}$ for entire monitoring period is reported in the monitoring report/1/, and monthly values in the ER calculation sheet/2/are recorded as per JMRs and Invoices and out of the two, one with lower value is used in calculation of ERs for the monitoring period. The monthly values are verified from the credit notes/JMRs issued by state utility/10/ and cross checked with the Invoices /12/ issued to state utility and found to be consistent. Value of this parameter for the current monitoring period was verified as 374,035.26 MWh.

	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values of EG_{P,j,y} from JMRs/10/ were further cross checked with the monthly invoices raised by the PP /12/ to state utility and there monthly values were found to be consistent in ER sheet/2/ submitted by PP for current monitoring period.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Onsite personnel interview/26 /with the stakeholder of the project activity confirms that the necessary QA/QC procedures are in place and the data management system is effective and reliable. The desk review of O&M agreements is found consistent and the project was found to be following the registered monitoring plan after site visit and desk review of the project done by assessment team for the current monitoring period.
	In case project participants 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#01, CAR#01 and 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 WTGs. Since 100% data was verified, the team can ascertain that the values taken for emission reduction calculation are free from material errors.	

Table-10 below presents the Parameters Fixed Ex-ante:

S. No.	Parameter	Unit	Description	Value
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1	EF _{BM, grid, y}	tCO ₂ /MWh	Build Margin CO ₂ Emission Factor in year y	0.9495 tCO ₂ /MWh is consistent with the registered VCS PD/3/.
2	EF _{OM, grid, y}	tCO ₂ /MWh	Operating Margin CO ₂ Emission Factor in year y	0.9862 tCO ₂ /MWh is consistent with the registered VCS PD/3/.
3	EF _{CM, grid, y}	tCO ₂ /MWh	Combined Margin CO ₂ Emission Factor in year y	0.9770 tCO ₂ /MWh is consistent with the registered VCS PD/3/.

Calibration of meters:

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

Table-11 below presents the Calibration of Meters for Year 2021-2022:

Meter Sr. No. (Main)	Meter Sr. No. (Check)	WTG ID	Feeder No & Dev no	Meter Make	Accuracy Class	Date of Calibration	Due Date of Calibration
156878 51	05269 326	I-66, I-01, I-02, I-30, I-49, I-39, I-25, I-48, I-29, I-64, I-21, I-23, I-03, I-07	Feeder-1 & Dev no-8310	Elster	0.2s	21-June-2021	20-June-2022
156878 61	15687 859	I-13, I-46, I-53, I-61, I-19, I-31, I-28, I-69, I-38, I-51, I-79, I-80, I-83, I-78, I-17	Feeder-2 & Dev-8311				
052693 24	05269 316	I-22, I-24, I-57, I-52, I-33, I-73, I-72, I-08, I-06, I-05	Feeder-3 & Dev-8312				
052693 27	15687 848	I-34, I-81, I-59, I-71, I-47, I-60, I-41, I-56, I-63, I-04	Feeder-4 & Dev-8313				
163510 48	16351 049	I-15, I-75, I-26, I-18, I-82, I-16, I-77,	Feeder-5 & Dev-8320				

		I-37, I-40, I-76, I-35, I-42, I-43, I-45					
16351050	16351051	I-27, I-68, SP-19, SP-20, SP-24, SP-41, SP-22, SP-26, SP-28, SP-27, SP-21, SP-25, SP-29, SP-30, SP-31, SP-32	Feeder-6 & Dev-8329				
16351052	16351053	SP-33, SP-34, SP-37, SP-39, SP-35, SP-36, SP-38, I-84	Feeder-7 & Dev-8330				
16351054	16351055	SP-05, SP-06, SP-07, SP-08, SP-10, SP-40, SP-09, SP-12, SP-13, SP-17	Feeder-8 & Dev-8331				

Table-12 below presents the Calibration of Meters for Year 2022-2023:

Meter Sr. No. (Main)	Meter Sr. No. (Check)	WTG ID	Feeder No & Dev no	Meter Make	Accuracy Class	Date of Calibration	Due Date of Calibration
15687851	05269326 ⁵ (Old) Q0603802 (New)	I-66, I-01, I-02, I-30, I-49, I-39, I-25, I-48, I-29, I-64, I-21, I-23, I-03, I-07	Feeder-1 & Dev no-8310	Elster	0.2s	27-June-2022	26-June-2023
15687861	15687859	I-13, I-46, I-53, I-61, I-19, I-31, I-28, I-69, I-38, I-51, I-79, I-80, I-83, I-78, I-17	Feeder-2 & Dev-8311				

⁵ This Check meter was changed on 12-July-2022.

052693 24	05269 316	I-22, I-24, I-57, I- 52, I-33, I-73, I-72, I-08, I-06, I-05	Feeder-3 & Dev-8312				
052693 27	15687 848	I-34, I-81, I-59, I- 71, I-47, I-60, I-41, I-56, I-63, I-04	Feeder-4 & Dev-8313				
163510 48	16351 049	I-15, I-75, I-26, I- 18, I-82, I-16, I-77, I-37, I-40, I-76, I- 35, I-42, I-43, I-45	Feeder-5 & Dev-8320				
163510 50	16351 051	I-27, I-68, SP-19, SP-20, SP-24, SP- 41, SP-22, SP-26, SP-28, SP-27, SP- 21, SP-25, SP-29, SP-30, SP-31, SP- 32	Feeder-6 & Dev-8329				
163510 52	16351 053	SP-33, SP-34, SP- 37, SP-39, SP-35, SP-36, SP-38, I-84	Feeder-7 & Dev-8330				
163510 54	16351 055	SP-05, SP-06, SP- 07, SP-08, SP-10, SP-40, SP-09, SP- 12, SP-13, SP-17	Feeder-8 & Dev-8331				

Assessment on delay in calibration:

The energy meter calibration certificates/11/ were checked and found that the calibration details provided in the MR/1/ were correct. From the verification of the above table 11 and 12, verification team confirms that there was a delay of 7 days from 20-June-2022 to 27-June-2022 in calibration observed for the current monitoring period from 01-October-2021 to 30-September-2022 (Inclusive of both dates). The calibration of the meters was then carried out on 27-June-2022 which was then valid for the remaining monitoring period. Verification team has checked the ER sheet and found that PP has applied the error factor appropriately in line with guidelines provided under paragraph 3.4.2 of Validation and verification manual version 4.2/21/ i.e., conservatively without overestimating the emission reductions.

The verification team has checked all the meters and confirmed that the meters were working satisfactorily. Also, the calibration of meters is completely under purview of state utility and PP has no control over the same as confirmed through interviews of site personnel/26/ and PPA signed between PP and state utility (MSEDCL) /14/.

Hence it can be concluded that the approach followed by the PP is conservative and in line with the guidelines provided under paragraph 3.4.2 of Validation and verification manual version 4.2/21/. The registered VCS PD/3/ & MR /1/ and site visit observations confirm that the metering equipment are sealed and maintained by the state utility.

The assessment team has verified the monthly JMRs /10/ issued by the state utility and confirmed that only the data recorded through main meters is used to calculate net electricity supplied to the grid consequently for ER calculations

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

GHG Calculations:

The emission reduction as per the applied methodology equals the baseline emissions (Project emissions and Leakage emissions for such project activities is considered as zero as per para 35 and 60 of the applied methodology respectively).

The formula provided for the calculation of baseline emissions is:

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

Where:

BE_y = Baseline Emissions in year y; tCO₂

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

EF_{grid, CM, y} = Combined Margin CO₂ emission factor for grid connected power generation in year y Calculated using the latest version of the "Tool to calculate the emission factor for an electricity system, version 04." (tCO₂/MWh)

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

Baseline Emission factor = 0.9770 tCO₂/MWh

For the project activity, monthly generation records have been aggregated to arrive at the yearly net generation values as presented in **Table-13** below.

Year	Net Generation (MWh)	Baseline emissions factor (tCO ₂ /MWh)	Baseline emissions (ER _y)
2021 (From 01-October-2021 till 31-December-2021)	62,480.12	0.9770	61,043
2022 (From 01-January-2022 till 30-September-2022)	311,555.13	0.9770	304,389
Total			365,432

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

The actual emission reduction achieved are 0.33% higher than the estimated figure to match the monitoring period as per registered VCS PD/3/, which is not a very significant increase in emission reductions and there is just a slight change in PLF from 21.31% in PD/3/ to 21.3099% actual achieved in current monitoring period which led to difference value of 0.0001% to the estimated PLF. Hence it can be concluded that such slight change in PLF is marginal and with in the PLF range, hence accepted by assessment team.

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 standard requirements/5/.

4.6 Non-Permanence Risk Analysis

There is no non-permanence risk that could lead to material errors, omissions or misstatements rating determined by the project proponent for the project activity and no risk was identified in the audit/verification plan hence not applicable.

5 VERIFICATION CONCLUSION

M/s VKU Certification Pvt. Ltd. has performed the periodic fourth verification of the project activity “199.70 MW Wind Project in Maharashtra by BWDPL.” in India, VCS (1447), under first crediting period from 17-May-2013 to 16-May-2023 (Including both dates), for the verification period from 01-October-2021 to 30-September-2022 (Inclusive of both start and end dates), with regard to the relevant requirements for VCS activities.

The project participants of the “199.70 MW Wind Project in Maharashtra by BWDPL.” 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 PD version 2.0 of 16-May-2015/3/.
- 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 VCS Standard version 4.3 /5/and GHG program applied, on the reported greenhouse gas emission reductions from the project.

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

- The project has been implemented and operated as per the registered VCS PD/3/
- The monitoring report and other supporting documents provided are complete and verifiable and they are in accordance with the applicable VCS Standard version 4.3/5/ requirements;
- The monitoring plan in the registered VCS PD/3/ is as per the applied baseline and monitoring methodology/7/.

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 level of assurance** that reported GHG emission reductions are fairly stated. It is VKU's opinion that the GHG emission reductions stated in the monitoring report version 5.0 dated 20-March-2023 for the Project “199.70 MW Wind Project in Maharashtra by BWDPL” in India for the period 01-October-2021 to 30-September-2022 (Inclusive of both start and end dates) are fairly stated.

The GHG emission reductions are calculated on the basis of approved methodology ACM0002. version 16.0/7/ and the monitoring plan included in the registered VCS PD version 2.0 dated 16-May-2015/3/.

Hence VKU is able to certify that the emission reduction from the project during the current monitoring period from 01-October-2021 to 30-September–2022 (Inclusive of both start and end dates) amounts to 365,432 tCO_{2e}.

Verification period: From 01-October-2021 to 30-September-2022 (Inclusive of both start and end dates)

Verified GHG emission reductions and removals in the above verification period amounts to 365,432 tCO_{2e} which are presented in the table below:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
Year 2021 (From 01-October-2021 to 31-December-2021)	61,043	0	0	61,043
Year 2022 (From 01-January-2022 to 30-September-2022)	304,389	0	0	304,389
Total	365,432	0	0	365,432

APPENDIX A: ABBREVIATIONS

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
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
EKI	EKI Energy Services Limited
ER	Emission Reductions
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
MoV	Means of Verification
MR	Monitoring Report
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 Participant(s)
Ref.	Document Reference
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VCU	Verified Carbon Unit
VKU	VKU Certification Ltd.
VCS	Verified Carbon Standard
VVS	Validation and Verification Standard
VVB	Validation and verification body

APPENDIX B: AUDIT FINDINGS

Type	Date	14-November-2022
CL#01	Reference	Section of Ver protocol: Section1, Section 2,
Description of the Non-Conformance		
1. PP is requested to clarify the status of the implementation of the project activity. (Section 1.1) 2. PP is requested to submit the declaration confirming that the project does not participate in any other GHG mechanism. (Section 1.9) 3. PP is requested to submit the declaration stating they are not claiming any other form of GHG related environmental credits and other form of emission trading and other binding limits. (Section 1.10) 4. PP is requested to submit the photograph of grievance register showing the grievances of stakeholders in current monitoring period. (Section 2.2) 5. PP is requested to clarify this statement project activity implemented or not. 6. PP is requested to submit the commissioning certificate. 7. PP is requested to provide the O&M Contract for both the service provider; Suzlon and Vestas 8. PP is requested to submit all the calibration certificates of meters installed at site. 9. PP is requested to submit the meter replacement certificate of the Feeder1 check meter.		
1 st Response from PP	Date	25-November-2022
1. The status of the implementation of the project activity has been revised in section 1.1 of the revised MR. 2. A declaration on double counting confirmation has been submitted to the DOE. 3. A declaration has been submitted to the DOE for not claiming any other form of GHG related environmental credits and other form of emission trading and other binding limits. 4. Photograph of grievance register has been submitted to the DOE 5. Project activity has been implemented and the same has been mentioned in the revised MR. 6. Commissioning Certificates have been provided to the DOE. 7. O&M Contracts have been provided to the DOE. 8. All calibration certificates have been provided to the DOE. 9. Meter replacement MoM has been submitted to the DOE.		
1 st Assessment by Audit Team	Status	Open
	Date	02-December-2022
1. Assessment team confirms PP has updated status of the implementation of the project activity in revised MR Version 02 dated 25-November-2022. 2. Assessment team confirms PP has submitted the declaration certificate that the project does not participate in any other GHG mechanism, hence accepted		

3. Assessment team confirms that PP has submitted the declaration certificate stating they are not claiming any other form of GHG related environmental credits and other form of emission trading and other binding limits. Hence accepted.					
4. Assessment team has verified the submitted documents which seem to be incomplete PP is kindly requested to send the photograph of grievance register placed at site showing the grievances mentioned in the register. (Open)					
5. Assessment team confirms that the project is implemented and same has been updated in MR version 02 hence verified and accepted by assessment team.					
6. PP is requested kindly submit the commissioning certificate for I-71 and I-72. (Open)					
7. PP has submitted the O&M contracts and verified by assessment team and accepted.					
8. Assessment team confirms that all calibration certificates are provided and found to be consistent with the details mentioned hence accepted.					
9. PP has submitted the meter replacement MoM and found acceptable.					
10. PP is requested to submit the Power parches agreement to VVB. (Open)					
Hence CL#01 is Open					
2 nd Response From PP			Date	26-December-2022	
4. Photograph of grievance register has been submitted to the DOE.					
6. Commissioning Certificates of I-71 and 72 are provided to the DOE.					
10. PPA of all WTGs are submitted to the DOE. Only PPAs of SP-21,25 and 27 are on hold.					
2 nd Assessment by Audit Team		Status	Open	Date	11-January-2023
4. Assessment team has verified the submitted documents which seem to be incomplete PP is kindly requested to send the photograph of grievance register placed at site showing the grievances mentioned in the register. (Open)					
6. Assessment team has verified the commissioning certificate which seem to be inconsistent with the provided MR so PP is kindly requested you update the feeder number of I-71 and I-72. (Open)					
10. VVB team has verified and confirms that PP submitted the PPA of all WTGs except PPA of WTGs (SP-21,25 and 27). (Open)					
Hence CL#01 is Open					
3 rd Response From PP			Date	03-February-2023	
4. There is a box for submission of grievances and forms for grievances at the site. These have been submitted to DOE and same have been mentioned in the revised MR.					
6. Feeder numbers have been taken from the commissioning certificates. I-71 and 72 feeder numbers and are in line with commissioning certificates.					
10. A declaration for not having PPAs for SP-21, 25 & 27 has been submitted to the DOE.					
3 rd Assessment by Audit Team		Status	Closed	Date	23-February-2023

4. Assessment team confirms that PP has provided the Photograph of the grievance box placed at site and the grievance form which is found to be correct and as per the details provided in the revised MR version 04. Hence accepted.

6. Assessment team confirms that PP has updated the feeder number of I-71 and I-72 according to the commissioning certificate in the revised MR version 04. Hence accepted.

10. Assessment team confirms that PP has submitted the declaration for SP-21,25 and 27 for not having any PPA in place for these WTGs and the generation from these WTGs is also considered zero as confirmed from the revised ER sheet version 03 submitted.

Hence CL#01 is Closed

Type	Date	17-March-2023
CL#2	Reference	Section of MR- 2,4
Description of the Non-Conformance		
1. PP is requested to clarify how negative impacts are mitigated during maintenance activity that involve heavy machinery and the attendant environmental or socio-economic impact? (Section 2.1) 2. PP is requested to clarify why the organization chart and the table in section 4.3 is not in line with the registered PD. Please clarify (Section 4.3) 3. PP is requested to clarify is any procedures involved or followed for handling any internal auditing performed and any non-conformities identified? (Section 4.3) 4. Please explain how this statement in section 4.3 is appropriate with respect to applicable standards or methodology or tools. (Section 4.3) 5. PP is requested to state how this arrangement in section 4.3 is relevant for the determination of the emissions reduction for the project activity. (Section 4.3)		
1st Response from PP	Date	20-March-2023
1. During maintenance no heavy machinery work has been done which impact the environment or socio-economic impact. 2. Organization chart and table in section 5.3 are now aligned with registered PD. 3. Site in charge & Head office will resolve if any issue is there and after resolution it will be further reviewed by higher management. 4. This is as per the registered PD monitoring plan for emergency preparedness and uncertainty procedure defined by the PP. 5. PP has defined several teams for emergency response, the arrangement is a part of Emergency preparedness and uncertainty procedures. Yes, this is not directly linked to the calculation of emission reduction of the project activity.		
1st Assessment by Audit Team	Status	Closed
	Date	23-March-2023
1. Assessment team confirms that PP has not done any major maintenance activity that involve any heavy machinery thus no negative impacts are identified. Hence accepted.		

2. Assessment team confirms that PP has changed the organization chart as per the project scenario at actual and verified on site visit as well, hence accepted.
3. Assessment team confirms that PP has mentioned the procedure of internal auditing in reply as per current practice. Hence accepted.
4. Assessment team confirms that PP has mentioned that the statement is as per registered VCS PD. Hence accepted.
5. Assessment team confirms that PP has mentioned the arrangement in section 4.3 as per registered VCS PD. Hence accepted.

Hence CL#02 is Closed

Type	Date	14-November-2022
CAR#01	Reference	Section of Ver protocol: Title page, Table content, section 1, Section 2, Section 3, Section 4, Section 5
Description of the Non-Conformance		
1. PP is requested to update the font size throughout the MR as per VCS MR template version 4.1 2. PP is requested to update the content table as per VCS MR template version 4.1 3. PP is requested to state the type of crediting period as well in section 1.6 as per the VCS standard v 4.3 4. PP is requested to confirm if all the data in the table is consistent according to the documents and actual scenario at site as some unconformities were observed in commissioning dates and feeder details which are highlighted below. Kindly update the same according to the commissioning certificates and PPA document in section 1.7 5. PP is requested to update the (Background colour) as per template VCS template version 4.1(Section 1.10) 6. PP is requested to mention the guideline referred for not filling the SD contribution table in MR 7. PP is requested to discuss about the breakdown or scheduled shutdown hours happened in current monitoring period according to the VCS MR template version 4.1. Also provide the same in Appendix section for better clarity. 8. PP is requested to insert a reference of technical specifications of all WTGs involved in project activity, how can we verify the same (Section 3.1) 9. PP is requested to update the statement as it seems incomplete and incoherent in section 3.1 10. PP is requested to provide a proper justification for section 3.2 according to VCS MR Template Version 4.1PP is requested the update the data unit of parameter $EF_{grid,CM,y}$ (Section 4.1) 11. PP is requested to update the diagram of organization structure for monitoring as per VCS Project. (Section 4.3) 12. PP is requested to correct the tool version (Section 5.1)		

1 st Response from PP		Date	25-November-2022	
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2 nd Response From PP		Date	26-December-2022	
2. The table of contents has been updated as per the MR template form V 4.1.				
4. All commissioning certificates have been provided to the DOE.				
7. Breakdown detail has been provided as per the template in the revised MR V03.				
8. WTG Specification documents have been provided to the DOE.				
2 nd Assessment by Audit Team		Date	11-January-2023	
2. PP is kindly requested you update the table of content as per the MR template version 4.1(Open)				
4. Assessment team confirms that PP has not submit the commissioning certificate to the DOE so PP is kindly requested you submit the all-update WTGs commissioning certificate. (Open)				
7. The assessment team confirmed that PP mentions the breakdown details in the amended MR but does not include the overall breakdown hours, so please include the total breakdown hours in section 3.1 of MR.(Open)				
8. The assessment team checked and confirmed that the technical specifications of both WTG are inconsistent with the WTG Specification documents submitted, hence PP is kindly requested to update the technical specifications of both WTG. (Open)				
Hence CAR #01 Open				
3 rd Response From PP		Date	03-February-2023	
2. Table of contents has been updated in the revised MR V04.				
4. All commissioning certificates have been provided to the DOE.				
7. Breakdown Detail summary has been incorporated in section 3.1 and table has been incorporated in Appendix II of the revised MR.				
8. Technical specifications of WTGs have been updated in the revised MR.				
3 rd Assessment by Audit Team	Status	Closed	Date	23-February-2023
2. DOE confirms that PP has updated the table of contents in revised MR version 4.0. Hence accepted.				
4. DOE confirms that PP has submitted all the commissioning certificates of WTGs. Hence accepted.				
7. The assessment team confirms that PP has mentioned the breakdown details in appendix and section 3.1 of the revised MR version 4.0. Hence accepted.				
8. The assessment team confirms that the technical specifications of WTGs in the revised MR version 4.0 have been updated by PP and found to be consistent with the WTG Specification documents submitted. Hence Accepted.				
Hence CAR#01 is Closed				

Type	Date	14-November-2022		
CAR#02	Reference	Section of MR: 3.2.1 and 4.2 and ER Sheet		
Description of the Non-Conformance				
1. During site visit, assessment team found that there were no WTGs of other entities present at the site and description in MR section 4.3 and in registered VCS PD in section 4.3-page no. 36 states that "Multiple WTGs would be connected to the feeder, one of which would be part of the project activity and rest of which would not be part of the project activity ". This is a deviation in the monitoring plan. Kindly, state the same in project description deviation section as per the actual scenario at site. 2. During site visit assessment team found that there was no apportioning procedure implemented at site as stated in MR section 4.3 and in registered VCS PD section 4.3 Page no. 36. This is a deviation in the monitoring plan. Kindly, state the same in project description deviation section as per the actual scenario at site. 3. During the site visit assessment team observed that PP has incorporated various emergency procedures at site which are not elaborated in the MR, kindly incorporate them as per the actual project scenario in MR section 4.3. 4. PP is requested to update the Single line diagram in section 4.3 of MR as per the actual scenario at site. 5. PP is requested to use the standard notation form for writing the ER values throughout MR 6. PP is requested to provide a clear justification for the decrease in ERs achieved during current monitoring period in section 5.4 of MR.				
1 st Response from PP		Date	25-November-2022	
1. A deviation has been taken in the monitoring plan because there are no other WTGs of other PPs and the same has been mentioned in the revised MR. 2. A deviation has been taken in the monitoring plan since there is no apportioning procedure followed at the site and the same has been mentioned in the revised MR. 3. The emergency procedures have been mentioned in section 4.3 of the revised MR. 4. The SLD has been updated in the respective section in the revised MR. 5. Standard notation form of writing the ER values have been followed throughout the revised MR. 6. The actual ER value has been increased than the estimated one because of high wind speed during the monitoring period and the same has been mentioned in the revised MR.				
1 st Assessment by Audit Team	Status	Open	Date	02-December-2022
1. Assessment team confirms that PP has mentioned the deviation for the project description deviation and it is verified on the site visit and found in line with the same, thus accepted. 2. Assessment team identified that the apportioning procedure is still mentioned in MR section 4.3 which is contradictory to the statement mentioned by PP in section 2.1.2 of MR, kindly update the report as per actual scenario. (Open)				

3. Assessment team identifies that PP has not updated the section, kindly update the emergency preparedness as per the actual project scenario followed at the site. (Open)
4. PP has updated the SLD in the revised MR and found to be correct as per actual site, hence accepted.
5. PP has updated the ER values according to the standard notation in revised MR and found acceptable.
6. Assessment team confirms that the emission reduction achieved in current monitoring period are higher than the estimated by 0.34% which is due to high wind availability during current monitoring period, hence accepted.

Hence CAR #02 is Open

2nd Response From PP	Date	26-December-2022
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2. Apportioning for other PPs have been removed from the monitoring plan of the revised MR since there is no other PP's WTG connected with the feeder in actual scenario. Only apportioning of JMR reading is mentioned in the revised MR 03.

3. Emergency preparedness has been incorporated in the revised MR V03.

2nd Assessment by Audit Team	Status	Open	Date	11-January-2023
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2. The assessment team confirms that PP has taken deviation to include the raised corrective action in the previous audit finding but the same is not included in section 4.3 of MR, kindly incorporate the changes in all applicable sections in the revised MR.(Open)

3. The assessment team confirms that PP has incorporated the emergency preparedness plan in the revised MR. Hence accepted.

Hence CAR #02 is Open

3rd Response From PP	Date	03-February-2023
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2. All WTGs connected to the feeders involved in the project activity are of the PP of this project only. WTGs of other PPs are not connected to those feeders. This has been mentioned in the section 4.3 of monitoring plan in the revised MR.

3rd Assessment by Audit Team	Status	Closed	Date	23-February-2023
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2. Assessment team confirms from the footnote provided by PP in section 4.3 of revised MR version 4.0 that no apportioning is applicable in current monitoring period as only WTGs of PP are involved in the process and no other PP's WTGs are there on the feeders. This has also been confirmed during site visit. Hence accepted.

Hence CAR #02 is Closed

Type	Date	14-November-2022
CAR#03	Reference	ER Sheet

Description of the Non-Conformance				
1. PP is requested to update all the values of import and export from Oct 2021 to Aug 2022 according to given invoice. 2. PP is requested to apply error factor for Generation site I-72 and I-8,6 and I-5 and I-81 and I-59, I-71 and I-47, I-60 and I-41, I-56, I-63 and I-4 and I-15 and SP-21 and SP-25 in month June year 2022. 3. PP is requested to update the value of I-2, I-23 as per the JMR/Credit note. 4. PP is requested to update the value of march of I-13,46,53&61 as per the JMR/Credit note. 5. PP is requested to update the value of I-26 and I-35,42,43,45 as per the JMR/Credit note.				
1 st Response from PP		Date	25-November-2022	
1. All export and import value for whole monitoring period have been updated in the revised ER Sheet according to the invoices. 2. Error factor have been applied in the revised ER Sheet. 3. Values have been updated in the respective WTGs in the revised ER Sheet. 4. Values have been updated in the respective WTGs in the revised ER Sheet. 5. Values have been updated in the respective WTGs in the revised ER Sheet.				
1 st Assessment by Audit Team	Status	Open	Date	02-December-2022
1. Assessment team confirms that PP has updated all the import and export value in revised ER sheet according to the invoices. 2. Assessment team confirms that PP has applied the correct error factor in revised ER sheet, hence accepted. 3. PP is requested to update the import and export value in month of November in revised ER sheet (I-01and I-02). (Open) 4. Assessment team confirms that PP has updated the value of march of I-13,46,53&61 in the month of march according to the JMR/Credit note in revised ER sheet, hence accepted. 5. Assessment team confirm PP has updated the value of I-26 and I-35,42,43,45 according to the JMR/Credit note in revised ER sheet, hence accepted. 6. PP is requested to update the Values of export and import for entire monitoring period of SP 27, SP 21 and SP 25 at Feeder 6 in revised ER sheet version 02. (Open) Hence CAR #03 is Open				
2 nd Response From PP		Date	26-December-2022	
3. I-01 and 02 import and export values for November is updated in the revised ER Sheet. 6. Export and import values of SP 27, 21 and 25 are updated in the revised ER Sheet.				
2 nd Assessment by Audit Team	Status	Open	Date	11-January-2023
3. PP is kindly requested to update the (I-01 and I-02) import and export values for November in the revised ER Sheet. (Open)				

6. PP is kindly requested to update the export and import values of SP 27, 21 and 25 in the revised ER Sheet. (Open)				
Hence CAR #03 is Open				
3 rd Response From PP			Date	03-February-2023
3. Import and export values of I-01 and I-02 have been updated in the revised ER Sheet.				
6. Export and import values of SP 27, 21 and 25 are given as 0 in the credit notes for the whole monitoring period and the same has been mentioned in the ER Sheet.				
3 rd Assessment by Audit Team	Status	Closed	Date	23-February-2023
3. Assessment team has verified the revised ER sheet submitted by PP has where PP has updated the value of I-01 and I-02 in the revised ER sheet. Hence accepted.				
6. Assessment team confirms that PP has updated the value of Export and Import according to the credit notes in the revised ER sheet. Hence accepted.				
Hence CAR #03 is Closed				

Type	Date	17-March-2023
CAR#04	Reference	Section of MR- 1,2,3,4, (Appendix 1)
Description of the Non-Conformance		
1. PP is requested to update on the grid which is now unified. (Section 1.1) 2. As per the requirements of the template, PP has to state the operation status of the plant during the monitoring period. (Section 1.1) 3. PP is. (Section 1.4 requested to update on the contact person and the designation) 4. The coordinates presented is not in a traceable form and hence PP is requested to provide either in DMS or decimal form. Also, this is as per registered PDD. (Section 1.7) 5. PP is requested to fill section 1.10 as per the instructions to fill MR with regards to "Emission Trading Programs and Other Binding Limits" and "Other Forms of Environmental Credit" requirement. (Section 1.10) 6. PP is requested to update the VCS standard this is appendix reference, please provide the footnote as well (Section 1.11) 7. PP is requested on the mechanism involved to resolve grievances raised, dates of announcements or meetings, period during which input was sought as per the requirements to fill the MR guidance. (Section 2.2) 8. Please provide status of the project design, project proponent during this monitoring period and consistency with the registered PD. (Section 3.1) 9. Since the reading from the WTG controller is also used for measurement of energy, PP is requested to provide the calibration procedure involved for the WTG controller meters or measuring device. (Section 4.3)		

10. 10. Please provide the calculation steps involved while applying the apportioning technique, when the billing period is not matching with the monitoring period. (Section 4.3)					
1st Response from PP		Date	20-March-2023		
1. PP has updated the grid which is now unified Indian grid throughout MR. 2. Plant is running smoothly since commissioning. Breakdown details have been attached in Appendix 02 of MR in which duration of shutdown is mentioned transparently. 3. Section 1.4 is now updated with current project consultant details. 4. The coordinates are aligned with registered PD and for simplicity UTM coordinates are converted in degree minutes and it can be traced online via google map or any other software. 5. PP has not taken any other benefits or REC benefit during the current monitoring period. No double counting certificate has been submitted to VCS VVB justifying the same and it can be tracked through link- https://www.recregistryindia.nic.in/index.php/publics/registered_regens 6. PP has updated the appendix reference and link of the same has been provided in footnote. 7. During current monitoring period, no grievance has been recorded. For recording grievance, grievance box has been placed at site and for any grievance site in charge discusses issue with plant head and resolves the issue. 8. Section 3.1 is now aligned with registered PD and no design change has been incorporated in plant. 9. SCS Controller is a micro-processor based intelligent controller which has been specially designed for control of wind turbines. It uses a Woodward Multi-function Relay that has three current inputs from CT and three direct voltage inputs. Woodward relay does not have a display and needs special protocol to view energy readings as this relay communicates digital signal through special communication protocol hence, it is not possible to calibrate. Moreover, turbine cannot run without this relay hence it cannot be removed for calibration during operation. 10. Calculation steps are now mentioned in Monitoring report for apportioning purpose.					
1st Assessment by Audit Team		Status	Closed	Date	23-March-2023
1. Assessment team confirms that PP has updated the grid name in entire revised MR Version 5.0 submitted. Hence accepted. 2. Assessment team confirms that PP has updated the revised MR Version 5.0 as per the requirements of the template and included the operation status of the plant during the monitoring period. Hence accepted. 3. Assessment team confirms that PP has updated the contact person and the designation in section 1.4 of revised MR. Hence accepted. 4. Assessment team confirms that PP has updated the coordinates in Section 1.7 and now they are presented in a traceable form. Hence accepted. 5. Assessment team confirms that PP has updated the section 1.10 as per the MR guidelines. Hence accepted. 6. Assessment team confirms that PP has updated the VCS standard appendix reference number in Section 1.11. Hence accepted.					

7. Assessment team confirms that PP has updated the Section 2.2 and revised the grievances mechanism. Hence accepted.
8. Assessment team confirms that PP has updated the Section 3.1 and included the project design, project proponent during this monitoring period and consistency with the registered PD. Hence accepted.
9. Assessment team confirms that PP has updated the Section 4.3 and confirmed that since the feeder meters are used for energy calculations hence no need for the WTG controller meters or measuring device. Hence accepted.
10. Assessment team confirms that there is no apportioning procedure followed in current monitoring period and updated in revised MR version 05. Hence accepted.

Hence CAR#04 is Closed

Type		Date	<u>DD/MM/YYYY</u>	
<u>FAR</u>		Reference		
Description of the Non-Conformance				
1stResponse from PP		Date	<u>DD/MM/YYYY</u>	
1stAssessment by Audit Team	Status	<u>Open/Closed</u>	Date	<u>DD/MM/YYYY</u>

APPENDIX C: COMPETENCE STATEMENTS

Team Leader



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Vivek Kumar Ahirwar
Nationality	Indian
Countries of Experience	India, Madagascar, Thailand, Indonesia, Bangladesh, Nepal, Ghana, Uganda, Kenya etc
Education Qualification	B.E. (Mechanical Engineering) M. Tech (Energy Management)
Year of Experience	12 Years +
Area of Expertise	Climate Change & Environment
Eligible Sectoral Scope	TA 1.1 - Thermal energy generation and Renewables TA 1.2 - Renewables TA 2.1 - Process GHG Emission Expert TA 3.1 - Energy Demand TA 6.1 - Construction TA 13.1 - Solid waste and wastewater TA 13.2 - Manure

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 (1.1, 1.2, 3.1, 6.1, 13.1, 13.2)	YES
Financial Expert	YES

Reviewed by	Vandana Gupta (Quality Manager)	Date	25/02/2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	25/02/2023

Validator/Verifier-Trainee-



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Shivani Chauhan
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (Environmental Science) M.Sc. (Environmental Science)
Year of Experience	2 years as Intern and 6 months as Employee
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 (Mozambique)	NO
TA Expert (X.X)	NO
Financial Expert	NO

Reviewed by	Vandana Gupta (Quality Manager)	Date	02.02.2023
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	02.02.2023

Project Trainee-



Certification Pvt. Ltd.

VKU.F50W. Competence Statement

COMPETENCE STATEMENT

Name	Apoorva Tripathi
Nationality	Indian
Countries of Experience	India
Education Qualification	B.Sc. (BCZ) M.Sc. (Environmental Science)
Year of Experience	NA, Fresher
Area of Expertise	Climate Change & Environment
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	06/12/2022
Approved by	Vivek Kumar Ahirwar (Technical Manager)	Date	06/12/2022

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